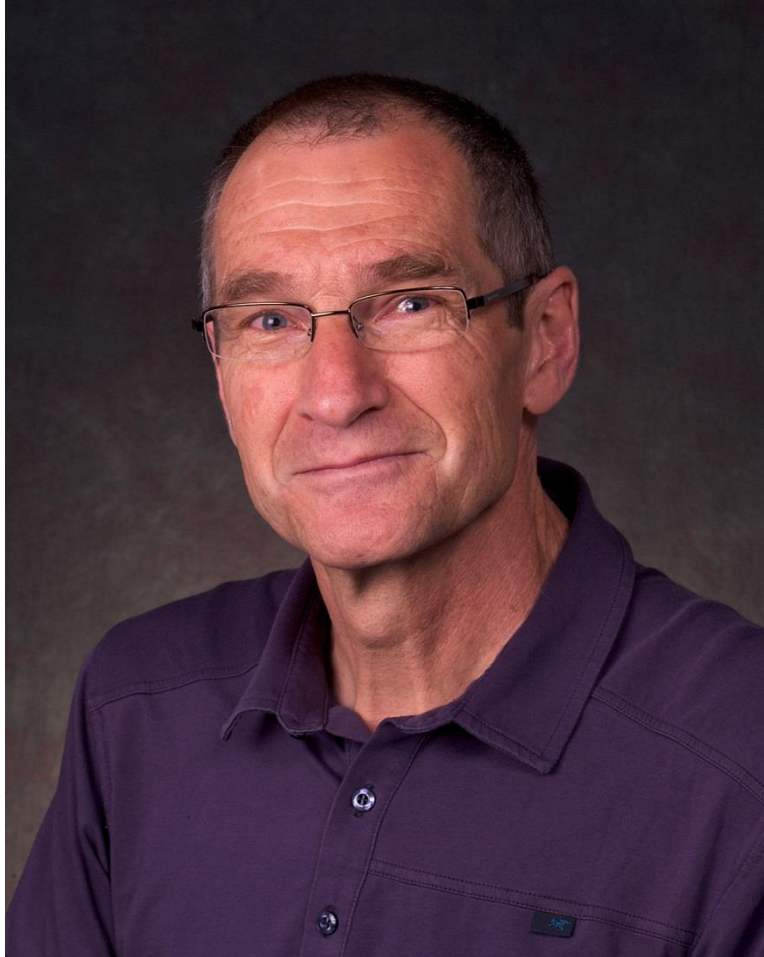


## **DR. WALTER HERZOG**



## **CURRICULUM VITAE**

**The University of Calgary  
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## **PERSONAL DATA**

Name: Walter Herzog  
Born: February 19, 1955, Leuggern, Switzerland  
Citizenship: Swiss, Canadian

## **ACADEMIC RECORD**

|              |   |
|--------------|---|
| 1971-1974    | High School Baden<br>Graduated with Matura Diploma C (Natural Sciences Branch)  |
| 1974-1977    | Federal Technical Institute Zurich<br>Graduated with Diploma I in Physical Education  |
| 1977-1978    | Federal Technical Institute Zurich<br>Graduated with Diploma II in Physical Education (Biomechanics)  |
| 1979-1985    | University of Iowa, Iowa City<br>Graduated with PhD degree in Biomechanics  |
| 1985-1987    | The University of Calgary, Calgary<br>Postdoctoral Fellow   |
| 1987-1991    | The University of Calgary, Calgary<br>Assistant Professor in Kinesiology  |
| 1987-1995    | The University of Calgary, Calgary<br>Adjunct Assistant Professor in Medicine (Surgery)   |
| 1991-1994    | The University of Calgary, Calgary<br>Associate Professor in Kinesiology  |
| 1991-2000    | The University of Calgary, Calgary<br>Adjunct Associate Professor in Engineering (Mechanical Engineering)                                   |
| 1994-present | The University of Calgary, Calgary<br>Professor in Kinesiology (Biomechanics)   |
| 1994-1995    | The University of Calgary, Calgary<br>Acting Head, The Human Performance Laboratory   |
| 1995-2002    | The University of Calgary, Calgary<br>Adjunct Associate Professor in Medicine (Surgery)   |
| 1997-2009    | The University of Calgary, Calgary<br>Associate Dean Research, Faculty of Kinesiology   |
| 2000-2001    | The University of Calgary, Calgary<br>Adjunct Professor in Engineering (Mechanical Engineering)   |
| 2001-present | The University of Calgary, Calgary<br>Professor, Engineering (Mechanical & Manufacturing Engineering)                                       |
| 2001-2014    | The University of Calgary, Calgary<br>Co-Director, Human Performance Laboratory   |
| 2001-2022    | Canada Research Chair, Tier I for Cellular and Molecular Biomechanics   |
| 2002-2022    | The University of Calgary, Calgary<br>Adjunct Professor, Cumming School of Medicine, Department of Surgery                                  |
| 2009-present | The University of Calgary<br>Adjunct Professor, Faculty of Veterinary Medicine, Department of Comparative Biology and Experimental Medicine |
| 2014-present | The University of Calgary, Calgary<br>Director of the Human Performance Laboratory  |
| 2018         | February – June, Acting Dean, Faculty of Kinesiology  |

Currently: The University of Calgary, Calgary  
 Professor, Kinesiology, Engineering, Medicine and Veterinary Medicine  
 Director of the Human Performance Laboratory  
 Canada Research Chair, Tier I for Cellular and Molecular Biomechanics

#### **RECENT ACCOMPLISHMENTS**

2016-2019 Chairperson, 27<sup>th</sup> International Society of Biomechanics Conference hosted in Calgary in 2019  
 2015 Frontiers in Physiology, 11<sup>th</sup> most downloaded article among 12,500 published  
 2015 Inaugural Fellowship - International Society of Biomechanics

#### **From AWARDS AND HONOURS**

2021 Named Award "Dr. Walter Herzog Award for Excellence in Undergraduate Research", Brazilian Society for Biomechanics  
 2020 1<sup>st</sup> Prize and Award for "Excellence in Basic, Clinical, and Translational Science" from the Orthopaedic Research Society for manuscript "Multiparametric MR imaging reveals early cartilage degeneration at 2 and 8 weeks after ACL transection in a rabbit model"  
 2020 Outstanding Reviewer, CIHR College of Reviewers, 2019 Fall Grant Competition  
 2018 Killam Prize in Engineering from Canada Council for the Arts for body of work in musculoskeletal biomechanics  
 2017 Muybridge Career Award from the International Society of Biomechanics  
 2017 Geoffrey Dyson Career Award from the International Society of Biomechanics in Sports  
 2016 Elected Honorary Member, Chilean Association for Human Movement Science  
 2015 Kinesiology Outstanding Supervisor Award  
 2015 BME GP Outstanding Supervisor Award  
 2015 Hero of Biomechanics, awarded by student body of International Society of Biomechanics for supervisory excellence and support of students and scientists from economically developing countries  
 2015 Best Paper in Biomechanics, Korean Society for Precision Engineering 2016 Fall Conference  
 2009-2014 Natural Sciences and Engineering Research Council CREATE Training Programme for Biomedical Engineers for the 21<sup>st</sup> Century (\$300,000/year)  
 2013 Induction into the Royal Society of Canada Fellowship  
 2013 GSA Supervisory Excellence Award Nomination (Student Nominated Finalist)  
 2012 Izaak Walton Killam Graduate Supervision & Mentoring Award  
 2011/2016 Canada Research Chair in Cellular and Molecular Biomechanics, Tier I  
 2011/2016 Killam Memorial Chair (2011 – 2021)  
 2011 American Society of Biomechanics, Elected Fellow  
 2009-2011 Killam Fellowship - Canada Council for the Arts  
 2010 Plenary Lecturer – World Congress on Biomechanics. Singapore  
 2010 Presidents Lecture - American College of Sports Medicine  
 2010 First prize, "Paper of highest public interest 2009" award, Sportorthopadie Sporttraumatologie  
 2009 Winner of the Faculty of Kinesiology Excellence in Teaching and Research Award  
 2009-2011 Past President-International Society of Biomechanics  
 2007-2009 President-International Society of Biomechanics  
 2006 Canadian Society for Biomechanics, Elected Fellow  
 2006 Canadian Society for Biomechanics, Career Award  
 Presentation title: Muscle Mechanics: From Society to Cell and Back  
 2006 Winner, ASB Borelli Award, Premier Research Award of the American Society of Biomechanics  
 Presentation, Title: Of myosins, muscles and mechanisms of contraction  
 2005 Visiting Scholar, Mayo Clinic, Rochester, MN  
 2004 Invited Workshop on Skeletal Muscle Mechanics, American Society of Biomechanics, Portland, Oregon

|           |   |
|-----------|---|
| 2004      | Steven's Visiting Scholar, University of Florida, Gainesville, FL   |
| 2003      | Winner of the Inaugural Award for Excellence in Graduate Student Supervision, University of Calgary   |
| 2003-2004 | President, American Society of Biomechanics   |
| 2002      | Winner of the President's Circle Award for Excellence and Creativity in Scientific Research, University of Calgary  |
| 2001      | Inaugural Research Excellence Award, Faculty of Kinesiology, University of Calgary, Calgary, AB   |
| 1999      | Winner of the Scott Haldeman Award and 1st prize in the international free paper competition for original research at the World Conference of Chiropractic fifth Congress, Auckland, New Zealand (with E. Suter, G. McMorland, R. Bray) |
| 1999      | The Killam Resident Fellowship (for excellence in scientific research)  |
| 1998      | CCA Researcher of the Year Award for Basic Research on the Mechanics of the Spine   |
| 1998      | Best scientific paper in the Journal of Applied Biomechanics for 1998 (with E. Suter, R. Bray, K. DeSouza)  |
| 1996      | The Killam Resident Fellowship  |
| 1996      | "JCCA Award of Excellence" for manuscript which made the most significant contribution between 1993-1995 (Category: Literature Reviews)   |
| 1995-1997 | President, Canadian Society for Biomechanics  |
| 1997-1999 | Past President, Canadian Society for Biomechanics   |
| 1995      | First prize for spinal research done by a private practitioner, Chiropractic Centennial Conference, Washington, D.C. (with G. Kawchuk)  |
| 1995      | CCA Centennial Research Award Lecture, Toronto, ON  |
| 1994      | Winner of the International Conference of Spinal Manipulation Basic Science Research Award (with J. Gál)  |
| 1994      | Winner of the Canadian Association for Sports Medicine Research Award (with M. Maitland)  |
| 1993      | Winner of the CCA Centennial Convention Research Competition  |

## KEYNOTE PRESENTATIONS

### 2021

|       |   |
|-------|---|
| March | 11 <sup>th</sup> International Conference on Biomedical Engineering and Technology, Tokyo, Japan, Virtual Event, Mar 17<br><i>Recent observations on the molecular mechanisms of muscle contraction</i> |
|-------|---|

### 2020 (Total to date=90)

|           |   |
|-----------|---|
| September | 10 <sup>th</sup> International Conference on Biomedical Engineering and Technology, Tokyo, Japan, Sep 15<br><i>Titin: the forgotten filament in muscle contraction (Live virtual session)</i>         |
| July      | 23 <sup>rd</sup> Conference of the International Society for Electrophysiology and Kinesiology, Tokyo, Japan, Jul 12<br><i>Dos and don'ts in an academic scientific career (Live virtual session)</i> |

### 2019

|          |  |
|----------|--|
| December | 17 <sup>th</sup> International Conference of Biomedical Engineering, Singapore, Dec 11<br><i>Reflections in muscle: the evolution of a new paradigm for muscle contraction</i> |
| July     | International Society of Biomechanics in Sports, Oxford, Ohio, USA, Jul 22<br><i>Of muscle force magnitude, direction and synergies in sports</i>                              |
| March    | European Conference of Science in Skiing, Vuokatti, Finland, Mar 14  |

*Cross country skiing as a model for human movement analysis*

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|             |   |
|-------------|---|
| <b>2018</b> |   |
| September   | International Society of Biomechanics in Sports, Auckland, New Zealand, Sept 11<br><i>Keynote Panel: How to plan your research career</i>   |
| July        | International Society of Electrophysiology and Kinesiology, Inaugural Carlo de Luca Lecture, Dublin, Ireland, Jul 1<br><i>Merging biomechanics and motor control</i>                                    |
| <hr/>       |   |
| <b>2017</b> |   |
| September   | European Society for Movement Analysis in Adults and Children (ESMAC), Trondheim, Norway, Sep 9<br><i>Basic muscle mechanics: from single sarcomeres to whole muscle function in health and disease</i> |
| July        | XXVII Congress of the International Society of Biomechanics, Brisbane, Australia, July 26<br><i>Reflections on muscle: of intuition, truth, serendipity and paradigms (Muybridge Award Lecture)</i>     |
| July        | 23 <sup>rd</sup> Congress of the European Society of Biomechanics, Seville, Spain, July 3<br><i>Do we need a new paradigm for muscle contraction?</i>   |
| June        | 35 <sup>th</sup> International Conference on Biomechanics in Sport, Cologne, Germany, June 15<br><i>From medals to muscles to molecules and back again (Dyson Award Lecture)</i>                        |
| May         | 17 <sup>th</sup> Congress of the Brazilian Society of Biomechanics, Porto Alegre, Brazil, May 15<br><i>Muscle Mechanics made in Brazil</i>  |
| May         | Applied Neuromechanics Congress, Porto Alegre, Brazil, May 14<br><i>The role of muscles in musculoskeletal health</i>   |
| February    | 9 <sup>th</sup> Conference of the Swiss Society for Sport Science, Zurich, Switzerland, Feb 9-10<br><i>Optimizing sport performance through muscle mechanics</i>  |
| <hr/>       |   |
| <b>2016</b> |   |
| November    | 1 <sup>st</sup> Conference of the Chilean Association for Human Movement Science, Santiago de Chile, Nov 18<br><i>The effects of botox treatments on skeletal muscle structure and function</i>         |
| November    | Inaugural Conference of the Chilean Association for Human Movement Sciences, Santiago de Chile, Nov 16<br><i>Molecular mechanisms of muscle contraction</i>   |
| November    | 2 <sup>nd</sup> Asia-Pacific Conference on Coaching Science, Shanghai, China, November 12<br><i>Muscle mechanics for optimizing sport performance: mechanics and energetics in cross-country skiing</i> |
| September   | Japanese Society of Biomechanics, Osaka, Japan, September 12<br><i>Muscle mechanics and muscle properties for optimizing sport performance</i>  |
| June        | BANCOM (Biomechanics and Neural Control Movement), Columbus, Ohio, June 13<br><i>Muscle mechanics, energetics and plasticity: knowns, unknowns and future directions</i>                                |

May International Conference on Evidence-Based Exercise Medicine for the Promotion of Lifelong Health, Seoul, Korea, May 19  
*Risk factors, prevention and treatment of knee osteoarthritis*

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**2015**

October Chilean Chiropractic Research Society, Santiago, Chile, October 31  
*Vertebral artery stresses and strains during chiropractic neck manipulation*

October Chilean Chiropractic Research Society, Santiago, Chile, October 30  
*The biomechanics of spinal manipulation*

October Congress of the Norwegian Chiropractic Association, Trondheim Norway, October 23  
*The biomechanics of spinal manipulation*

October Congress of the Norwegian Chiropractic Association, Trondheim Norway, October 23  
*The stresses and strains experienced by the vertebral artery during spinal manipulation of the neck*

August 53<sup>rd</sup> Meeting of the Society for Natural Philosophy, Calgary, August 20  
*Muscle Mechanics across Structural Levels*

May Brazilian Society of Biomechanics, Florianopolis, Brazil, May 7  
*The role of muscles in joint health and osteoarthritis*

May Brazilian Society of Biomechanics, Florianopolis, Brazil, May 6  
*Mechanisms of muscle contraction: past, present and future*

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**2014**

September 50 Years of Orthopedics Research, University of Basel, Basel Switzerland, September 24  
*The roles of muscles in joint biomechanics and osteoarthritis*  
European Muscle Symposium, Vienna, Austria, September 22  
*A new model for muscle contraction*

German Society for Sports Sciences, Giessen, Germany, September 19  
*Functional muscle mechanics in sports*

August International Calgary Running Symposium, Calgary, AB, August 14  
*Running Research: an Outsider's Perspective*

June Canadian Chiropractic Protection Agency Legal Conference, Toronto, ON, June 7  
*Myths, perceptions and facts about cervical spinal manipulations*

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**2013**

August XXIV Biennial International Society of Biomechanics Congress, Rio Grande de Norte, Brazil, August 5

July International Society of Biomechanics in Sports Conference, Taipei, Taiwan, July 10  
*The EMG-force relationship revisited: a story that began with A.C.S. (Tony) Guimaraes*  
*Functional Muscle Mechanics in Sports: Why Should We Care?*

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**2012**

November Interdisciplinary Conference on Early Osteoarthritis, Basel, Switzerland, Sep 16  
*Biomechanical Aspects of Early OA: Implications for Clinical Practice*

November International Conference on Sport Biomechanics, Porto Allegre, Brazil  
*Muscle Properties and Sport Performance*

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|             |  |
|-------------|--|
| <b>2011</b> |  |
| November    | The 5 <sup>th</sup> Asia-Pacific Conference on Exercise and Sports Science, Shanghai, Nov 1-4<br><i>The Role of Muscles in Optimizing Sport Performance</i>  |
| September   | International Workshop on Muscle and Tendon Injury, Barcelona, Spain, September 28<br><i>Cellular, Molecular and Sarcomeric Injuries in Skeletal Muscles During Eccentric Contractions</i>                       |
| September   | International Conference on Bio Tibology, London, UK, September 20<br><i>On Cartilage, Chondrocytes and Synovial Fluid</i>   |
| June        | 50 Years of Biomechanics, ETH Zurich, June 17<br><i>Biomechanics – travelling through time</i>   |
| June        | Annual Conference of the International Society of Biomechanics in Sports, Porto, Portugal, June 27-Jul 1<br><i>Understanding Muscle Properties in Sports Performance Optimization</i>                            |
| June        | 5 <sup>th</sup> Kuala Lumpur International Conference on Biomedical Engineering, Kuala Lumpur, Malaysia, June 20-23<br><i>In-vivo Cartilage Mechano-Biology: How to Make Progress in Osteoarthritis Research</i> |
| <hr/>       |  |
| <b>2010</b> |  |
| August      | 6th World Congress on Biomechanics, Singapore, August 1-6<br><i>Revisiting Mechanisms of Muscle Contraction</i>  |
| August      | Polish Society of Biomechanics, Warsaw, Poland, August 25-28<br><i>Insights into the Mechanisms of Muscle Contraction</i>  |
| June        | UK Physiological Society Conference, Manchester, UK, June 30-July 2<br><i>Mechanisms of muscle contraction</i>   |
| June        | International Society of Electrophysiology and Kinesiology, Aalborg, Denmark, June 16-19<br><i>The role of muscles in sport performance: experimental and theoretical considerations in bicycling</i>            |
| June        | American College of Sports Medicine, Annual Meeting, Baltimore, MD, June 2-5<br><i>Presidents Lecture – The Biomechanics of Muscle Contraction</i>   |
| <hr/>       |  |
| <b>2009</b> |  |
| November    | Australia and New Zealand Society of Biomechanics, Southport, Australia, November 30-December 1<br><i>Force Enhancement and Mechanisms of Skeletal Muscle Contraction</i>  |
| October     | 2nd International Fascia Research Congress, Amsterdam, Netherlands, October 26-30<br><i>Effects of Manipulation of the Spine</i>   |
| July        | XXII <sup>th</sup> International Society of Biomechanics, Cape Town, South Africa, July 2-11<br><i>Presidents Lecture: Respect Thy Elders: or Lessons Learnt from the Literature</i>                             |
| July        | Progress in Motor Control (PMC), Marseille, France, July 23-25<br><i>The biomechanics of movement control</i>  |
| <hr/>       |  |
| <b>2008</b> |  |
| December    | The 13th International Conference on Biomedical Engineering, Singapore, December 3-6<br><i>Muscle and Joint Biomechanics in the Osteoarthritic Knee</i>  |
| October     | Chinese Association of Biomechanics in Sports (CABS), Taiyuan, China, October 14-18<br><i>The Biomechanics of Muscle Contraction</i>   |
| July        | The 26th International Conference on Biomechanics in Sports, Seoul, Korea, July 15-18<br><i>The Biomechanics of Muscle Contraction: Optimizing Sport Performance</i>   |
| June        | Kuala Lumpur International Conference on Biomedical Engineering, Kuala Lumpur, June 25-28<br><i>The Biomechanics of Muscle Contraction: or Firing Biomechanics Research</i>                                      |

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|-------------|---|
| <b>2007</b> |   |
| August      | Swiss Sportsorthopaedic Society (GOTS), Engelberg, Switzerland, August 31-September 2<br><i>Muscle Biomechanics: From Macro to Micro</i>  |
| August      | 5th IASTED International Conference on Biomechanics, Honolulu, HI, August 22-25<br><i>History dependent properties of skeletal muscle sarcomeres</i>                                    |
| July        | XXIth Congress of International Society of Biomechanics, Taipei, Taiwan, July 1-5<br><i>History-Dependent Properties in Skeletal Muscle Contraction</i>                                 |
| May         | 2nd Congress of the Greek (Hellenic) Society of Biomechanics, Athens, Greece, May 4-6<br><i>Force Depression and Force Enhancement in Skeletal Muscle Contraction</i>                   |
| <b>2006</b> |   |
| September   | American Society of Biomechanics, Borelli Award, Blacksburg, Virginia, September 6-9<br><i>Of Myosins, Muscles and Mechanisms of Contraction</i>  |
| August      | Canadian Society for Biomechanics, Career Award, Waterloo, Ontario, August 16-19<br><i>Muscle Mechanics: From Society to Cell and Back</i>  |
| May         | 2nd Northwest Biomechanics Symposium, University of British Columbia<br>Vancouver, BC, Canada, May 12-13<br><i>Force Enhancement and Mechanisms of Contraction in Skeletal Muscles</i>  |
| <b>2005</b> |   |
| September   | 27th Annual International Conference of IEEE Engineering in Medicine and Biology Society, Shanghai, China,<br><i>Force Enhancement and Mechanisms of Contraction in Skeletal Muscle</i> |
| September   | International Association of Science and Technology for Development, Bendorn, Spain<br><i>Force Enhancement and Mechanisms of Contraction in Skeletal Muscle</i>                        |
| August      | 2005 KAHPERD International Sport Science Congress, Chuncheon, Korea<br><i>Considerations on Muscle Mechanics and Sport Performance</i>  |
| <b>2004</b> |   |
| August      | Canadian Society for Biomechanics, Halifax, NS  |
| July        | European Society of Biomechanics, S Hertogenbosch, Netherlands  |
| May         | European Chiropractors' Union Convention, Helsinki, Finland   |
| <b>2003</b> |   |
| October     | BC Chiropractic Association, Nanaimo, BC  |
| June        | Novartis Foundation Symposium 260 Osteoarthritic Joint Pain, London, UK   |
| May         | European Workshop in Movement Science, Muenster, Germany  |
| February    | International Symposium on Significance of Musculoskeletal Soft Tissue on Preoperative Planning, Surgery and Healing, Berlin, Germany   |
| January     | World Federation of Chiropractic Annual Conference, Orlando, FL   |
| <b>2002</b> |   |
| March       | International Conference on Arthritis Research and Rehabilitation, St. Louis, MO  |
| September   | 12th International Conference in Mechanics in Medicine and Biology, Greece  |
| September   | 2002 CE of the Assoc of Swiss Chiropractors, Switzerland  |
| <b>2001</b> |   |
| June        | International Society of Biomechanics in Sports, San Francisco, CA  |

|           |  |
|-----------|--|
| June      | Brazilian Congress of Biomechanics, Gramado, Brazil  |
| July      | European Congress of Sport Science, Cologne, Germany |
| September | Biomechanica, Davos, Switzerland                     |

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**1999**

|           |   |
|-----------|---|
| September | The 7th International Symposium in Sport and Medicine, Frankfurt, Germany |
|-----------|---|

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**1998**

|           |   |
|-----------|---|
| September | The 14th Conference of the Japanese Society of Biomechanics, Kofu, Japan    |
| September | The 11th International Biomechanics Seminar, Wroclaw, Poland                |
| January   | 160th Conference of the Dutch Anatomical Society, Lunteren, the Netherlands |

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**1997**

|           |  |
|-----------|--|
| August    | 16th International Society of Biomechanics, Muscle Mechanics Symposium, Tokyo, Japan |
| September | The 10th International Biomechanics Seminar, Goetheburg, Sweden                      |

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**1994**

|       |  |
|-------|--|
| March | LACC'S 7th Interdisciplinary Symposium on the Biomechanics of the Spine, Los Angeles, CA |
|-------|--|

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**1992**

|     |  |
|-----|--|
| May | Canadian Chiropractic Association Convention, Regina, SK |
|-----|--|

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**1990**

|           |  |
|-----------|--|
| September | Second Annual Symposium on Low Back Pain, New York City, NY  |
| February  | Research Days Canadian Memorial College of Chiropractors, Toronto, ON                                    |
| January   | NASA Scientific Symposium on the Influence of Gravity and Activity on Muscle and Bone, Moffett Field, CA |

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**INVITED PRESENTATIONS**

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**2021**

|          |  |
|----------|--|
| February | Brigham Young University, Provo, Utah, USA, Feb 11<br><i>What's Titin got to do with it: evidence of Titin's contribution to force regulation in skeletal muscle</i> |
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**2020 (199 to date)**

|           |  |
|-----------|--|
| December  | Federal University of Santa Catarina, Virtual Event, Florianopolis, Brazil, Dec 2<br><i>Skeletal muscle mechanics: problems, questions and possible solutions</i>          |
| November  | Federal University of Manaus, Manaus, Brazil, Nov 27<br><i>Fundamental principles of muscle mechanics</i>  |
| October   | Federal University of Santa Catarina, Ararangua, Brazil, Oct 27<br><i>Osteoarthritis: One disease, many causes</i>   |
| October   | IV Regional Health Innovation Symposium, Virtual Event, Urugaiana, Brazil, Oct 23<br><i>Secrets of successful international collaborations</i>                             |
| September | International Society of Biomechanics in Sports Seminar Series, Virtual Event, United Kingdom, Sep 10<br><i>Basic muscle mechanics and selected applications in sports</i> |

- July Chilean Association for Human Movement Science, Virtual Event, Jul 30  
*Obesity, exercise and musculoskeletal rehabilitation*
- July Neuromechanics Live, Brazilian Society of Biomechanics, Florianopolis, Brazil, Jul 8  
*Science is not about papers, it is about people*

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**2019**

- December Multidisciplinary Symposium of 2018 Killam Prize Winners, University of Montreal, Dec 5  
*Rhythm in biomechanics: from randomness to rhythm to synchrony*
- October University of Sao Paulo, Brazil, Oct 25  
*Reflections on an academic research career*
- University of Sao Paulo, Ribeirao Preto, Brazil, Oct 22  
*Reflections on muscle: how do muscles contract?*
- September Conference of the Academy for Cerebral Palsy and Developmental Medicine, Anaheim, CA, Sep 19  
Why are spastic muscles weak?  
Effects of botulinum toxin Type-A on skeletal muscle
- August University of Iowa, Iowa City, Aug 8  
*Obesity-induced osteoarthritis*
- August 27<sup>th</sup> Congress of the International Society of Biomechanics and the 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, Aug 2  
*Reflections on biomechanics and muscles*
- August 27<sup>th</sup> Congress of the International Society of Biomechanics and the 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, Aug 1  
*Animal models of osteoarthritis*
- April University of Calgary Biomedical Engineering Conference, Calgary, Apr 11  
*How serendipity shaped my career in science*
- April McCaig Institute, Calgary, Apr 10  
*Animal models of osteoarthritis*

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**2018**

- November China Winter Sport Science, Beijing, China, Nov 28  
*Considerations on Muscle Mechanics in Sports Performance*
- November China Winter Sport Management Centre, Beijing, China, Nov 28  
*Applications of Muscle Mechanics in Cross-Country Skiing*
- November Norwegian University for Science and Technology, Nov 9  
*Basic muscle mechanics and applications in sports*
- October Norwegian School of Sport Sciences, Oslo, Norway, Oct 16  
*Optimizing sport performance through muscle mechanics*
- October Oslo University for Sport, Norway, Oct 15  
The non-intuitive properties of eccentric muscle action
- October 5<sup>th</sup> International Autumn School on Movement Science, Berlin, Oct 9

*A new look at skeletal muscle contraction*

|           |   |
|-----------|---|
| October   | Federal University of Santa Catarina, Ararangua, Brazil, Oct 6<br><i>Molecular mechanics of residual force enhancement in skeletal muscles</i>                  |
| October   | Federal University of Santa Catarina, Florianopolis, Brazil, Oct 3<br><i>Pedal Force Direction Control in Cycling</i>   |
| September | Nike Global Research Symposium, Portland, OR, Sep 26<br><i>How to integrate science into access to sport and improvement of high performance sport outcomes</i> |
| August    | Canadian Society for Biomechanics Conference, Halifax, Aug 14<br><i>A historical perspective on the Canadian Society for Biomechanics</i>                       |
| June      | Congress on Musculoskeletal Regeneration, Berlin, June 15<br><i>Muscle degeneration and regeneration in Cerebral Palsy and Obesity</i>                          |
| May       | NIKE, Portland, USA, May 16<br><i>Sport performance evaluation using deterministic models</i>   |
| May       | Queens University, Annual Meeting of CONNECT! NSERC CREATE Training Program, May 7-8<br><i>Animal models in osteoarthritis</i>                                  |
| April     | University of Wisconsin, Madison, April 12 11<br><i>A new paradigm for muscle contraction</i>   |

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**2017**

|           |  |
|-----------|--|
| November  | VI Brazilian Congress of Chiropractic, Florianopolis, Brazil, Nov 11<br><i>The stresses and strains experienced by cervical arteries during spinal manipulative treatments of the neck</i> |
| November  | VI Brazilian Congress of Chiropractic, Florianopolis, Brazil, Nov 10<br><i>The biomechanics of spinal manipulation</i>   |
| October   | GaitNet Canada Symposium, Halifax, NS, Oct 25<br><i>Joint loading in osteoarthritis research</i>   |
| September | 46 <sup>th</sup> European Muscle Conference, Potsdam, Germany, Sep 21<br><i>Residual force enhancement in skeletal muscles: facts and fancy</i>  |
| August    | 41 <sup>st</sup> Annual Meeting of the American Society of Biomechanics, Boulder CO, Aug 11<br><i>The distribution problem in biomechanics</i>   |
| July      | European Conference of Sport Science, Essen, Germany, July 5<br><i>Residual force enhancement: neglected property in sport and health</i>  |
| April     | OARSI World Congress on Osteoarthritis, Apr 27, Las Vegas, NV<br><i>What can we learn from animal models to inform OA prevention</i>   |
| April     | Schulthess Clinic, Zurich, Switzerland, Apr 11<br><i>Clinical biomechanics of the musculoskeletal system</i>   |
| April     | Federal Technical Institute, Zurich, Switzerland, Apr 10<br><i>The role of titin in sarcomere stability, injury prevention, and muscle contraction</i>                                     |

|                   |  |
|-------------------|--|
| March             | Karl-Franzens University Graz, Austria, Mar 30<br><i>The past, present and future of muscle contraction</i>  |
| March             | Orthopedic Research Society Congress, San Diego CA, Mar 21<br><i>Musculoskeletal imaging using confocal and multi-photon excitation microscopy</i>   |
| March             | Nike Inc., Portland, OR, Mar 14<br><i>Academic Career Planning in Biomechanics</i>   |
| March             | Federal Technical Institute Zurich, Switzerland, Mar 1<br><i>Optimizing sport performance through muscle mechanics</i>   |
| February          | European Mechanics Society Colloquium on Advanced Experimental Methods in Tissue Biomechanics, Burg Warberg, Germany, Feb 12-16<br><i>Titin: Unheralded giant of muscle contraction</i>  |
| January           | International Inflammation Workshop, Banff, Alberta, Jan 26-29<br><i>The effects of obesity, metabolic disease and chronic inflammation on musculoskeletal tissues</i>   |
| <hr/> <b>2016</b> |  |
| November          | Federal University of Santa Catarina, Florianopolis, Brazil, Nov 21<br><i>Why is eccentric force greater than concentric?</i>  |
| September         | Sport Science and Fitness Congress, Cologne, Germany, Sep 24-25<br><i>Joint health and osteoarthritis: muscles, cells and molecules</i><br><i>Novel model of muscle contraction: the 3-filament sarcomere</i>  |
| September         | 17 <sup>th</sup> International Symposium: Biomechanics of Human Movement, Jyväskylä, Finland, Sep 22<br><i>Why is eccentric force greater than concentric force?</i><br><i>Muscle stiffness and extensibility: the role of titin</i>   |
| August            | Invited Lecture Series, University of Sao Paulo, Ribeirao Preto, Brazil, Aug 29 – Sep 1<br><i>Muscle Mechanics Part 1: Muscle structure and the sliding filament and cross-bridge theories of muscle contraction</i><br><i>Muscle Mechanics Part 2: Mechanical properties of skeletal muscles: force-length and force-velocity relationships</i><br><i>Muscle Mechanics Part 3: Residual force enhancement in skeletal muscle contraction: the Role of Titin</i><br><i>Muscle Mechanics Part 4: Considerations on series elasticity in skeletal muscle contraction</i> |
| August            | University of Auckland, Bioengineering, Auckland NZ, Aug 16<br><i>Actin-Titin-Myosin Interaction in Eccentric Muscle Contraction</i>   |
| August            | Korea-Canada KITECH Conference on Health and Wellness, Ottawa, ON, Aug 8<br><i>Considerations on joint health</i>  |
| August            | American Society of Biomechanics, Fellows Symposium, Raleigh, NC, USA, Aug 3<br><i>Lessons learnt in biomechanics</i>  |
| July              | World Congress of Computational Mechanics, Seoul, Korea, July 26<br><i>The three filament model of muscle contraction</i>  |

|          |   |
|----------|---|
| June     | University of Porto, Portugal, June 7<br><i>Considerations on the future of sport science research</i>  |
| April    | Colorado School of Mines, Denver, CO, April 26<br><i>A new paradigm of muscle contraction</i>   |
| March    | University of Waterloo, Waterloo, Ontario, March 24<br><i>Mechanisms of muscle contraction: past, present and future</i>                                    |
| February | Annual Meeting of the Association of Academic Physiatrists, Sacramento, CA, Feb 19<br><i>Effects of botulinum toxin on contractile properties of muscle</i> |
| February | University of Bochum, Bochum, Germany, February 11<br><i>Muscle mechanics in high performance sport</i>   |

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**2015**

|         |  |
|---------|--|
| October | Chilean Chiropractic Research Society, Santiago, Chile, October 31<br><i>The Titin revolution</i>  |
| October | Chilean Chiropractic Research Society, Santiago, Chile, October 30<br><i>A new paradigm for muscle contraction</i>   |
| October | Chilean Society of Human Movement Science, Santiago, Chile, October 28<br><i>Past, Present and Future of Human Movement Science</i>                            |
| October | Physiology Seminar Series, University of Calgary, Calgary, Canada, October 8<br><i>Muscle mechanics in high performance sports</i>                             |
| October | Arthritis Evening, University of Calgary, Calgary, Canada, October 8<br><i>Osteoarthritis research: of muscles and joints</i>                                  |
| July    | 9 <sup>th</sup> European Solid Mechanics Conference, Madrid, Spain, July 9<br><i>Stability and history-dependent properties of skeletal muscle contraction</i> |
| May     | University of Santa Catarina, Florianopolis, Brazil, May 5<br><i>Muscle series elasticity: does it really matter?</i>  |
| April   | The Korean Institute for Industrial Technology, Seoul Korea, April 21<br><i>The forgotten role of muscles in joint loading and osteoarthritis disease</i>      |

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**2014**

|           |   |
|-----------|---|
| November  | Invited Lecture Series, Santa Catarina, Brazil, November 17 - 21<br><i>The sliding filament and cross-bridge theory of muscle contraction</i><br><i>Mechanical properties of skeletal muscles</i><br><i>The role of titin in eccentric muscle contraction</i> |
| October   | 1 <sup>st</sup> International Autumn School on Movement Science, Berlin, Germany, October 21<br><i>Eccentric muscle contraction: efficiency and modelling</i>   |
| September | European Muscle Conference, Workshop, Vienna, Austria, September 22<br><i>Mathematical modeling in biology and physiology</i>   |

|       |  |
|-------|--|
| July  | World Congress on Biomechanics, Boston, MA, July 6-12<br><i>A new model of skeletal muscle contraction (ISB Presidents Symposium)</i><br><i>The distribution problem in biomechanics (ISB Motor Control Symposium)</i><br><i>In vivo joint biomechanics (CSB Cartilage Symposium)</i><br><i>Vertebral artery biomechanics during cervical spinal manipulation (Spine Biomechanics Symposium)</i> |
| April | OARSI Annual Conference, Paris, France, April 24<br><i>Contributions of animal models to Osteoarthritis research</i>   |

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## 2013

|           |  |
|-----------|--|
| November  | Clinical Neuro Sciences, Physiatry Rounds, Calgary, AB, Canada, November 13<br><i>The effects of botulinum toxin type-A on muscle structure</i>                                      |
| November  | Sport Science Symposium on "Active Life", Waseda University, Japan, November 28<br><i>Optimal Use of Muscles in Sports</i>   |
| October   | Swiss Sports Orthopedics Society Conference, St. Gallen, Switzerland, October 31<br><i>Functional Muscle Mechanics in Sports</i>   |
| October   | Annual Fall Meeting of the Norwegian Chiropractic Association, Oslo, Norway, October 16-17<br><i>The Biomechanics of Spinal Manipulation</i>   |
| October   | Annual Fall Meeting of the Norwegian Chiropractic Association, Oslo, Norway, October 16-17<br><i>Stresses and Strains in Cervical Arteries During Spinal Manipulative Treatments</i> |
| September | Chiropractic Consortium Research Symposium, Toronto, ON, September 27<br><i>A SWOT Analysis of Chiropractic Research in Canada</i>   |
| June      | Technical University of Lisbon, Portugal, June 24<br><i>Muscle Series Elasticity: Theoretical and Experimental Considerations</i>  |
| June      | Technical University of Lisbon, Portugal, June 25<br><i>Reflections on Sarcomere Length non-Uniformity and Muscle Contraction</i>  |
| June      | USRP Undergraduate Research Day, University of Calgary, June 19<br><i>Mysteries of muscle contraction</i>  |
| May       | University of Santa Catarina, Florianopolis, Brazil, May 8<br><i>Muscle mechanics in track cycling and cross-country skiing</i>  |

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## 2012

|         |   |
|---------|---|
| October | Pôle Science et génie du vivant, Symposium du GRSTB, École Polytechnique de Montréal, Montreal, QC, October 10<br><i>The role of muscles in joint biomechanics and osteoarthritis</i> |
| July    | Technical University of Lisbon, Lisbon, Portugal, July 5<br><i>New perspective on the sliding filament and cross-bridge theory</i>  |
| July    | Technical University of Lisbon, Lisbon, Portugal, July 5<br><i>Titin, the multifunctional giant in eccentric muscle contraction</i>   |
| July    | Karl Franzens University in Graz, Graz, Austria, July 10<br><i>Bringing together experimentalists and theoreticians on biological models and simulations</i>                          |

|       |  |
|-------|--|
| July  | European Solid Mechanics Conference, Graz, Austria, July 9-10<br><i>Force enhancement in skeletal muscles: a role for titin?</i>         |
| June  | Canadian Society for Biomechanics, Vancouver, BC<br><i>Skeletal Muscle Research Across Structural Levels</i>                             |
| May   | T32 Training Grant, University of Minnesota, St. Paul, Minnesota<br><i>The Role of Muscular Loading on Joint Integrity and Health</i>    |
| April | Strength and Conditioning Conference, Canadian Sport Centre Calgary, Calgary, AB<br><i>Muscle Properties and Performance in Sport</i>    |
| March | Annual General Meeting of the Alberta College of Chiropractors, Red Deer, AB, March 24<br><i>The Biomechanics of Spinal Manipulation</i> |

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## 2011

|           |   |
|-----------|---|
| September | Consortium of Chiropractic Research, Toronto, ON, September 24<br><i>What Are Our Strengths in Biomechanical Research?</i>  |
| June      | Annual Conference of the International Society of Biomechanics and Sport<br>Porto, Portugal, June 27-July 1<br><i>Muscle Series Elasticity: Theoretical and Experimental Considerations</i> |

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## 2010

|          |   |
|----------|---|
| November | University of Kentucky, Lexington, Kentucky, November 9-11<br><i>Mechanisms of muscle contraction: the three myofilament story</i>  |
| August   | University of Western Australia, Perth, Australia, August 7-10<br><i>The role of titin in regulating skeletal muscle force</i>      |
| June     | IRM symposium, Manchester University, Manchester, June 29<br><i>Mechanics of force transmission through tendons and aponeuroses</i> |
| April    | University of Southern California, Los Angeles, CA, April 26<br><i>Mechanisms of muscle contraction</i>                             |

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## 2009

|          |  |
|----------|--|
| December | Griffith University, Brisbane, Australia, December 1<br><i>The role of muscles in joint loading and osteoarthritis</i> |
| November | University of Melbourne, Melbourne, Australia, November 23<br><i>Mechanisms of muscle contraction</i>                  |

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## 2008

|          |  |
|----------|--|
| July     | European Congress of Sports Science, Estoril, Portugal, July 6-12<br><i>Cross-bridge memory and history-dependent passive properties In vivo aponeurosis mechanics</i> |
| April    | Alberta College and Association of Chiropractors, Red Deer, AB, April 5  |
| February | Technischen Universität München, Munich, Germany, February 18-21<br><i>How do muscles contract? Implications for in vivo muscle function</i>                           |
| January  | Mathematical Biosciences Institute, Columbus, OH, January 14-18<br><i>On the mechanics of sarcomeres</i>   |

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## 2007

|          |   |
|----------|---|
| November | University of Cologne, Koeln, Germany, November 12-15<br><i>Force enhancement and mechanisms of skeletal muscle contraction</i>               |
| May      | University of Athens, Athens, Greece, May 4-6<br><i>The biomechanics of joints and muscles: from molecular insight to human understanding</i> |



|          |   |
|----------|---|
| April    | University of Manitoba, Visiting Scientist Seminar, Winnipeg, MB, April 18<br><i>Force enhancement in skeletal muscles and implications for the mechanisms of contraction</i>   |
| February | Highlights of current research at the Human Performance Laboratory at the University of Calgary<br>University of Southern California, Los Angeles, CA, February 21-23<br><i>Force enhancement and mechanisms of contraction in skeletal muscles: The role of muscles in joint biomechanics and osteoarthritis</i> |
| February | Rehabilitation Aimed at Muscle Performance Forum (RAMP), Vancouver, BC, February 26-27<br><i>Force enhancement and mechanisms of skeletal muscle contraction</i>  |

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## 2006

|          |  |
|----------|--|
| February | Northwestern Health Sciences University, Minneapolis, MN, February 2-3<br><i>Biomechanics of spinal manipulation</i>   |
| February | 8th Annual Orthopaedic Research Symposium, Calgary, AB, February 8<br><i>Is quadriceps weakness an independent risk factor for knee osteoarthritis?</i>  |
| April    | University of Colorado, Boulder, CO, April 12-14<br><i>Force enhancement and mechanisms of contraction in skeletal muscle</i>  |
| June     | Charite, Musculoskeletal Research Centre, Berlin, Germany, June 28-30<br><i>The role of muscles in joint regeneration</i>  |
| June     | Canadian Arthritis Network, Restoration of Joint Function, Vancouver, BC, June 8-9<br><i>The role of muscles in joint health and osteoarthritis</i>  |
| July     | 11th Annual Congress of the ECSS, Lausanne, Switzerland, July 5-8<br><i>The role of tendon and aponeurosis in force transmission in uni-pennate muscles</i>  |
| July     | Fifth World Congress of Biomechanics, Munich, Germany, July 29-August 4<br><i>Passive force enhancement or not (invited symposium)</i>   |
| July     | Fifth World Congress of Biomechanics, Munich, Germany, July 29-August 4<br><i>In vivo and in situ force transmission along tendon and aponeurosis (Invited symposium)</i>  |
| July     | Fifth World Congress of Biomechanics, Munich, Germany, July 29-August 4<br><i>Micro-structural models of articular cartilage</i>   |
| July     | Fifth World Congress of Biomechanics, Munich, Germany, July 29-August 4<br><i>Does force enhancement increase with increasing stretch magnitudes?</i>  |
| October  | American Physiological Society Intersociety Conference: Comparative Physiology 2006: Integrating has Diversity, Virginia Beach, VA, October 8-11<br><i>Role of titin in history dependent properties of muscle</i> |

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## 2005

|           |  |
|-----------|--|
| December  | National Institutes of Health, Bethesda, MD<br><i>Muscle mechanics</i>   |
| September | NCMIC Defense Council Seminar, Des Moines, IA<br><i>The biomechanics of spinal manipulation</i>                                      |
| August    | National University, Chuncheon, Korea<br><i>Considerations on force enhancement and mechanisms of contraction in skeletal muscle</i> |
| August    | Chosun University, Gwangju, Korea<br><i>Considerations on force enhancement and mechanisms of contraction in skeletal muscle</i>     |
| August    | Yonsei University, Seoul, Korea<br><i>Considerations on force enhancement and mechanisms of contraction in skeletal muscle</i>       |
| May       | The Athletic Therapy Association-40th CATA conference, Calgary, AB<br><i>Muscle function in healthy and injured joints</i>           |

|          |  |
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| April    | Mayo Clinic, Biomedical Engineering Seminar, Rochester, NY<br><i>Considerations on articular cartilage and joint biomechanics</i>              |
| February | University of Waterloo, Waterloo, ON<br><i>Considerations on series elasticity and storage/release of mechanical energy in skeletal muscle</i> |

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**2004**

|           |   |
|-----------|---|
| November  | University de Montreal, Montreal, QC  |
| September | American Society of Biomechanics, Workshop on Skeletal Muscle Mechanics, Portland, OR |
| August    | ICSSPE, 2004 Pre-Olympic Congress, Thessaloniki, Greece                               |
| July      | European Congress of Sport Science, Clermont-Ferrand, France                          |
| June      | Canadian Chiropractic Protective Agency, Toronto, ON                                  |
| April     | Stevens' Visiting Scholar, Gainesville, FL  |
| March     | Society of Experimental Biology (Rodge Woledge Retirement Symposium), Edinburgh, UK   |

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**2003**

|         |   |
|---------|---|
| October | College of Chiropractors Fall Convention, Banff, AB                             |
| August  | World Congress on Medical Physics and Biomedical Engineering, Sydney, Australia |
| July    | International Society of Biomechanics, Dunedin, New Zealand                     |
| June    | Canadian Congress of Applied Mechanics, University of Calgary, Calgary, AB      |
| May     | World Federation of Chiropractic Annual Conference, Orlando, FL                 |
| May     | University of Glamorgan, Cardiff, UK  |
| March   | Society of Experimental Biology, Southampton University, Hampshire, UK          |

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**2002**

|           |  |
|-----------|--|
| September | The International Conference on Spinal Manipulation, Toronto, ON |
| August    | World Congress of Biomechanics                                   |
| June      | The Calgary Chiropractic Society, Calgary, AB                    |

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**2001**

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|-------|--------------------------------------|
| March | University of Waterloo, Waterloo, ON |
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**2000**

|         |   |
|---------|---|
| October | Calgary Chiropractic Society, Calgary, AB                         |
| October | Consortium of Canadian Chiropractic Research Centers, Toronto, ON |
| July    | European College of Sport Sciences, Jyvaskyla, Finland            |
| June    | Canadian Chiropractic Association, Toronto, ON                    |
| June    | American College of Sports Medicine, Indianapolis, IN             |
| March   | Society of Experimental Biology, Exeter University, UK            |

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**1999**

|           |   |
|-----------|---|
| November  | 5th World Congress on Sports and Sciences, Sydney, Australia                            |
| September | Federal Technical Institute in Zurich, Switzerland                                      |
| June      | Vrije University of Amsterdam, the Netherlands  |
| March     | University of California, Davis, CA<br>LifeWest Chiropractic College, San Francisco, CA |

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**1998**

|      |  |
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| July | Technical University, Harburg, Germany |
|------|--|

|         |  |
|---------|--|
| July    | 2nd International Conference on Spinal Manipulation, Vancouver, BC                 |
| August  | World Conference of Biomechanics, Sapporo, Japan                                   |
| May     | Western States Chiropractic College, Portland, OR                                  |
| April   | The Canadian Bar Association, Calgary, AB  |
| January | Department of Veterinary Medicine, University of Utrecht, Utrecht, The Netherlands |
| January | Sulzer Orthopaedics, Winterthur, Switzerland                                       |

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**1997**

|          |  |
|----------|--|
| November | Physiology, Medicine, and Rehabilitation Departments, University of Manitoba, Winnipeg, MB |
| October  | Third Spinal Pain Conference, Toronto, ON  |
| August   | International Society of Biomechanics, Muscle Mechanics Workshop, Tokyo, Japan             |

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**1996**

|        |   |
|--------|---|
| August | Chairperson at the Canadian Society for Biomechanics Conference<br><i>Skeletal Muscle Models Symposium</i>          |
| May    | Musculoskeletal and Neuromuscular Seminars, University of Innsbruck, Austria<br><i>Visiting Scientist Programme</i> |
| April  | Rehabilitation Institute of Chicago, IL<br><i>Distinguished Lecture Series</i>                                      |
| March  | Federal University of Rio Grande do Sul, Porto Alegre, Brazil<br><i>Musculoskeletal Seminars</i>                    |

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**1995**

|           |  |
|-----------|--|
| September | Third IOC World Congress on Sport Sciences         |
| June      | CCA Centennial Research Award lecture, Toronto, ON |

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**1994**

|           |  |
|-----------|--|
| November  | Annual Convention of the Chiropractors of Saskatchewan             |
| September | College of Chiropractors of Alberta, Fall Convention, Red Deer, AB |
| July      | Second World Congress of Biomechanics, Amsterdam, the Netherlands  |

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**1993**

|         |   |
|---------|---|
| October | The Motor Vehicle Accident, the Law, and You, Calgary, AB |
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**1992**

|          |   |
|----------|---|
| October  | College of Chiropractors of Alberta, Annual Meeting, Jasper, BC |
| February | Clinical Neurosciences Research Day, Calgary, AB                |

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**1991**

|          |  |
|----------|--|
| October  | College of Chiropractors of Alberta, Banff, AB |
| April    | IEEE, Calgary Chapter, Calgary, AB             |
| February | University of Iowa, Iowa City, IA              |

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**1990**

|           |   |
|-----------|---|
| September | First World Congress of Biomechanics, San Diego, CA |
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**1989**

|          |                             |
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| November | University of Iowa City, IA |
|----------|-----------------------------|

June Canadian Federation of Biological Societies, Calgary, AB

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**1988**

November IEEE Engineering in Medicine and Biology Society, New Orleans, LA  
 March Annual Meeting of the Alberta Chiropractic Association, Calgary, AB  
 February Research Days, Canadian Memorial Chiropractic College, Toronto, ON

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**1987**

August Department of Kinesiology, University of California, Los Angeles, CA  
 May Department of Kinesiology, University of California, Los Angeles, CA  
 March Annual Meeting of the Alberta Chiropractic Association, Edmonton, AB  
 March Department of Medical Physiology, University of Calgary, Calgary, AB

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**1986**

May Department of Surgery, University of Calgary, Calgary, AB  
 March Annual Meeting of the Alberta Chiropractic Association, Calgary, AB

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**1985**

November Department of Surgery, University of Calgary, Calgary, AB  
 October Faculty of Medicine, University of Saskatchewan, Saskatoon, SK

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**1984**

December Hawkeye Sports Medicine Symposium, Iowa City, IA  
 April Annual Riverfest Race Seminar, Iowa City, IA

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**PRESENTATIONS**

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**2016 (77 to date)**

December ICSS International Congress on Science and Skiing, St. Christoph, Austria  
*Considerations on the cost of transport in cross-country skiing*

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**2015**

April 25<sup>th</sup> Congress of the International Society of Biomechanics  
*Deformation patterns of cracked articular cartilage under compression*  
*Early in situ site-specific changes in chondrocyte biomechanical responses due to a partial meniscectomy in the lateral compartment of the mature rabbit knee joint*  
*In vivo static and dynamic deformation of articular cartilage*

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**2014**

July 7th World Congress of Biomechanics, Boston, MA  
*Cartilage biomechanics: what really happens inside a joint?*

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**2013**

September American Society of Biomechanics Conference, Omaha, Nebraska  
*Modulation of titin elasticity in working muscle to minimize energy loss in passive stretch-shortening cycles*  
 August XXIV Congress of the International Society of Biomechanics, Natal, Brazil  
*Changes in protein concentration in murine knee joints with muscular contraction*

April UofC Killam and Vanier Scholarship Recipients, "Excellence at Lunch" Presentation  
*Success through connections and collaborations*

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**2012**

August American Society of Biomechanics, Gainesville, FL  
*Memorial Tribute to Prof. David Winter, PhD, PEng (June 1930-2012)*

June Canadian Society for Biomechanics, Vancouver, BC  
*Energy cost of skeletal muscle force production is reduced in the force enhanced state (muscle)*

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**2011**

August American Society of Biomechanics, Long Beach, CA

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**2010**

August 6th World Congress of Biomechanics, Singapore

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**2008**

September Kerby Centre Health Fair, Calgary, AB  
*Bone and Joint Disease*

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**2007**

August American Society of Biomechanics, Stanford, CA  
July International Society of Biomechanics, Taipei, Taiwan

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**2006**

July 5th World Congress of Biomechanics, Munich, Germany

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**2005**

August American Society of Biomechanics, Cleveland, OH  
August 2005 KAHPERD International Sport Science Congress, Chuncheon, Korea  
February Biophysical Society 49th Annual Meeting, Long Beach, CA

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**2004**

August International Council of Sport Science and Physical Education, Aristotle University  
August Thirteenth Biennial Conference, Canadian Society for Biomechanics, Halifax, NS  
July European Society of Biomechanics Congress, S Hertogenbosch, The Netherlands  
July Annual Congress of the ECSS, Clermont-Ferrand, France  
March Annual Main Meeting of the Society for Experimental Biology  
May European Chiropractors' Union Convention, Helsinki, Finland

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**2003**

September American Society of Biomechanics, Toledo, OH  
August World Congress on Medical Physics and Biomedical Engineering, Sydney, Australia  
February Biophysical Society, San Antonio, CA  
February Orthopaedic Research Society, New Orleans, CA

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**2002**

August Banff Symposium on Skeletal Muscle, Banff, AB

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|-------------|---|
| April       | Society of Experimental Biology, Swansea, UK  |
| <hr/>       |   |
| <b>2001</b> |   |
| August      | International Society of Biomechanics, Zurich, Switzerland                          |
| July        | American Society of Biomechanics, San Diego, CA                                     |
| May         | World Conference of Chiropractic, Paris, France                                     |
| April       | Society for Experimental Biology, Canterbury, UK                                    |
| <hr/>       |   |
| <b>2000</b> |   |
| October     | Consortium of Canadian Chiropractic Research Centers, Toronto, ON                   |
| August      | Canadian Society for Biomechanics, Montreal, QC                                     |
| June        | Canadian Orthopaedic Research Society, Edmonton, AB                                 |
| <hr/>       |   |
| <b>1998</b> |   |
| August      | North American Conference of Biomechanics, Waterloo, ON                             |
| August      | The University of Utrecht, Faculty of Veterinary Medicine, Holland                  |
| August      | 3rd World Congress of Biomechanics, Sapporo, Japan                                  |
| July        | 2nd International Workshop on Spinal Manipulation, Vancouver, BC                    |
| <hr/>       |   |
| <b>1997</b> |   |
| August      | International Society of Biomechanics, Tokyo  |
| April       | Arthritis 2000 Conference, Montreal, QC   |
| <hr/>       |   |
| <b>1996</b> |   |
| August      | The Canadian Society for Biomechanics, Vancouver, BC                                |
| May         | The Canadian Orthopaedic Research Society, Winnipeg, MB                             |
| <hr/>       |   |
| <b>1995</b> |   |
| November    | The College of Chiropractors of Alberta   |
| August      | The Whitaker Foundation Conference, Salt Lake City, UT                              |
| July        | International Society of Biomechanics, Finland                                      |
| <hr/>       |   |
| <b>1993</b> |   |
| August      | International Union of the Physiological Societies, Glasgow, Scotland               |
| July        | International Society of Biomechanics, Paris, France                                |
| May         | Canadian Orthopaedic Research Society, Montreal, QC                                 |
| April       | International Conference on Spinal Manipulation, Montreal, QC                       |
| <hr/>       |   |
| <b>1992</b> |   |
| August      | North American Conference on Biomechanics, Chicago, IL                              |
| May         | International Conference on Spinal Manipulation, Chicago, IL                        |
| <hr/>       |   |
| <b>1991</b> |   |
| December    | International Society of Biomechanics, Perth, Australia                             |
| October     | Combined Meeting of the Orthopaedic Research Societies of the USA, Japan and Canada |
| May         | World Federation of Chiropractic Meeting, Toronto, ON                               |
| April       | International Conference on Spinal Manipulation, Washington, DC                     |

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**1990**

August Canadian Society for Biomechanics, Quebec City, QC  
 May International Conference on Spinal Manipulation, Washington, DC

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**1989**

August American Society of Biomechanics, Burlington, VT  
 June International Society of Biomechanics, Los Angeles, CA  
 March College of Chiropractors of Alberta, Edmonton, AB  
 March International Conference on Spinal Manipulations, Washington, DC

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**1988**

November Canadian Memorial Chiropractic College, Toronto, ON  
 November University of Toronto, Toronto, ON  
 October University of Waterloo, Waterloo, ON  
 September American Society of Biomechanics, Urbana-Champaign, IL  
 August Canadian Society for Biomechanics, Ottawa, ON

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**1987**

September American Society of Biomechanics, Davis, CA  
 July International Society of Biomechanics, Amsterdam, The Netherlands  
 January International Olympic Committee, Medical Commission, Calgary, AB

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**1986**

August North American Conference on Biomechanics, Montreal, QC  
 July Novel Approaches to the Study of Motor Systems, Banff, AB

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**1985**

June International Society of Biomechanics, Umea, Sweden

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***STUDENT AND POSTDOCTORAL AWARDS (SUPERVISOR: W. HERZOG)***

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**2020**

Jeff Ilg Winner, Best Presentation in Biomechanics, BME Summer Student Symposium, Calgary, Canada

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**2019**

Jeff Ilg Winner, Podium Presentation, McCaig Summer Student Symposium, Calgary, Canada  
 Baaba Otoo Winner, David Winter Young Investigator Award (Poster), ISB, Calgary, Canada  
 Kevin Boldt Finalist, David Winter Young Investigator Award (Poster), ISB, Calgary, Canada  
 Kevin Boldt Finalist, American Society of Biomechanics Journal of Biomechanics Award, ASB, Calgary, Canada  
 Jaqueline Rios Winner, J. B. Hyne Research Innovation Award  
 Eng Kuan Moo Winner, Promising Young Scientist Award, ISB, Calgary, Canada

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**2018**

Sadhiq Nazeer Winner, Faculty of Kinesiology Award, UofC Undergraduate Research Symposium  
 Nathaniel Morris Winner, Gord Sleivert Young Investigator Award, SPort INnovation Summit, Montreal

|                |  |
|----------------|--|
| Sherry Mahmood | Winner, Canadian Society for Biomechanics Best Biomechanics Poster, 19 <sup>th</sup> Alberta Biomedical Engineering Conference, Banff, AB          |
| Louise Neave   | Winner, Best Oral Presentation in Biomechanics, 12 <sup>th</sup> Annual Biomedical Engineering Undergraduate Summer Research Symposium, Calgary AB |
| Sherry Mahmood | Winner, Best Presentation, Session 1, McCaig Undergraduate Student Symposium, Calgary, AB  |
| Jaqueline Rios | Winner, David Winter Doctoral Young Investigator Award, CSB, Halifax, NS   |
| Kevin Boldt    | Student Representative of the 2018-2020 Executive Council of the Canadian Society for Biomechanics   |
| Scott Sibole   | BME Graduate Program Director Leadership Award   |

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## 2017

|            |  |
|------------|--|
| S.C. Jones | Poster Award for Schulich School of Engineering, SU UofC Undergraduate Symposium   |
| K. Wu      | Canadian Society of Biomechanics Best Oral Presentation Award, 18 <sup>th</sup> Alberta Biomedical Engineering Conference, Banff, AB |
| S-w. Han   | Finalist, David Winter Young Investigator Award, ISB, Brisbane, Australia  |
| K. Boldt   | Finalist, David Winter Young Investigator Award, ISB, Brisbane, Australia  |
| J.L. Rios  | 3 <sup>rd</sup> Place Poster Award, BJH SCN Obesity Workshop, Leduc, AB  |
| Z. Abusara | Winner Meniscus Section Member Poster Award, ORS, San Diego CA   |
| K. Collins | Winner Best Poster Award, 10 <sup>th</sup> Banff International Inflammation Workshop, Banff, AB                                      |

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## 2016

|              |   |
|--------------|---|
| L. Ko        | Winner Best Podium Presentation Award, 17 <sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB |
| A. Fukutani  | Young Investigator Award, Japanese Society of Biomechanics, Osaka, Japan  |
| G. MacDonald | Best Poster Award, CSB, Hamilton, ON  |
| K. Collins   | J. B. Hyne Research Innovation Award  |
| K. Boldt     | Finalist of NDI Masters Student Award Competition at CSB Hamilton, ON   |

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## 2015

|            |   |
|------------|---|
| K. Boldt   | Certified Member Presentation Award, CSEP, Hamilton, ON                       |
| E.K. Moo   | Finalist of New Investigator Recognition Award at ORS Las Vegas, USA          |
| K. Kaiser  | David Winter Young Award, Podium Presentation at ISB Glasgow, UK              |
| G. Power   | Finalist for David Winter Young Award, Poster Presentation at ISB Glasgow, UK |
| R. Fortuna | J. B. Hyne Research Innovation Award  |
| M. Jordan  | Young Investigator Award for Sport Innovation Summit at Toronto, ON           |

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## 2014

|             |  |
|-------------|--|
| G. Power    | Banting Postdoctoral Award and Honorary Killam Laureate  |
| K. Powers   | First Place, Podium Presentation Award for the 2014 AB BME Conference, Banff, AB   |
| R. Fortuna  | Second Place, Podium Presentation Award for the 2014 AB BME Conference, Banff, AB  |
| M. Engel    | UofC Clearest Message Poster Award at the 2014 AB BME Conference, Banff, AB  |
| K. Johnston | CSB Poster Prize at the 2014 AB BME Conference, Banff, AB  |
| K. Johnston | CSB 2014 MSc Young Investigator Award, WCB, Boston, MA   |
| K. Powers   | CSB 2014 PhD Young Investigator Award, WCB, Boston, MA   |
| V. Wang     | Outstanding Presentation Award at the National Undergraduate Kinesiology Research Conference, Toronto, Ontario, presentation |

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## 2013

|           |  |
|-----------|--|
| S. Crooks | Graduate Students' Association Award 2013, presentation                      |
| E.K. Moo  | David Winter Young Investigator Award at the ISB Congress 2013, presentation |
| B. Hisey  | David Winter Young Investigator Award at the ISB Congress 2013, poster       |



|               |   |
|---------------|---|
| G. Power      | Emerging Scientist Award at the ISB Congress 2013, presentation   |
| G. Power      | Banting Postdoctoral Fellowship University of Calgary Finalist  |
| C. Michelutti | BME Undergraduate Award for Originality, Presentation and Scientific Content  |
| C. Tang       | Finalist for ISB's Clinical Biomechanics Award 2013   |
| K. Collins    | Student Representative of the 2013-2015 Executive Council of the International Society of Biomechanics  |
| M. Yamamoto   | Winner of Best Physiology Presentation Award at the National Undergrad Symposium, Toronto   |
| M. Yamamoto   | Winner of the Institute of Engineering and Technology Competition for the Calgary Region, representing the Calgary Region at the North American Final in Toronto in August 2013 |

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## 2012

|                    |  |
|--------------------|--|
| M. DuVall PhD      | First Place in the Institute of Engineering and Technology Competition Semi Finals |
| B. Hisey PhD       | Acceptance into the Leader's in Medicine Program                                   |
| R. Fortuna PhD     | Finalist for the ASB Clinical Biomechanics Award                                   |
| A. Panchangam PhD  | Winner of the CSB New Investigator Award   |
| M. Yamamoto        | Winner of the CSB Young Investigator Award   |
| J. Herzog          | Finalist for the CSB Young Investigator Award                                      |
| Z. Abusara PhD     | Finalist for the CSB New Investigator Award  |
| R. Madden MSc      | Finalist for the Biomedical Engineering Award                                      |
| N. Abughazaleh MSc | Finalist for the Biomedical Engineering Award                                      |

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## 2011

|                 |  |
|-----------------|--|
| T. Leonard PhD  | Winner of the 2010-2011 WAGS/UMI Innovation in Technology Award  |
| M. Yamamoto     | Alumni Award- Excellence in Research, 6 <sup>th</sup> Annual Undergraduate Research Symposium Undergraduate  |
| S.K. Han PDoc   | Journal of Biomechanics Award – 35 <sup>th</sup> Annual Meeting of the American Society of Biomechanics,   |
| A. Leumann PDoc | Michael-Jaeger Award (2 <sup>nd</sup> place) Swiss Orthopedics Congress for "The 12 Year Natural History of Osteoarthritis in the ACL Transected Cat Knee" |
| Z. Abusara PDoc | Finalist for the Young Investigator Award of the XXIII <sup>rd</sup> Congress of the International Society of Biomechanics                                 |
| T. Leonard PhD  | J.B. Hyne Research Innovation Award, University of Calgary   |
| R. Madden MSc   | Winner of the best research presentation award, AHFMR OA Team grant meeting  |

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## 2010

|                |  |
|----------------|--|
| M Yaraskavitch | Poster prize runner up for Leaders in Medicine Conference                              |
| C Tang MSc     | Finalist for the NDI Young Investigator Award of the Canadian Society for Biomechanics |

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## 2009

|             |  |
|-------------|--|
| B Hisey PhD | Winner of the Clearest Message poster award at the 10th Annual Alberta Biomedical Engineering Conference |
| C Logan     | Winner of the Most Creative poster award at the 10th Annual Alberta Biomedical Engineering Conference    |

---

## 2008

|                      |   |
|----------------------|---|
| A Sawatsky Undergrad | Finalist for the Journal of Biomechanics Award of the North American Congress on Biomechanics |
| E-J Lee PhD          | Finalist for the NDI New Investigator Award of the North American Congress on Biomechanics    |
| E Szabo MSc          | Finalist for the NDI New Investigator Award of the North American Congress on Biomechanics    |
| M Yaraskavitch MSc   | Finalist for the NDI New Investigator Award of the North American Congress on Biomechanics    |
| SK Han PhD           | Finalist for the NDI New Investigator Award of the North American Congress on Biomechanics    |

|               |   |
|---------------|---|
| V Joumaa PDoc | Winner of the NDI New Investigator Award of the North American Congress on Biomechanics |
| T Leonard PhD | Winner of the NDI New Investigator Award of the North American Congress on Biomechanics |
| B Hisey MSc   | Winner of the NDI New Investigator Award of the North American Congress on Biomechanics |

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**2007**

|                 |  |
|-----------------|--|
| N Austin MSc    | Winner of the Student's Union Undergraduate Research Symposium, Provost's Award          |
| M Blaauboer     | Winner of The Organon Young Talent Award   |
| V Joumaa PDoc   | Finalist for the Journal of Biomechanics award of the American Society of Biomechanics   |
| S Federico PDoc | Winner of the Postdoctoral Young Scientist Award of the American Society of Biomechanics |

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**2006**

|                 |  |
|-----------------|--|
| SK Han PhD      | Canadian Society for Biomechanics award for Best Poster at the Biomedical Engineering Conference, Banff, AB              |
| D Bourne PhD    | Canadian Society for Biomechanics award for best podium presentation at the Biomedical Engineering Conference, Banff, AB |
| T Leonard MSc   | 2nd place winner for the 6th International Muscle Energetics Conference, Banff, Poster competition                       |
| A Mehta MSc     | 2nd place winner for the 6th International Muscle Energetics Conference, Banff, Poster competition                       |
| V Joumaa PDoc   | Finalist for the CSB Young Investigator Award  |
| R Korhonen PDoc | Finalist for the CSB Young Investigator Award  |
| D Bourne PhD    | Finalist for the CSB Young Investigator Award  |
| EJ Lee PhD      | Kinesiology Graduate Student Science Presentation Award  |

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**2005**

|                   |   |
|-------------------|---|
| T Butterfield PhD | Winner of the National Athletic Trainers' Association Award for outstanding doctoral dissertation |
| EJ Lee PhD        | Winner of the Journal of Biomechanics Award of the International Society of Biomechanics          |

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**2004**

|                |  |
|----------------|--|
| D Peterson PhD | Winner of the New Investigator's Award of the Canadian Society for Biomechanics  |
| T Leonard MSc  | Winner of the New Investigator's Award of the Canadian Society for Biomechanics  |
| D Longino MSc  | John Smith and Laura May Gardner Memorial Endowment Award given at the 22nd Annual Surgeons' Day for best Basic Science Research |

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**2003**

|                   |   |
|-------------------|---|
| HD Lee PhD        | Winner of the J.B. Hyne Research Innovation Award for Excellence in Scientific Research   |
| T Butterfield PhD | Finalist for the Journal of Biomechanics Award of the American Society of Biomechanics    |
| S Craig MSc       | 2nd place in the Young Investigator's Award of the International Society of Biomechanics  |
| M Kaya PhD        | Finalists for the Young Investigator's Award of the International Society of Biomechanics |
| S Craig MSc       | Finalists for the Young Investigator's Award of the International Society of Biomechanics |
| D Corr            | Finalists for the Young Investigator's Award of the International Society of Biomechanics |

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**2002**

|                |   |
|----------------|---|
| R Schachar MSc | Winner of the Young Investigator's Award of the Canadian Society for Biomechanics |
|----------------|---|

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**2000**

|                   |  |
|-------------------|--|
| J Archambault PhD | Winner of the New Investigator's Award of the Canadian Society for Biomechanics, PDoc/PhD category |
|-------------------|--|

|                 |   |
|-----------------|---|
| A Clark PhD     | Finalists for the New Investigator's Award of the Canadian Society for Biomechanics |
| M Kaya PhD      | Finalists for the New Investigator's Award of the Canadian Society for Biomechanics |
| S Couillard MSc | Finalists for the New Investigator's Award of the Canadian Society for Biomechanics |
| J Wu PDoc       | Winner of the American Society of Biomechanics postdoctoral young scientist award   |

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**1999**

|                |   |
|----------------|---|
| A Clark PhD    | Finalist of the Young Investigator Award of the International Society of Biomechanics                   |
| W Carvalho MSc | Finalist of the Young Investigator Award of the International Society of Biomechanics                   |
| S Craig MSc    | Canadian Society for Exercise Physiology Undergraduate student award for excellence in research project |

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**1998**

|            |   |
|------------|---|
| T Koh PhD  | Finalist of the New Investigator Award of the North American Conference of Biomechanics |
| HD Lee MSc | Finalist of the New Investigator Award of the North American Conference of Biomechanics |

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**1996**

|              |   |
|--------------|---|
| E Hasler PhD | Finalist of the New Investigator Award of the Canadian Society for Biomechanics |
|--------------|---|

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**1995**

|                  |   |
|------------------|---|
| B Prilutsky PDoc | Winner of the post-doctoral young scientist award of the American Society of Biomechanics |
|------------------|---|

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**1994**

|                |   |
|----------------|---|
| JG Brooks MSc  | Winner of the New Investigator Award of the Canadian Society for Biomechanics   |
| T Allinger PhD | Finalist of the New Investigator Award of the Canadian Society for Biomechanics |

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**FUNCTIONS IN FEDERAL GRANT REVIEW BOARDS**

|           |   |
|-----------|---|
| 2012-2014 | Chair, CIHR Movement & Exercise Review Committee  |
| 2011-2012 | Member, CIHR Movement & Exercise Review Committee   |
| 2008-2010 | Chair, CIHR Biomedical Engineering Review Committee   |
| 2005-2008 | Member-CIHR Biomedical Engineering Review panel   |
| 1995-1998 | Member, Medical Research Council of Canada (MRC)-Biomedical Engineering Grant Review Committee  |
| 1996-1999 | Member, Natural Sciences and Engineering Research Council (Natural Sciences and Engineering Research Council) - Scholarships and Fellowships Selection Committee for the Life Sciences and Psychology |

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**MEMBERSHIP AND FUNCTIONS IN PROFESSIONAL ORGANIZATIONS**

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**Present**

|               |  |
|---------------|--|
| 2018- present | Strategic Committee for the Interdisciplinary Science and Innovation Centre (ISIC) project, managed by Campus Facilities Development |
| 2012-present  | Rintoul Chair Advisory Committee, Cumming School of Medicine, University of Calgary  |
| 2013-present  | Arthritis Society Chair in Rheumatic Disease/Rheumatology Advisory Committee, Cumming School of Medicine, University of Calgary      |
| 2019-present  | International Society of Electrophysiology and Kinesiology   |
| 2018-present  | Co-Leader Human Mobility Group, Biomedical Engineering Calgary Initiative  |
| 2017-present  | Chair, SUPPORT: Training and Professional Development, University of Calgary   |
| 2017-present  | Member, Brazilian Society of Biomechanics  |
| 2017-2021     | Vice-Chair, Motor Control Group, International Society of Biomechanics   |

|               |   |
|---------------|---|
| 2016- present | Elected Honorary Member, Chilean Association for Human Movement Science   |
| 2016-2022     | Member, Nike Sport Research Advisory Board  |
| 2014-present  | Member, Osteoarthritis Research Society International   |
| 2013-present  | Fellow, Royal Society of Canada   |
| 2013-present  | Member, European College of Sport Science   |
| 2012-present  | Member, University Strategic Biomedical Engineering Committee, University of Calgary  |
| 2010-present  | Member, American Physiological Society  |
| 2004-present  | Founder and Selection Chair, Jim Hay Memorial Award, American Society of Biomechanics (Career Award for Biomechanics in the Exercise and Sports Sciences Field) |
| 2004-present  | Member, European Society of Biomechanics  |
| 2000-present  | Member, International Society of Biomechanics   |
| 2000-present  | Member, Orthopaedic Research Society, American Academy of Orthopaedic Surgeons  |
| 1995-present  | Member, Biophysical Society   |
| 1993-present  | Member, American Association for the Advancement of Science   |
| 1987-present  | Member, Canadian Society for Biomechanics   |
| 1983-present  | Member, American Society of Biomechanics  |

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## Past

|           |   |
|-----------|---|
| 2015-2019 | Member, McCaig Institute for Bone and Joint Health Executive Council  |
| 2014-2019 | Member, Regional Advisory Council for Germany, University of Calgary's International Strategy Team                      |
| 2012-2019 | Member, Grant Submission SUPPORT Team, University of Calgary  |
| 2014-2019 | Member, Executive Committee of UCARE, Animal Resources Committee  |
| 2016-2019 | External Assessor, Biomedical Engineering Program at the University of Malaya   |
| 2011-2018 | International Advisory Board, CIPER (Interdisciplinary Centre for the Study of Human Performance), University of Lisbon |
| 2014-2017 | NAU Keck Foundation, Program Committee Member   |
| 2013-2017 | Member, Faculty Promotion Committee & Research and Scholarly Leave Committee, UofC                                      |
| 2015-2016 | Chair, Program Advisory Committee for NSERC CREATE SUPPORT  |
| 2014-2016 | Faculty Council Representative, The Office of the Chancellor and Senate, UofC   |
| 2016      | International Evaluation Team, Federal Technical Institute, Zurich (Dept. of Health Science and Technology)             |
| 2015      | Member, ISB-EDC Congress Travel Grant Committee   |
| 2014-2015 | Director, Benno Nigg Chair Committee  |
| 2015      | Member, ASB Fellows Nomination Committee  |
| 2014-2015 | Member, BME Interim Steering Committee, University of Calgary   |
| 2014-2015 | Member, Graduate Education Committee, University of Calgary   |
| 2014      | Member, Strategic Research and Innovation Committee, University of Calgary  |
| 2014      | Member, Program Advisory Committee NSERC CREATE Program, Dr. D. Rancourt  |
| 2011-2014 | External Assessor, Biomedical Engineering Program at the University of Malaya   |
| 2014      | Member, Nomination Committee of the World Congress on Biomechanics  |
| 2014      | Reviewer, EMBC 2014 Annual Conference Paper Reviewer  |
| 2014      | Advisor, EU Research Programme, Horizon2020, entitled ALTER-AGEING  |
| 2014      | Member, Borelli Award Selection Committee for ISB 2015  |
| 2014      | Scientific Committee Member of the International Conference of the Polish Society of Biomechanics 2014, Lodz, Poland    |
| 2014      | Track Chair and Organizer for the Muscle and Motor Control Sessions, World Congress of Biomechanics 2014, Boston        |
| 2012-2014 | Member, GFC Steering Committee, University of Calgary   |
| 2011-2014 | Member, Life and Environmental Sciences Animal Care Committee (LESACC)  |

|           |  |
|-----------|--|
| 2012-2013 | Member, Salary Anomalies Advisory Committee (SAAC), University of Calgary  |
| 2013      | Elected Fellow, Kinesiology Faculty Representative for Education, University of Calgary  |
| 2013      | Chair, 2013 ISB Scientific Program Coordinator   |
| 2013      | Reviewer, 2013 ASB Clinical Biomechanics Award   |
| 2013      | Member, International Advisory Board for the 15 <sup>th</sup> ICBME Meeting, Singapore   |
| 2013      | Member, Bidding Committee Member for the ESB2016 in Lyon   |
| 2013      | Member, International Congress on Sports Science Research Committee  |
| 2013      | Mentor, ISBS Student Mentor Program (SMP) 2013   |
| 2013      | Reviewer, ISBS 2013 Scientific Judging Committee   |
| 2012      | Scientific Committee Member, The 19 <sup>th</sup> European Society of Biomechanics Congress  |
| 2012      | Reviewer, CSB 2012 President's Award for best poster   |
| 2012      | Reviewer, ESMC 2012, Oral Young Researcher Award   |
| 2012      | Member, American Society of Biomechanics Annual Meeting Review and Program Committee   |
| 2012      | Referee, Engineering in Medicine and Biology Conference Management System for EMBC '12   |
| 2012      | Member, Research Overhead and Indirect Costs Policy Team, University of Calgary  |
| 1999-2011 | Executive Board Member, International Society of Biomechanics  |
| 2011      | Rintoul Chair in Bone & Joint Research, University of Calgary, Selection committee   |
| 2011      | Faculty of Graduate Studies, University of Calgary, Council representative   |
| 2011      | Markin USRP in Health and Wellness, Vitamin D Debate, Chairperson  |
| 2011      | International Advisory Board, Interdisciplinary Centre for the Study of Human Performance, Faculty of Human Kinetics, Technical University of Lisbon, Portugal |
| 2010      | Member, International Review Committee, Federal Technical Institute, Zurich (Biology Dept)   |
| 2010      | Member, Advisory Search Committee, Provost and Vice-President (Academic), University of Calgary  |
| 2010      | Member, The American Physiological Society   |
| 2009      | Member, Exercise Physiology Selection Committee, University of Calgary   |
| 2009-2013 | Advisory Review Committee Member, Arthritis Society Chair in Rheumatic Diseases/Rheumatology   |
| 2009      | Member, Internal grant review committee, Natural Sciences and Engineering Research Council CREATE, University of Calgary                                       |
| 2008-2009 | Member, Steering Committee, BME Grad Program, University of Calgary  |
| 2008      | Member, Selection Committee, Faculty of Veterinary Medicine, Assistant professors  |
| 2008      | Member, Selection Committee for Faculty of Kinesiology, Biostatistician position   |
| 2008      | Executive Committee Member of the Biomedical Engineering Initiative, University of Calgary   |
| 2008      | Member, American Society of Biomechanics Awards committee  |
| 2007      | External Examining Committee Member, Department of Chiropractic, Durban University of Technology, Durban, South Africa   |
| 2007      | Member, External Advisory Panel, University of Iowa  |
| 2007-2008 | President, International Society of Biomechanics   |
| 2007-2008 | Member, Advisory Review Committee, Arthritis Society Chair in Rheumatic Diseases/Rheumatology  |
| 2007      | Conference Chair, IASTED International Conference on Biomechanics, Honolulu  |
| 2007      | Member, International Society of Biomechanics Clinical Biomechanics Award Committee  |
| 2007      | Member, External Advisory Board, NIH   |
| 2006      | Chair, Olympic Oval Endowment Fund   |
| 2006      | Chair, CFI Leading Edge and New Initiatives Funds (LEF and NIF)  |
| 2006      | Member, Calgary Health Research Advisory Committee   |
| 2006      | Chair, NIH Leading Edge and New Initiatives Fund   |
| 2005      | Member, Alberta Heritage Foundation for Health Research Studentship Advisory Committee   |
| 2005      | Member, External Advisory Panel, NIH   |
| 2005      | Member, LSRS Committee, University of Calgary  |
| 2005      | Member, Steering Committee for Skeletal Muscle Research, CIHR/IMHA   |

|           |   |
|-----------|---|
| 2005-2007 | President-Elect, International Society of Biomechanics  |
| 2004-2005 | Member, Selection Committee for Dean, Faculty of Kinesiology  |
| 2004-2006 | Member, Scientific Organizing Committee, 5th World Congress of Biomechanics   |
| 2004-2005 | Scientific Committee Member, European Workshop on Movement Science  |
| 2004-2005 | Past-President, American Society of Biomechanics  |
| 2003-2006 | Advisory Board, Singapore Fitness Professionals Federation  |
| 2003-2004 | President, American Society of Biomechanics   |
| 2003      | Member, International Review Committee, ISB Congress 2003   |
| 2002-2003 | President Elect, American Society of Biomechanics   |
| 2004      | Member, University Veterinarian Advisory Selection Committee  |
| 2004      | Member, Scientific Steering Committee for the Microscopy and Imaging Facility (MIF)   |
| 2004      | Member, International Program Committee for IASTED International Conference on Biomechanics, Honolulu   |
| 2004      | Member, European Society of Biomechanics  |
| 2004      | Member, Review committee for Assist Prof position, Kinesiology, University of Calgary   |
| 2002      | Academic Review Committee Member, D. Paskevich  |
| 2002      | Member, World Council of Biomechanics   |
| 2001-2003 | Izaak Walton Killam Memorial Scholarship Committee Member, University of Calgary  |
| 2000-2002 | Scientific Programme Chair, World Conference of Biomechanics, Calgary, 2002   |
| 2001-2002 | Conference Chair, Banff Symposium on Skeletal Muscle, Banff, AB, 2002   |
| 2001      | Programme Policy Review Committee, Killam Trust   |
| 2001      | CIHR Circle Member  |
| 2001-2002 | Partnership Programme Advisory Committee, University of Calgary   |
| 2000-2001 | Scientific Programme Chair, American Society of Biomechanics Conference 2001  |
| 1993-2000 | Member, Medical Science Graduate Education Committee, the University of Calgary   |
| 1991-2000 | Board Member, Olympic Oval Endowment Fund   |
| 1999-2000 | Selection Committee, Department Head in Physics and Astronomy, University of Calgary  |
| 1999-2000 | Member, Scientific Committee of the combined conference of the Société de Biomécanique and the Canadian Society for Biomechanics, Montréal 2000 |
| 1999-2002 | Executive Board Member, American Society of Biomechanics  |
| 1998-2002 | Member, University Grants Review Committee  |
| 1998-2001 | Member, Biomedical Engineering Curriculum Review Committee  |
| 1998      | Jury Member, World Biomechanics Promotie prijs  |
| 1982-1993 | Member, American College of Sports Medicine   |
| 1987-1993 | Member, Sports Medicine Society of Calgary  |
| 1990-1996 | Member, Universities Coordinating Council   |
| 1991-1992 | Secretary Treasurer, Canadian Society for Biomechanics  |
| 1992      | Chairman, New Investigator's Award Committee, Canadian Society for Biomechanics   |
| 1992-1994 | Conference Chair, Biannual Meeting of the Canadian Society for Biomechanics   |
| 1993-1995 | Member, Research Policy Committee, The University of Calgary  |
| 1995-1997 | Past Conference Chair, Canadian Society for Biomechanics  |
| 1995-1997 | President, Canadian Society for Biomechanics  |
| 1997-1999 | Past President, Canadian Society for Biomechanics   |
| 1995-1998 | Member, Task Force on chiropractic research in Canada   |
| 1996-1997 | Member, Task Force on chiropractic research in the United States  |
| 1996-2001 | Member, Life and Environmental Sciences Animal Care Committee, University of Calgary  |
| 1996      | Jury Member, World Biomechanics Promotieprijs   |
| 1996-1999 | Scientific Chair, XVII Conference of the International Society of Biomechanics  |

|           |   |
|-----------|---|
| 1997-1998 | Member of Nominating Committee, The Arthritis Society of Canada (by merit of top ranking in the annual grant competition) |
| 1997-1998 | Organizer, Symposium on Muscle Mechanics and Movement Control, World Conference, Sapporo, Japan                           |

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## **REFEREING FOR SCIENTIFIC JOURNALS**

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### **Present**

|              |  |
|--------------|--|
| 2019-present | Editorial Board, BMC Biomedical Engineering  |
| 2016-present | Editorial Board, Chiropractic & Manual Therapies                                     |
| 2016-present | Advisory Board, German Journal of Exercise and Sport Research                        |
| 2016-present | Associate Editor, International Journal of Molecular Sciences                        |
| 2015-present | Editorial Board, Current Issues in Sport Science (CISS)                              |
| 2015-present | Editorial Board, Journal of Functional Morphology and Kinesiology                    |
| 2015-present | Editorial Board, Biomechanics and Modeling in Mechanobiology                         |
| 2015-present | Advisory Board, German Journal of Sport Sciences                                     |
| 2015-present | Editorial Board, International Journal of Mechanical and Materials Engineering       |
| 2015-present | Advisory Board, Sportwissenschaft Journal  |
| 2011-present | Founding Editor and Co-Editor in Chief, Journal of Sport and Health Science          |
| 2010-present | Editorial Board, Muscles, Ligaments and Tendons Journal                              |
| 2006-present | International Board Member, Sportorthopädie-Sporttraumatologie                       |
| 2005-present | Editorial Board, Sports-Orthopaedics and Sports-Traumatology                         |
| 2005-present | Editorial Board, Molecular and Cellular Biomechanics                                 |
| 2004-present | Associate Editor, Exercise and Sports Science Reviews                                |
| 2002-present | Associate Editor, IEEE Transactions in Neural Systems and Rehabilitation Engineering |
| 2002-present | Editorial Board, Journal of Biomechanics   |
| 1997-present | Editorial Board, Journal of Electromyography and Kinesiology                         |
| 1990-present | Editorial Board, Journal of Manipulative and Physiological Therapeutics              |
| 1990-present | Editorial Board, Journal of the Canadian Chiropractic Association                    |
| 1995-present | Editorial Board, Sportverletzung Sportschaden  |

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### **Past**

|           |  |
|-----------|--|
| 2015      | Reviewer, Best Paper Prize for IJMS  |
| 1999-2013 | International Consultant and Member of Advisory Board, Brazilian Journal of Biomechanics |
| 2011-2012 | Guest Editor, PLoS Computational Biology   |
| 2011      | Editor in Chief, International Journal of Exercise and Health Sciences                   |
| 2008      | Editorial Board, International Journal of Molecular Sciences                             |
| 2000-2007 | Associate Editor, The Spine Journal  |
| 2003-2005 | Field Editor Biomechanics, Encyclopedia Reference of Neuroscience                        |
| 1999-2002 | Editorial Consultant, Journal of Biomechanics  |
| 1993-2000 | Associate Editor, Journal of the Neuromusculoskeletal System                             |
| 1995-1998 | Reviewer, Australasian Chiropractic and Osteopathy                                       |
| 1991-1993 | Editorial Board, Journal of Applied Biomechanics   |
|           | Medicine and Science in Sports and Exercise  |
|           | Journal of Neuroscience Methods  |
|           | Journal of Orthopaedic Research  |
|           | Journal of Biomedical Engineering  |
|           | Clinical Journal of Sport Medicine   |

Journal of Biomechanical Engineering  
Journal of Applied Physiology  
Human Movement Science  
Journal of Neurophysiology  
European Journal of Physiology  
Journal of Experimental Biology  
Microscopy and Microanalysis  
Proceedings of the Royal Society (London)  
Transactions of the Royal Society (London)

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## **REFEREING FOR GRANTING INSTITUTIONS**

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### **Present**

Reviewer, Natural Sciences and Engineering Research Council of Canada (1990-present)  
Reviewer, CIHR College of Reviewers (2017- present)

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### **Past**

Reviewer, CIHR Foundation Grant Program (2017)  
Chairperson, CIHR Movement & Exercise Grants Review Committee (2008-2011)  
Chairperson, CIHR Biomedical Engineering Grant Review Committee (2011-2014)  
Reviewer, Israel Science Foundation  
Review Board Member, National Institutes of Health  
Chair of the Benno Nigg Chair Search Committee (2014-2015)  
Reviewer, Natural Sciences and Engineering Research Council of Canada (2013)  
Committee Member, Movement and Exercise, Canadian Institutes of Health Research (2011-2013)  
Grant Review Committee, Alberta Ingenuity New Faculty Award, University of Calgary (2009)  
Committee Member, University of Calgary Olympic Oval Endowment Fund (1990-2009)  
Grant Review Committee, Biomedical Engineering, Canadian Institutes of Health Research (2005-2008)  
Advisory Committee, Alberta Heritage Foundation for Medical Research Studentship (2003-2005)  
Graduate Student Scholarship Selection Committee, University of Calgary (2000-2003)  
Chairman, University of Calgary Research Grants Committee (1991-1992)  
Committee Member, University of Calgary Research Grants Committee (1990-1991)  
Committee Member, Alberta Paraplegic Foundation (1990-1991)  
Reviewer, Sport Canada Applied Sport Research Program  
External Reviewer, Canadian Fitness and Lifestyle Institute  
Reviewer, Alberta Heritage Foundation for Medical Research  
Reviewer, Medical Research Council of Canada  
Reviewer, International Science Foundation  
Reviewer, Foundation for Chiropractic Education and Research  
National Health Research and Development Program (NHRDP)  
National Organization of Sport Sciences

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## **SCIENTIFIC CONFERENCES ORGANIZED**

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### **2021**

Scientific Committee Member, Congress of International Society of Biomechanics/Japanese Society of Biomechanics,  
Fukuoka, Japan, July 30-Aug 3, 2023



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**2020**

International Scientific Committee Member, IUPESM World Congress on Medical Physics and Biomedical Engineering 2021 (WC2021), Singapore

Scientific Committee Member, European Society of Biomechanics Congress, Warsaw, Poland (2019-2022)

Scientific Advisory Board Member, International Congress on Science and Skiing (ICSS), Austria, 2022

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**2019**

Young Investigator Award Committee Member, International Society in Science and Sports, Vuokatti, Finland, March 2019

Conference Chair, International Society of Biomechanics Conference, Calgary AB, July-August 2019 (2016-2019)

Conference Chair, 4<sup>th</sup> Rocky Mountain Muscle Symposium, Canmore AB, July 2019

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**2018**

David Winter Young Investigator Award Committee Member, Canadian Society for Biomechanics, Halifax, NS, August 2018

Scientific Reviewer / Scientific Chair for Session of Locomotion and Human Movement, World Congress of Biomechanics, Dublin, Ireland, July 2018

Chair, Muscle and Force Session, International Society of Electrophysiology and Kinesiology, Dublin, Ireland, June-July 2018

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**2017**

Founders Awards Committee Member, American Society of Biomechanics Conference, Boulder CO, August 2017

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**2016**

Scientific Reviewer, 19<sup>th</sup> Biennial Meeting of the Canadian Society for Biomechanics, Hamilton ON, July 2016

Scientific Chair of Locomotion and Human Movement for the 8<sup>th</sup> World Congress of Biomechanics in Dublin, Ireland, July 2018

Scientific Committee Member for Canadian Society for Biomechanics Conference in Hamilton, ON, July 2016

Scientific Advisory Board Committee member for the European Society of Biomechanics Conference in Lyon, France, July 2016

Student Award Committee member for the European Society of Biomechanics Conference in Lyon, France, July 2016

Jim Hay Memorial Award Committee Member for the American Society of Biomechanics Conference, Raleigh NC, August 2016

Borelli Career Award Committee Member for the American Society of Biomechanics Conference, Raleigh NC, August 2016

International Scientific Committee Member for the 16<sup>th</sup> International Conference on BioMedical Engineering, Singapore, December 2016

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**2015**

Scientific Committee Member for the EUROMECH Colloquium, Italy, April 2017

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**2013**

International Scientific Advisory Board for the ISB 2013, Natal, Brazil (Board Member)

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**2012**

European Society of Biomechanics Congress 2015, Prague (Scientific Committee Member)

European Solid Mechanics Conference, Graz, Austria (Symposium Organizer)

International Conference of the Polish Society of Biomechanics (Scientific Committee member)

European Society of Biomechanics Congress, Lisbon, Portugal (Scientific Committee member)

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**2011**

International Society of Biomechanics in Sports Conference, Portugal (member of the Scientific Commission)  
5<sup>th</sup> International Conference on Biomedical Engineering, Kuala Lumpur (International Advisory Board/Technical Programme Committee)  
23<sup>rd</sup> Congress of the International Society of Biomechanics, Brussels (Scientific Reviewer)

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**2010**

6th World Congress on Biomechanics, Singapore  
(International Advisory Committee member and Track Chair)

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**2009**

2nd International Joint Conference on Biomedical Engineering Systems and Technologies  
(BIOSTEC-2009, Scientific Program Committee)

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**2008**

International Conference on Biomedical Engineering, Singapore  
North American Congress on Biomechanics (Scientific Program Committee, Advisory Committee Member)  
16th Congress of the European Society of Biomechanics (Scientific Program Committee)  
Kuala Lumpur International Conference on Biomedical Engineering (International Advisory Board member)

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**2006**

IASTED Biomech 2006 IASTED (International Program committee)  
American Society of Biomechanics (Awards Committee member)  
Orthopaedic Research Society (Scientific Program Committee)  
World Congress of Biomechanics (Scientific Chair for Musculoskeletal Biomechanics)  
6th Muscle Energetics Conference (Scientific Program Committee)

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**2005**

27th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (Theme Chair in Neuromusculoskeletal mechanics)  
IASTED Biomech 2005 (International Program Committee)

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**2002**

World Conference of Biomechanics (Scientific Chair)  
Banff Symposium on Skeletal Muscle (Conference Chair)  
American Society of Biomechanics (Conference Chair)

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**2001**

American Society of Biomechanics (Scientific Chair)

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**1999**

International Society of Biomechanics (Scientific Chair)  
Canmore Symposium on Skeletal Muscle (Conference Chair)

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**1998**

Inaugural Conference of the Canadian Chiropractic Association (Conference Chair)

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**1994**

Canadian Society for Biomechanics (Conference Chair)

## **FINANCIAL SUPPORT**

### **Principal Investigator – Current Support**

| <b>Year</b> | <b>Grant Agency<br/>Date</b>  | <b>Comments<br/>Grant Number</b> | <b>Amount<br/>per Year</b> |
|-------------|---|----------------------------------|----------------------------|
| 2020-2025   | Natural Sciences and Engineering Research Council<br>April 1, 2020 – March 31, 2025             | 10028815                         | \$ 138,000                 |
| 2020-2022   | The Arthritis Society<br>January 1, 2020 – December 31, 2022                                    | 10027555                         | \$ 120,000                 |
| 2013-2021   | Canadian Chiropractic Research Foundation<br>September 1, 2013 – June 30, 2021 (average amount) | RT7691362                        | \$ 47,272                  |
| 2011-2021   | Killam Memorial Chair<br>July 1, 2011-June 30, 2021   | 10001203                         | \$ 150,000                 |
| 2001-2022   | Canada Research Chair-CIHR<br>November 1, 2001 - October 31, 2022                               | RT730101                         | \$ 200,000                 |
| 2015-2022   | CIHR Foundation Scheme<br>July 1, 2015 – June 30, 2022  | 10013332                         | \$ 345,834                 |
| 2018-2021   | Alberta Spine Foundation (total award amount)<br>Oct 1, 2018 – Mar 31, 2021                     | 10022659                         | <b>\$ 75,000</b>           |
| 2020-2021   | Private Donation (Hart) for Myofibril Research<br>Jan 1, 2020 – Dec 31, 2021                    | 10027682                         | <b>\$ 30,000</b>           |

### **Principal Investigator – Past Support**

| <b>Year</b>             | <b>Grant Agency<br/>Date</b>   | <b>Comments<br/>Grant Number</b> | <b>Amount<br/>per Year</b> |
|-------------------------|--|----------------------------------|----------------------------|
| <b>Operating Grants</b> |  |                                  |                            |
| 2018-2020               | Private Donation (Hart) for Obesity Research<br>Oct 1, 2018 – Sep 30, 2020               | 10022988                         | \$ <b>20,000</b>           |
| 2018-2020               | Private Donation (Vaz) for Rabbit Bed Rest Res.<br>Nov 1, 2018 – Oct 30, 2020            | 10022981                         | \$ <b>30,000</b>           |
| 2013-2018               | Natural Sciences and Engineering Research Council<br>April 1, 2013-March 30, 2018        | RT690577                         | \$ 115,200                 |
| 2017-2018               | Private Donation (Hart) for Musculoskeletal Research<br>January 1, 2017 – March 31, 2018 | 10016648                         | \$ 40,000                  |
| 2016                    | Metabolic Industries Inc.<br>June 20, 2016 – October 20, 2016                            | 10014224                         | \$ 50,448                  |
| 2016                    | Korea Institute of Technology<br>January 1, 2016 – December 31, 2016                     | 10013332                         | \$ 40,691                  |
| 2013-2016               | NSERC Accelerator Grant<br>April 1, 2013-March 30, 2016                                  | 10004659                         | \$ 40,000                  |
| 2011-2015               | Canadian Institutes of Health Research<br>October 1, 2011 – June 30, 2015                | 10000427                         | \$ 111,935 <sup>1</sup>    |

<sup>1</sup> rolled into CIHR Foundation Scheme as of July 1, 2015

|           |  |          |                         |
|-----------|--|----------|-------------------------|
| 2011-2015 | Canadian Institutes of Health Research<br>January 1, 2011-June 30, 2015                      | RT736475 | \$ 105,687 <sup>2</sup> |
| 2013-2015 | Canadian Institutes of Health Research<br>September 1, 2013-June 30, 2015                    | RT736163 | \$ 108,010 <sup>3</sup> |
| 2009-2015 | Natural Sciences and Engineering Research Council<br>CREATE, April 1, 2009 - August 31, 2015 | RT735134 | \$ 300,000              |
| 2011-2014 | Canadian Institutes of Health Research – CHRP<br>April 1, 2011 – March 30, 2014              | RT736571 | \$ 93,788               |
| 2011-2014 | Natural Sciences and Engineering Research Council-CHRP<br>April 1, 2011 – March 31, 2014     | RT736573 | \$ 93,787               |
| 2009-2013 | Canadian Chiropractic Protective Agency<br>April 1, 2009-March 31, 2011                      | RT735444 | \$ 39,320               |
| 2011-2013 | Cerebral Palsy International Research Foundation<br>December 1, 2011 – November 30, 2013     | 10000871 | \$ 50,000               |
| 2010-2013 | National Science Foundation<br>July 15, 2010 – June 30, 2013                                 | RT736345 | \$ 10,000               |
| 2010-2013 | Canadian Institutes of Health Research<br>October 1, 2010 - September 30, 2013-MOP106597     | RT736163 | \$ 83,824               |
| 2008-2013 | Natural Sciences and Engineering Research Council<br>April 1, 2008 - March 31, 2013          | RT690577 | \$ 60,000               |
| 2012-2013 | Intra-Project OA Team Grant<br>April 1, 2012-March 30, 2013                                  |          | \$ 15,000               |
| 2009-2012 | Canadian Chiropractic Research Foundation<br>January 1, 2009 - December 31, 2012             | RT691362 | \$ 30,000               |
| 2009-2011 | Canada Council for the Arts - Killam Fellowship<br>September 1, 2009-August 31, 2011         | RT739652 | \$ 70,000               |
| 2008-2011 | Canadian Institutes of Health Research<br>April 1, 2008-March 31, 2011-MOP79258              | RT732998 | \$ 102,183              |
| 2006-2010 | Canadian Institutes of Health Research<br>October 1, 2006-September 30, 2010-MOP64347        | RT731367 | \$ 103,674              |
| 2005-2010 | Canadian Institutes of Health Research<br>October 1, 2005-September 30, 2010-MOP42493        | RT694392 | \$ 163,059              |
| 2006-2008 | Canadian Institutes of Health Research<br>February 1, 2006-January 31, 2008                  | RT733008 | \$ 54,122               |
| 2006-2008 | Canadian Institutes of Health Research   | RT732998 | \$ 69,629               |
| 2003-2008 | Natural Sciences and Engineering Research Council  | RT690577 | \$ 59,050               |
| 2003-2006 | Canadian Institutes of Health Research   | RT731376 | \$ 55,714               |
| 2003-2006 | Canadian Institutes of Health Research   | RT731367 | \$ 75,604               |
| 2002-2003 | Canadian Memorial Chiropractic College   | RT693097 | \$ 10,000               |
| 2002-2004 | Canadian Institutes of Health Research-MOP12489  | RT691622 | \$ 110,892              |
| 2002      | President's Circle Award   |          | \$ 5,000                |
| 2001-2002 | Canadian Memorial Chiropractic College   |          | \$ 10,000               |
| 2001-2003 | Natural Sciences and Engineering Research Council  | RT696197 | \$ 149,780              |
| 2001-2004 | Canadian Foundation for Innovation   | RT780145 | \$ 123,078              |
| 2001-2004 | Canadian Institutes of Health Research-MOP45948  | RT698963 | \$ 56,700               |

<sup>2</sup> rolled into CIHR Foundation Scheme as of July 1, 2015

<sup>3</sup>rolled into CIHR Foundation Scheme as of July 1, 2015

|           |  |          |            |
|-----------|--|----------|------------|
| 2001-2004 | The Arthritis Society of Canada                    | RT698918 | \$ 60,000  |
| 2000-2005 | Canadian Institutes of Health Research-MOP42493    | RT694392 | \$ 138,000 |
| 2000      | The University of Calgary short-term grants        |          | \$ 5,939   |
| 2000      | The Olympic Oval Endowment Fund                    |          | \$ 15,000  |
| 1999-2008 | Canadian Chiropractic Research Foundation          | RT691362 | \$ 60,000  |
| 1999-2002 | The Arthritis Society of Canada                    |          | \$ 65,000  |
| 1998-2003 | Natural Sciences and Engineering Research Council  | RT690577 | \$ 44,000  |
| 1997-2002 | Medical Research Council of Canada                 |          | \$ 96,000  |
| 1997-2000 | The Arthritis Society of Canada                    |          | \$ 59,970  |
| 1996-1998 | The Arthritis Society of Canada                    |          | \$ 59,400  |
| 1995      | University of Calgary                              |          | \$ 6,270   |
| 1994-1998 | Natural Sciences and Engineering Research Council  |          | \$ 29,000  |
| 1994-1997 | Medical Research Council of Canada                 |          | \$ 45,775  |
| 1994      | The University of Calgary                          |          | \$ 11,100  |
| 1993-1996 | The Arthritis Society of Canada                    |          | \$ 51,280  |
| 1993-1996 | The Whitaker Foundation                            |          | \$ 54,400  |
| 1991-1994 | Natural Sciences and Engineering Research Council  |          | \$ 27,500  |
| 1991-1993 | Arthritis Society of Canada                        |          | \$ 47,000  |
| 1991      | Olympic Oval Fund                                  |          | \$ 4,465   |
| 1990-1996 | College of Chiropractors of Alberta                |          | \$ 51,074  |
| 1990      | Canadian Memorial Chiropractic College             |          | \$ 15,000  |
| 1989      | Government of Alberta - Matching Grant             |          | \$ 19,507  |
| 1989      | Natural Sciences and Engineering Research Council  |          | \$ 5,500   |
| 1988-1991 | Natural Sciences and Engineering Research Council  |          | \$ 22,715  |
| 1988-1989 | Foundation for Chiropractic Education and Research |          | \$ 33,896  |
| 1987-1996 | Chiropractic Foundation for Spinal Research        |          | \$ 11,000  |
| 1987      | Natural Sciences and Engineering Research Council  |          | \$ 5,000   |

#### Equipment Grants

|           |   |          |            |
|-----------|---|----------|------------|
| 2020-2022 | Natural Sciences and Engineering Research Council RTI | 10028571 | \$ 121,330 |
| 2019-2021 | Natural Sciences and Engineering Research Council RTI | 10025393 | \$ 150,000 |
| 2015-2017 | Natural Sciences and Engineering Research Council RTI | 10010458 | \$ 147,042 |
| 2007      | Natural Sciences and Engineering Research Council     | RT733871 | \$ 143,452 |
| 2002-2004 | Alberta Heritage Foundation for Medical Research      | RT716018 | \$ 61,539  |
| 2002-2005 | Alberta Science and Research Investments Program      | RT780145 | \$ 123,078 |
| 2002      | Alberta Heritage Foundation for Health Research       |          | \$ 61,000  |
| 2000      | Alberta Heritage Foundation for Health Research       |          | \$ 40,000  |
| 2000      | Natural Sciences and Engineering Research Council     |          | \$ 58,113  |
| 1997      | The Olympic Oval Endowment Fund                       |          | \$ 10,000  |
| 1993      | The University of Calgary                             |          | \$ 700     |
| 1993      | University of Calgary                                 |          | \$ 5,138   |
| 1992      | The Olympic Oval Endowment Fund                       |          | \$ 3,850   |
| 1992      | The University of Calgary                             |          | \$ 4,000   |
| 1991      | Natural Sciences and Engineering Research Council     |          | \$ 11,694  |
| 1990      | University of Calgary                                 |          | \$ 15,000  |
| 1989      | Alberta Heritage Foundation for Health Research       |          | \$ 15,200  |

### Conference Grants

|      |   |       |       |
|------|---|-------|-------|
| 2019 | University of Calgary, VP Research, 4 <sup>th</sup> Rocky Mountain Muscle Symposium | \$    | 5,000 |
| 2019 | University of Calgary, VP Research, ISB/ASB Calgary                                 | \$    | 5,000 |
| 2002 | Alberta Heritage Foundation for Health Research-Banff Muscle Symposium              | \$    | 4,000 |
| 2002 | The Olympic Oval Endowment Fund   | \$    | 5,000 |
| 2002 | The Whitaker Foundation   | \$USD | 3,000 |
| 2002 | Canadian Institutes of Health Research-Banff Muscle Symposium                       | \$    | 5,000 |
| 2002 | Noraxon - Banff Muscle Symposium - Sponsorship                                      | \$    | 1,000 |

### Travel Grants

|      |   |    |       |
|------|---|----|-------|
| 2003 | The University of Calgary                       | \$ | 1,500 |
| 1993 | Alberta Heritage Foundation for Health Research | \$ | 1,980 |

### Visiting Scholar Grants

|      |   |    |       |
|------|---|----|-------|
| 2000 | Alberta Heritage Foundation for Health Research visiting scholar grants (6) | \$ | 9,875 |
|------|---|----|-------|

### Co-Applicant

| Year      | Grant Agency<br>Date  | Co-applicant          | Amount <sup>4</sup> |
|-----------|---|-----------------------|---------------------|
| 2020-2022 | POSNA Research Grant (Amount in USD)  | Dr. Jason Howard      | \$ 29,296           |
| 2019-2023 | NSF/NIH DMS/NIGMS subgrant from UC Davis(year 1)<br>Worcester Polytechnic Institute (years 2-4)   | Dr. Sam Walcott       | \$ 247,899          |
| 2019-2020 | American Academy for Cerebral Palsy and Developmental<br>Medicine (AAPDM) Pedal-with-Pete Foundation<br>(Total grant USD 25,000) subgrant USD | Dr. Jason Howard      | \$ 7,100            |
| 2015-2022 | CONNECT! NSERC CREATE – Soft Tissue Engineering   | Dr. Brian Amsden      | \$ 1,800,000        |
| 2013-2018 | CFI Leading Edge Fund   | Dr. Steven Boyd       | \$ 4,739,000        |
| 2014-2015 | AIHS Osteoarthritis Team Grant Extension  | Dr. Linda Woodhouse   | \$ 475,000          |
| 2013-2014 | AIHS Osteoarthritis Team Grant Extension  | Dr. Cy Frank          | \$ 1,000,000        |
| 2008-2013 | Alberta Heritage Foundation for Medical Research  | Dr. Cy Frank          | \$ 1,000,000        |
| 2004-2009 | Canadian Institutes of Health Research  | Dr. M. Amrein         | \$ 92,000           |
| 2002-2005 | Canadian Foundation for Innovation<br>Osteoarthritis Infrastructure   | Dr. D Hart            | \$ 4,300,000        |
| 2001-2003 | Innovation and Science Infrastructure Programme   |                       | \$ 3,256,000        |
| 2000-2002 | Canadian Foundation for Innovation<br>Kinesiology Expansion   | R. Gravel             | \$ 3,256,000        |
| 1999-2000 | National Institutes of Health   | E. Suter              | \$ 65,590           |
| 1996      | The Olympic Oval Endowment Fund   | E. Hasler             | \$ 5,000            |
| 1996      | Alberta Heritage Foundation for Health Research   | R. Zernicke Equipment | \$ 100,000          |
| 1995-1996 | University of Calgary   | P. Dorotich           | \$ 1,500            |
| 1995-1996 | The Olympic Oval Endowment Fund   | R. Young              | \$ 15,000           |
| 1995-1996 | The Olympic Oval Endowment Fund   | E. Suter              | \$ 10,000           |
| 1994-1996 | The Olympic Oval Endowment Fund   | P. Dorotich           | \$ 18,000           |
| 1993-1996 | The Olympic Oval Endowment Fund   | T. Koh                | \$ 8,547            |
| 1993-1996 | Sport Canada  | R. Jackson            | \$ 22,833           |

<sup>4</sup> Bold values are the total award amount all other values are per year.

|           |  |             |    |        |
|-----------|--|-------------|----|--------|
| 1993-1996 | Natural Sciences and Engineering Research Council                                  | Y. T. Zhang | \$ | 18,500 |
| 1992      | Olympic Oval fund  | Y. T. Zhang | \$ | 12,000 |
| 1992      | The Olympic Oval Endowment Fund  | M. Maitland | \$ | 6,800  |
| 1988      | Natural Sciences and Engineering Research Council                                  | B. M. Nigg  | \$ | 3,000  |
| 1987-1990 | Alberta Chiropractic Association and<br>Canadian Memorial College of Chiropractors | B. M. Nigg  | \$ | 45,000 |
| 1985-1986 | Alberta Chiropractic Association   | B. M. Nigg  | \$ | 24,500 |

#### **STUDENT FINANCIAL SUPPORT**

| <b>Year</b> | <b>Grant Agency<br/>Date</b>                   | <b>Student Awarded</b> | <b>Amount<sup>5</sup></b> |
|-------------|--|------------------------|---------------------------|
| 2020 – 2022 | MITACS Accelerate Award                        | Isabel Aldrich-Witt    | \$ 45,000                 |
| 2019 - 2021 | Chinese Skating Association                    | Meng Li                | \$ 92,000                 |
| 2021        | Kinesiology Presentation Award                 | Meng Li                | \$ 665                    |
| 2021        | UofC FGS Scholarship                           | Drew Lawson            | \$ 5,000                  |
| 2020        | Alberta Graduate Excellence Scholarship (AGES) | Lindsay Gorrell        | \$ 15,000                 |
| 2020        | Kinesiology Research Travel Award              | Seong-won Han          | \$ 5,000                  |
| 2020-2022   | Cy Frank Doctoral Scholarship                  | Nada Abugazaleh        | \$ 17,250                 |
| 2019-2020   | Eyes High International Doctoral Scholarship   | Seong-won Han          | \$ 15,000                 |
| 2019-2020   | Kinesiology Leadership Award                   | Seong-won Han          | \$ 5,000                  |
| 2019        | Kinesiology Presentation Award                 | Kevin Boldt            | \$ 1,250                  |
| 2019        | Alberta Graduate Excellence Scholarship (AGES) | Drew Lawson            | \$ 11,000                 |
| 2019-2020   | FGS Transformative Internship Scholarship      | Nathaniel Morris       | \$ 8,000                  |
| 2019-2020   | FGS Transformative Internship Scholarship      | Drew Lawson            | \$ 8,000                  |
| 2019-2021   | CONNECT! NSERC CREATE Doctoral Scholarship     | Seong-won Han          | \$ 13,000                 |
| 2019        | JB Hyne Research Innovation Award              | Jaqueline Lourdes Rios | \$ 500                    |
| 2019        | Kinesiology Presentation Award                 | Seong-won Han          | \$ 2,000                  |
| 2019        | Kinesiology Leadership Award                   | Kevin Boldt            | \$ 7,000                  |
| 2019-2020   | Kinesiology Dean's Doctoral Scholarship        | Lindsay-Gorrell        | \$ 15,000                 |
| 2017-2019   | Izaak Walton Killam Doctoral Scholarship       | Scott Sibole           | \$ 3,000                  |
| 2019        | Kinesiology Leadership Scholarship             | Bryan Yu               | \$ 3,000                  |
| 2019        | Kinesiology Presentation Award                 | Nathaniel Morris       | \$ 1,250                  |
| 2019        | Kinesiology Presentation Award                 | Jaqueline Rios         | \$ 2,000                  |
| 2018-2019   | Eyes High International Doctoral Scholarship   | Seong-won Han          | \$ 3,000                  |
| 2018-2019   | Own the Podium CSI MSc Award                   | Drew Lawson            | \$ 15,000                 |
| 2018-2019   | Vera A Ross Graduate Scholarship               | Drew Lawson            | \$ 8,500                  |
| 2018        | Own the Podium CSI Msc Award                   | Nathaniel Morris       | \$ 14,000                 |
| 2018        | Sports Innovation Summit Award                 | Nathaniel Morris       | \$ 1,000                  |
| 2018        | McCaig Institute, STOF Award                   | Jaqueline Rios         | \$ 3,000                  |
| 2018        | Kinesiology Presentation Award                 | Lindsay Gorrell        | \$ 2,000                  |
| 2018        | Kinesiology Outstanding Presenter Award        | Jaqueline Rios         | \$ 1,000                  |
| 2018        | Kinesiology Presentation Award                 | Alexander Chen         | \$ 1,250                  |
| 2018        | Kinesiology Presentation Award                 | Graham MacDonald       | \$ 1,250                  |
| 2018-2019   | Eyes High International Doctoral Scholarship   | Lindsay Gorrell        | \$ 11,000                 |
| 2018-2019   | Kinesiology Dean's Doctoral Scholarship        | Lindsay-Gorrell        | \$ 15,000                 |

|           |   |                  |    |               |
|-----------|---|------------------|----|---------------|
| 2018      | Kinesiology Outstanding Presenter Award                               | Seong-won Han    | \$ | <b>1,000</b>  |
| 2018      | Kinesiology Merit Scholarship   | Nathaniel Morris | \$ | <b>3,000</b>  |
| 2018      | Kinesiology Merit Scholarship   | Alexander Chen   | \$ | <b>2,000</b>  |
| 2018      | Kinesiology Merit Scholarship   | Lindsay Gorrell  | \$ | <b>1,000</b>  |
| 2017-2018 | BME Differential Fee Scholarship                                      | Baaba Otoo       | \$ | 2,116         |
| 2017      | Dr. Benno Nigg Distinguished Faculty Achievement Graduate Scholarship | Lindsay Gorrell  | \$ | <b>800</b>    |
| 2017-2018 | Eyes High Doctoral Recruitment Scholarship                            | Graham MacDonald | \$ | <b>25,000</b> |
| 2017-2021 | CONNECT! NSERC CREATE Doctoral Scholarship                            | Baaba Otoo       | \$ | 13,000        |
| 2017-2018 | Alberta Innovates Graduate Studentship                                | Jaqueline Rios   | \$ | 12,000        |
| 2017-2020 | CIHR Vanier Canada Graduate Scholarship                               | Kevin Boldt      | \$ | 50,000        |
| 2015-2019 | AIHS graduate Studentship   | Scott Sibole     | \$ | 30,000        |
| 2015-2019 | Kinesiology Dean's Doctoral Scholarship                               | Seong-won Han    | \$ | 23,000        |
| 2015-2019 | CAPES, Brazil (amount plus tuition)                                   | Jaqueline Rios   | \$ | 30,500        |
| 2016-2017 | Eyes High International Doctoral Scholarship                          | Lindsay Gorrell  | \$ | 12,000        |
| 2017      | Kinesiology Presentation Award  | Franziska Onasch | \$ | 1,000         |
| 2017      | U of C Faculty of Graduate Studies Scholarship                        | Lindsay Gorrell  | \$ | <b>10,000</b> |
| 2017      | Kinesiology Merit Scholarship   | Shuyue Liu       | \$ | <b>1500</b>   |
| 2017      | Allan Markin Doctoral Scholarship                                     | Lindsay Gorrell  | \$ | <b>5,000</b>  |
| 2014-2017 | AIHS Doctoral Clinician Scholarship                                   | Graham MacDonald | \$ | 70,000        |
| 2015-2017 | Eyes High Doctoral Recruitment Scholarship                            | Graham MacDonald | \$ | 8,000         |
| 2016-2017 | AIHS Doctoral Clinician Scholarship                                   | Kevin Boldt      | \$ | 70,000        |
| 2015-2017 | Izaak Walton Killam Pre-Doctoral Scholarship                          | Krysta Powers    | \$ | 1,500         |
| 2016-2017 | AIHS Graduate Studentship   | Kelsey Collins   | \$ | 12,000        |
| 2015-2017 | CIHR Doctoral Scholarship Award                                       | Kelsey Collins   | \$ | 30,000        |
| 2015-2017 | AIHS Graduate Studentship   | Matt Jordan      | \$ | 30,000        |
| 2016-2017 | Izaak Walton Killam Pre-Doctoral Scholarship                          | Matt Jordan      | \$ | <b>3,000</b>  |
| 2016-2017 | NSERC Graduate Scholarship  | Alexander Chen   | \$ | <b>17,500</b> |
| 2014-2017 | AITF Doctoral Scholarship   | Krysta Powers    | \$ | 31,500        |
| 2014-2016 | AIHS Master's Clinician Scholarship                                   | Kevin Boldt      | \$ | 70,000        |
| 2016      | OARSI Collaborative Scholarship                                       | Kelsey Collins   | \$ | 5000          |
| 2016      | UofC BME Research Scholarship Award (declined)                        | Scott Sibole     | \$ | 15,000        |
| 2016      | FGS Presentation Award  | Jaqueline Rios   | \$ | 1,000         |
| 2016      | FGS Presentation Award  | Shuyue Liu       | \$ | 250           |
| 2016      | Kinesiology Merit Scholarship   | Lindsay Gorrell  | \$ | <b>1000</b>   |
| 2016      | Kinesiology Merit Scholarship   | Shuyue Liu       | \$ | <b>1,500</b>  |
| 2016      | Kinesiology Merit Scholarship   | Alexander Chen   | \$ | <b>1,500</b>  |
| 2016      | CIHR CGS-MSFSS award  | Kelsey Collins   | \$ | <b>6,000</b>  |
| 2015      | CAPES, Brazil   | Rafael Fortuna   | \$ | 23,000        |
| 2015      | Vera A. Ross Graduate Scholarship                                     | Alexander Chen   | \$ | <b>4,125</b>  |
| 2015      | Queen Elizabeth II Award  | Alexander Chen   | \$ | <b>10,800</b> |
| 2015      | Izaak Walton Killam Pre-Doctoral Scholarship                          | Matt Jordan      | \$ | 33,000        |
| 2015      | J.B. Hyne Research Innovation Award                                   | Rafael Fortuna   | \$ | 500           |
| 2015      | Allan Markin Doctoral Scholarship                                     | Kevin Boldt      | \$ | <b>5,000</b>  |
| 2015      | Izaak Walton Killam Pre-Doctoral Scholarship                          | Kelsey Collins   | \$ | <b>3,000</b>  |
| 2015      | FGS Presentation Award  | Rafael Fortuna   | \$ | <b>1,000</b>  |
| 2015      | Kinesiology Differential Fee Scholarship                              | Shuyue Liu       | \$ | <b>3,000</b>  |
| 2015      | Kinesiology Differential Fee Scholarship                              | Seong-won Han    | \$ | <b>3,000</b>  |
| 2014      | CAPES, Brazil   | Rafael Fortuna   | \$ | 23,000        |



|           |   |                       |    |               |
|-----------|---|-----------------------|----|---------------|
| 2014      | CAPES, Brazil (amount plus tuition)                       | Jaqueline Rios        | \$ | 10,200        |
| 2014      | UofC Eyes High Leadership PhD Scholarship                 | Kelsey Collins        | \$ | <b>4,000</b>  |
| 2014      | NSERC CREATE Master's Scholarship                         | Scott Sibole          | \$ | 17,300        |
| 2014      | NSERC CREATE Master's Scholarship                         | Kaleena Johnston      | \$ | 17,300        |
| 2014      | Team OA Postdoctoral Award                                | Eng Kuan Moo          | \$ | <b>10,000</b> |
| 2014      | NSERC CREATE Postdoctoral Award                           | Mohsen Maleki Karyak  | \$ | <b>10,000</b> |
| 2014      | NSERC CREATE Postdoctoral Award                           | Eng Kuan Moo          | \$ | <b>10,000</b> |
| 2014      | Queen Elizabeth II Award                                  | Maria Yamamoto        | \$ | <b>10,800</b> |
| 2014      | Killam Doctoral Scholarship                               | Kelsey Collins        | \$ | 33,000        |
| 2014      | Eyes High Doctoral Recruitment Scholarship (Declined)     | Graham MacDonald      | \$ | (25,000)      |
| 2014      | UofC Faculty of Graduate Studies Scholarship              | Matt Jordan           | \$ | <b>10,000</b> |
| 2014      | UofC Dean's Doctoral Scholarship                          | Matt Jordan           | \$ | <b>15,000</b> |
| 2014      | CIHR Masters Scholarship (Declined)                       | Kevin Boldt           | \$ | (17,500)      |
| 2014      | Faculty of Graduate Studies (FGSS)                        | Kaleena Johnston      | \$ | <b>3,000</b>  |
| 2014      | Queen Elizabeth II Master's Scholarship                   | Kevin Boldt           | \$ | <b>10,800</b> |
| 2013      | CAPES, Brazil   |                       |    |               |
| 2013      | AITF Master's Scholarship                                 | Kaleena Johnston      | \$ | <b>26,500</b> |
| 2013      | TENET Medical Engineering Graduate Scholarship            | Kelsey Collins        | \$ | <b>2,600</b>  |
| 2013      | NSERC CREATE Master's Award                               | Anthony Killick       | \$ | 17,300        |
| 2013      | NSERC CREATE Doctoral Award                               | Krysta Powers         | \$ | <b>13,000</b> |
| 2013      | Eyes High Doctoral Studentship Award                      | Matt Jordan           | \$ | <b>15,000</b> |
| 2013      | UofC BME Research Scholarship Award                       | Krysta Powers         | \$ | <b>3,000</b>  |
| 2013      | Eyes High Doctoral Studentship Award                      | Krysta Powers         | \$ | <b>12,000</b> |
| 2013      | Eyes High Doctoral Studentship Award                      | Kelsey Collins        | \$ | <b>15,000</b> |
| 2013      | AIHS OA Team Grant Studentship Award                      | Kelsey Collins        | \$ | <b>5,000</b>  |
| 2013      | CIHR Training Program Studentship Support                 | Sigrun Matthiasdottir | \$ | 20,000        |
| 2013      | UofC BME Graduate 15 <sup>th</sup> Anniversary Prize      | Nada Abughazaleh      | \$ | <b>3,000</b>  |
| 2013      | UofC BME Graduate 15 <sup>th</sup> Anniversary Prize      | Ryan Madden           | \$ | <b>3,000</b>  |
| 2013      | UofC BME Graduate 15 <sup>th</sup> Anniversary Prize      | Michael DuVall        | \$ | <b>3,000</b>  |
| 2013      | UofC BME Graduate 15 <sup>th</sup> Anniversary Prize      | Scott Sibole          | \$ | <b>3,000</b>  |
| 2013      | UofC BME Graduate Recruitment Prize                       | Scott Sibole          | \$ | <b>10,000</b> |
| 2013      | UofC BME Research Scholarship Award                       | Scott Sibole          | \$ | <b>10,000</b> |
| 2012      | CAPES   | Rafael Fortuna        | \$ | 23,000        |
| 2012      | Institute of Engineering and Technology, winner/runner up | Michael DuVall        | \$ | <b>920</b>    |
| 2012-2013 | Emerging Leaders in the Americas Program (ELAP)           | Markus Von Kossel     | \$ | <b>10,000</b> |
| 2012-2013 | NSERC CREATE Studentship Award                            | Anthony Killick       | \$ | 17,300        |
| 2012      | NSERC CREATE Incentive Award                              | Ryan Madden           | \$ | <b>1,000</b>  |
| 2012-2013 | AIHS OA Team Grant Studentship Award                      | Kelsey Collins        | \$ | 20,000        |
| 2012-2013 | AIHS OA Team Grant Studentship Award                      | Ryan Madden           | \$ | 20,000        |
| 2012      | UofC GSA Bursary  | Nada Abughazaleh      | \$ | <b>1,500</b>  |
| 2012      | QE II Graduate Scholarship                                | Kaleena Johnston      | \$ | <b>7,200</b>  |
| 2012      | Dean's Entrance Scholarship                               | Kaleena Johnston      | \$ | <b>3,000</b>  |
| 2012      | Canadian Scholarship Trust Found., Peter Wright Award     | Kaleena Johnston      | \$ | <b>7,500</b>  |
| 2012      | National Science Foundation                               | Krysta Powers         | \$ | 15,000        |
| 2012      | QE II Graduate Scholarship                                | Brandon Hisey         | \$ | <b>5,000</b>  |
| 2012      | Alberta Graduate Citizenship Award                        | Kelsey Collins        | \$ | <b>2,000</b>  |
| 2012      | Alberta Graduate Student Scholarship                      | Kelsey Collins        | \$ | <b>3,000</b>  |
| 2012      | AIHS OA Team Grant Studentship Award                      | Andrew Sawatsky       | \$ | 11,666        |
| 2012      | Alberta Graduate Student Scholarship                      | Andrew Sawatsky       | \$ | <b>3,000</b>  |

|           |  |                   |    |               |
|-----------|--|-------------------|----|---------------|
| 2012      | Emerging Leaders in the Americas Program (ELAP)  | Markus von Kossel | \$ | <b>10,000</b> |
| 2012      | Alberta Graduate Student Scholarship   | Ryan Madden       | \$ | <b>3,000</b>  |
| 2011-2012 | AHFMR OA Team Grant Studentship award  | Nada Abughazaleh  | \$ | 20,000        |
| 2011-2014 | Alberta Innovates Incentive Award  | Michael Duvall    | \$ | 6,300         |
| 2011-2014 | NSERC PGS D Award (2011/05/01-2014/04/30)<br>Alexander Graham Bell                                     | Michael Duvall    | \$ | 21,000        |
| 2009-2012 | Natural Sciences and Engineering Research Council  | Brandon Hisey     | \$ | 35,000        |
| 2011      | Faculty of Graduate Studies<br>Graduate Studies Scholarship  | Andrew Sawatsky   | \$ | <b>500</b>    |
| 2011      | Faculty of Graduate Studies<br>Graduate Studies Scholarship  | Conrad Tang       | \$ | <b>500</b>    |
| 2011      | AHFMR OA Team Grant Studentship award  | Andrew Sawatsky   | \$ | 20,000        |
| 2011      | Faculty of Graduate Studies Scholarship  | Anthony Killick   | \$ | <b>3,600</b>  |
| 2011      | Alberta Graduate Student Scholarship   | Conrad Tang       | \$ | <b>3,000</b>  |
| 2010-2011 | AHFMR OA Team Grant Studentship award  | Ryan Madden       | \$ | 20,000        |
| 2010-2011 | Alberta Innovates – Health Solutions Incentive   | Michael Duvall    | \$ | 12,000        |
| 2010      | Faculty of Graduate Studies<br>Queen Elizabeth II Scholarship  | Andrew Sawatsky   | \$ | 7,200         |
| 2010      | Faculty of Graduate Studies<br>Graduate Studies Scholarship  | Rafael Fortuna    | \$ | 5,500         |
| 2010      | Government of Canada<br>Emerging Leaders in the Americas Program                                       | Debora Cantergi   | \$ | 10,000        |
| 2010      | Alberta Innovates – Health Solutions<br>Summer Studentship   | Marie Armstrong   | \$ | 5,200         |
| 2010      | Natural Sciences and Engineering Research Council<br>CREATE Undergraduate Summer Studentship Programme | Anthony Killick   | \$ | 6,000         |
| 2010      | Natural Sciences and Engineering Research Council<br>CREATE Undergraduate Summer Studentship Programme | Esther Chan       | \$ | 6,000         |
| 2010      | Natural Sciences and Engineering Research Council<br>Undergraduate Student Research Award              | Erica Woo         | \$ | 6,000         |
| 2010      | Government of Canada<br>Emerging Leaders in the Americas Program                                       | Fernando Lemos    | \$ | 10,000        |
| 2009-2011 | University of Calgary FGS Dean's Research Allowance  | Brandon Hisey     | \$ | 2,000         |
| 2009      | University of Calgary FGS Dean's Entrance Scholarship  | Brandon Hisey     | \$ | <b>6,000</b>  |
| 2009      | Alberta Heritage Foundation for Health Research<br>Team Grant scholarship                              | Lin-Lin Liu       | \$ | 20,000        |
| 2009      | Alberta Heritage Foundation for Health Research<br>Studentship Award                                   | Aliaa Youssef     | \$ | 21,500        |
| 2009      | Canadian Institutes of Health Research<br>(Frederick Banting & Charles Best)                           | Michael Duvall    | \$ | 17,500        |
| 2009      | Natural Sciences and Health Research Council<br>Undergraduate Student Research Award                   | Erica Giles       | \$ | 5,625         |
| 2009      | Natural Sciences and Health Research Council<br>CREATE Summer Studentship                              | Caitlin Logan     | \$ | 6,000         |
| 2009      | Program for Undergraduate Research Experience<br>Alexander Graham Bell                                 | Caitlin Logan     | \$ | 6,000         |
| 2009      | Natural Sciences and Engineering Research Council<br>Alexander Graham Bell                             | Neal Austin       | \$ | 17,500        |
| 2008      | Faculty of Graduate Studies Scholarship  | Brandon Hisey     | \$ | 8,000         |

|           |   |                    |    |         |
|-----------|---|--------------------|----|---------|
| 2008      | Undergraduate Student Research Program, Studentship   | Michael DuVall     | \$ | 2,000   |
| 2008      | Faculty of Graduate Studies, GRS  | Brandon Hisey      | \$ | 2,050   |
| 2008      | Faculty of Graduate Studies, GRS  | Eun-Jeong Lee      | \$ | 500     |
| 2007-2008 | Natural Sciences and Engineering Research Council<br>September August/08  | Megan Yaraskavitch | \$ | 17,300  |
| 2007      | Alberta Provincial Canadian Institutes of Health Research<br>Training Program in Bone and Joint Health                    | Doug Bourne        | \$ | 6,000   |
| 2007      | Faculty of Graduate Studies,<br>Kinesiology Graduate Program Award  | Eun-Jeong Lee      | \$ | 4,100   |
| 2006-2007 | Alberta Ingenuity<br>September-August/07  | Megan Yaraskavitch | \$ | 7,000   |
| 2006-2008 | Natural Sciences and Engineering Research Council   | Eva Szabo          | \$ | 20,000  |
| 2006-2007 | Natural Sciences and Engineering Research Council   | Megan Yaraskavitch | \$ | 25,000  |
| 2006-2007 | Ralph Steinhauer  | Megan Yaraskavitch | \$ | 15,000  |
| 2006      | Faculty of Graduate Studies,<br>Dean's Research Excellence Award  | Megan Yaraskavitch | \$ | 3,000   |
| 2006      | Faculty of Graduate Studies,<br>Kinesiology Graduate Program Award  | Eun-Jeong Lee      | \$ | 1711.41 |
| 2006      | Faculty of Graduate Studies<br>Kinesiology Graduate Program Award   | Aliaa Youssef      | \$ | 5888.96 |
| 2006      | Alberta Provincial Canadian Institutes of Health Research<br>Training Program in Bone and Joint Health                    | Doug Bourne        | \$ | 3,000   |
| 2005-2009 | Government of Egypt   | Aliaa Youssef      | \$ | 35,000  |
| 2005-2006 | Faculty of Graduate Studies, Leaders in Medicine<br>Scholarship   | Danny Peterson     | \$ | 12,788  |
| 2005      | Faculty of Graduate Studies, Dean's Research<br>Excellence Award  | Danny Peterson     | \$ | 3,000   |
| 2005      | Alberta Provincial Canadian Institutes of Health Research<br>Training Program in Bone and Joint Health (Travel Allowance) | Andrew Betik       | \$ | 2,000   |
| 2005      | Alberta Provincial Canadian Institutes of Health Research<br>Training Program in Bone and Joint Health                    | Doug Bourne        | \$ | 40,000  |
| 2004 2008 | Alberta Heritage Foundation for Medical Research  | Doug Bourne        | \$ | 20,000  |
| 2004 2008 | Alberta Ingenuity   | Sang-Kuy Han       | \$ | 22,000  |
| 2004 2007 | Alberta Ingenuity   | Karyn Weiss Bundy  | \$ | 20,000  |
| 2004-2005 | Canadian Institutes of Health Research  | Andrew Betik       | \$ | 22,500  |
| 2004-2005 | Alberta Provincial Canadian Institutes of Health Research<br>Training Program in Bone and Joint Health                    | Danny Peterson     | \$ | 20,000  |
| 2004-2005 | Alberta Provincial Canadian Institutes of Health Research<br>Training Program in Bone and Joint Health                    | Tim Butterfield    | \$ | 20,000  |
| 2004      | Alberta Provincial Canadian Institutes of Health Research<br>Training Program in Bone and Joint Health                    | Doug Bourne        | \$ | 12,078  |
| 2004      | Olympic Oval Endowment Fund   | Eun-Jeong Lee      | \$ | 5,000   |
| 2004      | Natural Sciences and Engineering Research Council<br>Dean's Research Excellence Award                                     | Danny Peterson     | \$ | 3,000   |
| 2004      | Natural Sciences and Engineering Research Council<br>Dean's Research Excellence Award                                     | Andrew Betik       | \$ | 3,000   |
| 2004      | Graduate Research Scholarship Award   | Tim Butterfield    | \$ | 4,100   |
| 2004      | Graduate Research Scholarship Award-Eun-Jeong Lee   |                    | \$ | 8,200   |
| 2004      | Alberta Provincial Canadian Institutes of Health Research   | Andrew Betik       | \$ | 20,000  |

|           |   |                    |                  |
|-----------|---|--------------------|------------------|
|           | Training Program in Bone and Joint Health                                     |                    |                  |
| 2003-2004 | Alberta Ingenuity Fund  | Jolene Lepp        | \$ 7,000         |
| 2003-2004 | Natural Sciences and Engineering Research Council<br>Postgraduate Scholarship | Jolene Lepp        | \$ 19,100        |
| 2003-2004 | Alberta Heritage Foundation for Medical Research                              | Jolene Lepp        | \$ 20,000        |
| 2003-2004 | Canadian Chiropractic Protective Agency                                       | Bruce Symons       | \$ 50,000        |
| 2003-2004 | Alberta Heritage Foundation for Medical Research                              | Andrea Clark       | \$ 20,000        |
| 2002-2004 | The University of Calgary   | Andrew Betik       | \$ 3000          |
| 2002-2004 | Natural Sciences and Engineering Research Council                             | Andrew Betik       | \$ 19,200        |
| 2002-2003 | Natural Sciences and Engineering Research Council<br>Postgraduate Scholarship | Jolene Lepp        | \$               |
| 2002-2003 | University of Calgary-Department of Surgery                                   | David Longino      | \$ 20,000        |
| 2001-2005 | Government of Iran  | Ali Oskouei        | \$ 20,000        |
| 2001      | William H. Davis  | Andrea Clark       | \$ 4,000         |
| 2000-2002 | The University of Calgary   | Hae-Dong Lee       | \$ 5,000         |
| 2000-2001 | CCPA  | Bruce Symons       | \$ 25,000        |
| 1998-2003 | MRC   | Andrea Clark       | \$ 15,200        |
| 1998-2001 | Natural Sciences and Engineering Research Council                             | Sylvain Couillard  | \$ 17,000        |
| 1998-2001 | Alberta Heritage Foundation for Health Research                               | Motoshi Kaya       | \$ 17,500        |
| 1997-2000 | Alberta Heritage Foundation for Health Research                               | Joanne Archambault | <b>\$ 17,500</b> |
| 1997-1999 | Alberta Heritage Foundation for Health Research                               | Wendy Carvalho     | \$ 15,000        |
| 1995-1997 | The Killam Foundation   | Tim Koh            | \$ 18,000        |
| 1995-1997 | Natural Sciences and Engineering Research Council                             | Joanne Archambault | \$ 17,400        |
| 1994-1996 | Natural Sciences and Engineering Research Council<br>Sunity International     | Ming-Ming Liu      | \$ 10,500        |
| 1994-1996 | FCER, University of Calgary   | Greg Kawchuk       | <b>\$ 9,400</b>  |
| 1994      | William H. Davis  | Grant Brooks       | \$ 4,000         |
| 1993-1996 | Sport Canada  | Paul Dorotich      | \$ 15,000        |
| 1993-1995 | Natural Sciences and Engineering Research Council                             | Joanne Archambault | \$ 15,000        |
| 1992-1996 | Federal Sports Committee (ESK), Switzerland                                   | Evelyne Hasler     | \$ 21,000        |
| 1992-1996 | CAPES, Universidade Federal do Rio Grande do Su, Brazil                       | Marco Vaz          | \$ 18,000        |
| 1992-1995 | Alberta Heritage Foundation for Health Research                               | Tim Koh            | \$ 15,000        |
| 1991-1995 | Sport Medicine Centre, University of Calgary                                  | Murray Maitland    | \$ 24,000        |
| 1991-1993 | University of Calgary   | Grant Brooks       | <b>\$ 7,688</b>  |
| 1991-1992 | University of Calgary   | Murray Maitland    | <b>\$ 2,100</b>  |
| 1990-1993 | Alberta Heritage Foundation for Health Research                               | Todd Allinger      | \$ 15,000        |
| 1990-1992 | Federal Sports Committee (ESK), Switzerland                                   | Evelyne Hasler     | \$ 15,000        |
| 1989-1993 | CAPES, Universidade Federal do Rio Grande do Su, Brazil                       | Antonio Guimaraes  | \$ 18,000        |
| 1988      | Natural Sciences and Engineering Research Council                             | Lynda Read         | \$ 12,500        |

#### Other Student Funding

|      |   |                  |        |
|------|---|------------------|--------|
| 2020 | R. R. Singleton Summer Studentship (McCaig) | Faizan Syed      | summer |
| 2020 | NSERC USRA                                  | Jeff Ilg         | summer |
| 2020 | PURE  | Shabit Hassan    | summer |
| 2020 | CONNECT! NSERC CREATE                       | Muzammil Nasir   | summer |
| 2020 | CONNECT! NSERC CREATE                       | Darius Ramratten | summer |
| 2019 | HYRS  | Asmi Multani     | summer |
| 2019 | CONNECT! NSERC CREATE                       | Sadhiq Nazeer    | summer |
| 2019 | CONNECT! NSERC CREATE                       | Muzammil Nasir   | summer |

|           |   |                       |               |
|-----------|---|-----------------------|---------------|
| 2019      | R.R. Singleton Summer Studentship (McCaig)  | Jeff Ilg              | summer        |
| 2019      | Markin USRP                                 | Taylor Pigott         | summer        |
| 2018      | PURE  | Maria Hernandez       | summer        |
| 2018      | CIHR Summer Studentship                     | John Michael          | summer        |
| 2018      | R.R. Singleton Summer Studentship (McCaig)  | Ross Crichton         | summer        |
| 2018      | R. R. Singleton Summer Studentship (McCaig) | Jeff Shin             | summer        |
| 2018      | CONNECT! NSERC CREATE                       | Matteo Biglioli       | summer        |
| 2018      | CONNECT! NSERC CREATE                       | Neum Jelani           | summer        |
| 2018      | ELAP  | Nicolas Collao Alonso | winter-summer |
| 2017-2018 | TUBITAK                                     | Faruk Örtos           | fall-fall     |
| 2017      | HYRS  | Curtis Ostertag       | summer        |
| 2017      | R. R. Singleton Summer Studentship (McCaig) | John Michael          | summer        |
| 2017      | Alberta Innovates Summer Studentship        | Carissa Chung         | summer        |
| 2017      | Markin USRP                                 | Kalvin Wu             | summer        |
| 2017      | CIHR Summer Studentship                     | Michael Moroz         | summer        |
| 2017      | CIHR Summer Studentship                     | Jenice Ma             | summer        |
| 2016      | Alberta STEP Program                        | Loretta Ko            | summer        |
| 2016      | Alberta STEP Program                        | James Mather          | summer        |
| 2016      | Markin USRP                                 | Sophia Poscente       | summer        |
| 2016      | AIHS Summer Studentship                     | Charlie Wang          | summer        |
| 2016      | NSERC USRA                                  | Tabitha Hawes         | summer        |
| 2016      | NSERC USRA                                  | Michael Moroz         | summer        |
| 2015      | CIHR Summer Studentship                     | Anthony Issler        | summer        |
| 2015      | Markin USRP                                 | Sonja Waeckerlin      | fall/winter   |
| 2015      | USRA  | Craig Martis          | summer        |
| 2015      | NSERC CREATE CUSP                           | Dening Wang           | summer        |
| 2015      | NSERC CREATE CUSP                           | Jennifer O'Reilly     | summer        |
| 2015      | NSERC CREATE CUSP                           | Myles Borthwick       | summer        |
| 2015      | AIHS Summer Studentship                     | Paul Riek             | summer        |
| 2015      | AIHS Summer Studentship                     | Si (David) Yong Kim   | summer        |
| 2015      | MARKIN-USRP                                 | Sudeepta Aurka        | summer        |
| 2015      | PURE  | Svetlana Kuznestova   | summer        |
| 2015      | USRA  | Thomas Zhang          | summer        |
| 2015      | NSERC CREATE CUSP                           | Tristan McSwiney      | summer        |
| 2015      | NSERC CREATE CUSP                           | Jahaan Ali            | summer        |
| 2014      | USRA  | Alexis Jones          | summer        |
| 2014      | O'Brien Centre Summer Studentship           | Charmi Dholakia       | summer        |
| 2014      | NSERC CREATE CUSP                           | Violet Campbell       | summer        |
| 2014      | NSERC CREATE CUSP                           | Jens Herzog           | summer        |
| 2014      | NSERC CREATE CUSP                           | Vivian Wang           | summer        |
| 2014      | NSERC CREATE CUSP                           | Alex Li               | summer        |
| 2014      | NSERC CREATE CUSP                           | Svetlana Kuznetsova   | summer        |
| 2014      | PURE  | Sean Crooks           | summer        |
| 2014      | AIHS  | Hilda Antwi-Nsiah     | summer        |
| 2013      | NSERC-USRA                                  | Kevin Boldt           | summer        |
| 2013      | NSERC-USRA                                  | Violet Campbell       | summer        |
| 2013      | Markin-USRP                                 | Vivian Wang           | summer        |
| 2013      | AIHS Summer Undergraduate Award             | Sean Crooks           | summer        |

|      |  |                    |           |
|------|--|--------------------|-----------|
| 2013 | NSERC - CREATE CUSP  | Cory Meeuwisse     | summer    |
| 2013 | NSERC - CREATE CUSP  | Jens Herzog        | summer    |
| 2012 | Markin – USRP  | Stephanie Vetsch   | summer    |
| 2011 | NSERC – CREATE CUSP  | Haakon Lenes       | summer    |
| 2011 | NSERC – CREATE CUSP  | Sean Crooks        | summer    |
| 2010 | HYRS   | Chelsea Saltys     | summer    |
| 2010 | NSERC – CREATE CUSP  | Anthony Killick    | summer    |
| 2010 | NSERC – USRA   | Erica Woo          | summer    |
| 2010 | NSERC – CREATE CUSP  | Esther Chan        | summer    |
| 2010 | Alberta Innovates  | Marie Armstrong    | summer    |
| 2010 | Markin –Flanagan   | Marie Armstrong    | summer    |
| 2009 | HYRS   | Sarah Holub        | summer    |
| 2009 | ELAP   | Fernando Lemos     | spring    |
| 2009 | NSERC – CREATE CUSP  | Caitlin Logan      | summer    |
| 2009 | PURE   | Mike Duvall        | summer    |
| 2009 | Markin – USRP  | Michael Duvall     |           |
| 2009 | NSERC – USRA   | Erica Giles        | summer    |
| 2008 | NSERC – USRA   | Andrew Wu          | summer    |
| 2008 | NSERC – USRA   | Jena Hall          | summer    |
| 2008 | NSERC – USRA   | Dianne Ikeda       | summer    |
| 2008 | NSERC – USRA   | Mike Duvall        | summer    |
| 2007 | Markin – USRP  | Neal Austin        | summer    |
| 2007 | Markin – USRP  | Neil Austin        | summer    |
| 2006 | Markin – USRP  | Caitlin Logan      | summer    |
| 2006 | Markin – USRP  | Summer Students    |           |
| 2004 | Markin – USRP  | Laura E. Hinz      | winter    |
| 2003 | Markin – USRP  | Robert A. Mutch    | fall      |
| 2003 | Markin – USRP  | Robert A. Mutch    | summer    |
| 2003 | Markin – USRP  | Summer Students    |           |
| 2002 | Markin – USRP  | Keith P. Barrett   | summer    |
| 2002 | Markin – USRP  | Graeme M. Campbell | summer    |
| 2002 | Markin – USRP  | Emily X. Zhang     | summer    |
| 2002 | Markin – USRP  | Summer Students    |           |
| 2002 | Markin – USRP  | Emily X. Zhang     | fall      |
| 2002 | Markin-Flanagan Summer Studentships  | Summer Students    | \$ 3,000  |
| 1999 | Natural Sciences and Engineering Research Council  | Summer Students    | \$ 5,200  |
| 1997 | Alberta Heritage Foundation for Health Research  | Summer Students    | \$ 5,200  |
| 1996 | Alberta Heritage Foundation for Health Research  | Summer Students    | \$ 5,200  |
| 1995 | Alberta Heritage Foundation for Health Research and<br>Natural Sciences and Engineering Research Council | Summer Students    | \$ 16,600 |
| 1994 | Alberta Heritage Foundation for Health Research  | Summer Students    | \$ 5,200  |
| 1992 | Natural Sciences and Engineering Research Council  | Summer Students    | \$ 7,200  |
| 1991 | University of Calgary-SEED   | Summer Student     | \$ 2,380  |
| 1991 | Natural Sciences and Engineering Research Council  | Summer Students    | \$ 6,400  |
| 1990 | Natural Sciences and Engineering Research Council and<br>STEP  | Summer Students    | \$ 5,835  |
| 1989 | Natural Sciences and Engineering Research Council  | Summer Students    | \$ 8,677  |
| 1988 | Summer Employment/Experience Development   | Summer Student     | \$ 2,736  |
| 1987 | Summer Temporary Employment Program  | Summer Student     | \$ 7,700  |

## POSTDOCTORAL FELLOW FINANCIAL SUPPORT

### Current

| Year        | Grant Agency<br>Date                          | Student Awarded   | Amount<br>per year |
|-------------|---|-------------------|--------------------|
| 2017 – 2020 | CIHR Postdoctoral Award                       | Ian Smith         | \$ 40,000          |
| 2020 – 2022 | Swiss National Science Foundation (1.5 years) | Fransiska Bossuyt | \$ <b>125,000</b>  |

### Past

| Year        | Grant Agency<br>Date   | Student Awarded      | Amount <sup>6</sup> |
|-------------|--|----------------------|---------------------|
| 2017 – 2019 | Alberta Innovates  | Amin Komeili         | \$ 50,000           |
| 2018 – 2019 | Alberta Innovates – Health Solutions   | Eng Kuan Moo         | \$ 50,000           |
| 2016 - 2018 | AIHS Incentive Award   | Eng Kuan Moo         | \$ 15,000           |
| 2015 - 2018 | CIHR Postdoctoral Award  | Eng Kuan Moo         | \$ 40,000           |
| 2016 – 2018 | Japanese Society for the Promotion of Science  | Atsuki Fukutani      | \$ 56,700           |
| 2015 - 2017 | Alberta Innovates – Health Solutions   | Ian Smith            | \$ 50,000           |
| 2015 – 2018 | Alberta Innovates – Health Solutions   | Kelly Kaiser         | \$ 70,000           |
| 2015 - 2017 | Alberta Innovates – Health Solutions   | Mohsen Maleki-Karyak | \$ 50,000           |
| 2015 - 2017 | Eye High Postdoctoral Award  | Amin Komeili         | \$ 50,000           |
| 2014 – 2015 | NSERC CREATE Postdoctoral Fellowship   | Eng Kuan Moo         | \$ 10,000           |
| 2014 – 2015 | Banting Award  | Geoff Power          | \$ 70,000           |
| 2014 – 2015 | Alberta Innovates – Health Solutions   | Geoff Power          | \$ 10,000           |
| 2014 – 2015 | University of Calgary Banting Award VP Award   | Geoff Power          | \$ 15,000           |
| 2014        | OA Team Grant Studentship  | Eng Kuan Moo         | \$ 10,000           |
| 2012 - 2012 | Alberta Innovates – Health Solutions   | Ziad Abusara         | \$ 80,000           |
| 2011 - 2011 | Alberta Innovates – Health Solutions   | Ziad Abusara         | \$ 35,000           |
| 2011 – 2012 | Alberta Innovates  | Hadi Mohammadi       | \$ 50,000           |
| 2010 - 2011 | Alberta Innovates – Health Solutions   | Hadi Mohammadi       | \$ 35,000           |
| 2009 - 2011 | Natural Sciences and Engineering Research Council<br>CREATE-October 2009-September 2011    | Appaji Panchangam    | \$ 20,000           |
| 2009 - 2010 | Alberta Heritage Foundation for Medical Research<br>OA Team Grant-February 2009-March 2011 | Ziad Abusara         | \$ 22,500           |
| 2007-2008   | Alberta Heritage Foundation for Health Research  | Salvatore Federico   | \$ 35,000           |
| 2005-2007   | Alberta Heritage Foundation for Health Research  | Rami Korhonen        | \$ 35,000           |
| 2004-2007   | Alberta Heritage Foundation for Health Research  | Sharon Bullimore     | \$ 35,000           |
| 2004-2006   | Alberta Ingenuity  | Salvatore Federico   | \$ 48,000           |
| 2004-2005   | Natural Sciences and Engineering Research Council  | Kevin Forrester      | \$ 40,000           |
| 2003-2004   | Universidade Federal do Rio Grande do Su, Brazil   | Marco Vaz            | \$ 44,000           |
| 2002-2004   | Alberta Ingenuity  | David Corr           | \$ 40,000           |
| 2002-2004   | Alberta Heritage Foundation for Health Research  | LePing Li            | \$ 40,000           |
| 2002        | Canadian Memorial College of Chiropractors   | Janice Drover        | \$ 30,000           |
| 2000        | Canadian Memorial College of Chiropractors   | Mirjam Baechler      | \$ 30,000           |
| 1998-1999   | Pacific Institute of Mathematical Science-R  | Ait-Haddou           | \$ <b>10,000</b>    |
| 1998        | Canadian Memorial College of Chiropractors   | Jill Hayden          | \$ 30,000           |
| 1997-2000   | Alberta Heritage Foundation for Health Research  | John Wu              | \$ 37,800           |

<sup>6</sup> Bold values are the total award amount all other values are per year.

|           |   |                 |    |               |
|-----------|---|-----------------|----|---------------|
| 1997      | Sport Medicine Centre, University of Calgary    | Richard Young   | \$ | 30,000        |
| 1996-1997 | Swiss National Foundation                       | Esther Suter    | \$ | <b>40,000</b> |
| 1995-1996 | Olympic Oval Endowment Fund                     | Richard Young   | \$ | <b>15,000</b> |
| 1994-1996 | Canadian Chiropractic Association               | Esther Suter    | \$ | 28,000        |
| 1993-1995 | Alberta Heritage Foundation for Health Research | Boris Prilutsky | \$ | 33,730        |
| 1992-1993 | University of Calgary                           | Boris Prilutsky | \$ | 27,600        |
| 1991-1993 | Canadian Chiropractic Association               | Julianna Gál    | \$ | 25,000        |

## **SUPERVISION**

### **Postdoctoral Fellows**

#### **Current**

|           |  |
|-----------|--|
| 2014-2021 | Ian Smith (April 28, 2014)                                 |
| 2020      | Fransiska Bossuyt (Aug 1, 2020, visiting from Switzerland) |
| 2020      | Seong-won Han (Sep 1, 2020)                                |

#### **Past**

|           |  |
|-----------|--|
| 2020      | Kotaybah Hashlamoun (May 1 – Aug 30, co-supervised with S. Federico)                         |
| 2014-2020 | Eng Kuan Moo (May 15, 2014 – Mar 31, 2020)   |
| 2015-2019 | Amin Komeili (April 1, 2015 – Nov 15, 2019)  |
| 2016-2018 | Atsuki Fukutani (April 6, 2016 – April 5, 2018, visiting from Japan)                         |
| 2012-2018 | Kelly Kaiser (September 1, 2012 – March 17, 2018, maternity leave Mar 9, 2016 – Mar 8, 2017) |
| 2016-2017 | Rafael Fortuna (Oct 1, 2016 – Sept 30, 2017)   |
| 2013-2017 | Chris Waters (August 1, 2013 – Jul 31, 2017)   |
| 2014-2017 | Mohsen Maleki Karyak (January 1, 2014- Jan 30, 2017, co-supervised with S. Federico)         |
| 2013-2015 | Geoff Power (January 1, 2013 – Oct 15, 2015)   |
| 2014-2015 | Atsuki Fukutani (April 1, 2014-March 30, 2015, visiting from Japan)                          |
| 2014      | Anas Atieh (January 1, 2014)   |
| 2012      | Christian Egloff (January 5, 2012-December 31, 2012)   |
| 2010-2012 | Hadi Mohammadi (July 1, 2010)  |
| 2008-2012 | Appaji Panchangam (October 1, 2008)  |
| 2005-2011 | Venus Joumaa (June 1, 2005-August 31, 2011)  |
| 2009-2011 | Sang-Kuy Han (September 1, 2009–April 29, 2011)  |
| 2010-2010 | Monika Horisberger (January 6, 2010–December 31, 2010)                                       |
| 2009-2010 | Jack Chieslar (July 15, 2009–July 15, 2010)  |
| 2009      | Andre Leumann (January 1, 2009–December 31, 2009)  |
| 2007-2008 | Gudrun Schappacher, Universitat Graz, Austria  |
| 2007      | Samer Adeeb  |
| 2005-2007 | Rami Korhonen  |
| 2004-2007 | Sharon Bullimore   |
| 2004-2006 | Salvatore Federico   |
| 2002-2007 | LePing Li  |
| 2005-2006 | Ali Oskouei  |
| 2004-2006 | Kevin Forrester  |
| 2003-2004 | Marco Vaz  |
| 2002-2004 | David Corr   |
| 2002-2002 | Janice Drover  |
| 2001-2005 | Dilson Rassier   |



|           |                    |
|-----------|--------------------|
| 2001-2002 | Joanne Archambault |
| 2000      | Mirjam Baechler    |
| 1998-2006 | Rachid Ait Haddou  |
| 1998      | Rick Neptune       |
| 1998      | Jill Hayden        |
| 1997-1998 | Jack Chieslar      |
| 1996-1997 | Julianna Gál       |
| 1995-1997 | Richard Young      |
| 1994-2000 | John Wu            |
| 1994-1997 | Esther Suter       |
| 1994      | Hans Savelberg     |
| 1992-1995 | Boris Prilutsky    |
| 1991-1993 | Julianna Gál       |

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**Students Graduated (up to 2019, 32 MSc and 30 PhD)**

|           |   |               |
|-----------|---|---------------|
| 2016-2020 | Lindsay Gorell, PhD, Kinesiology<br><i>Musculoskeletal biomechanical and electromyographical responses associated with spinal manipulation</i>  | Supervisor    |
| 2016-2020 | Kevin Boldt, PhD, Kinesiology<br><i>Exercise and dietary interventions in a rat model of cardiac adaptation</i>   | Supervisor    |
| 2015-2020 | Seong-Won Han, PhD, Kinesiology<br><i>Changes in patellofemoral joint mechanics in the presence of quadriceps muscle imbalance</i>  | Supervisor    |
| 2017-2020 | Nathaniel Morris, MSc, Kinesiology<br><i>Neuromuscular deficits following anterior cruciate ligament reconstruction with hamstring autograft: implications for rehabilitation and return to sport testing</i> | Supervisor    |
| 2014-2019 | Jaqueline Lourdes Rios, PhD, Kinesiology<br><i>Exercise and dietary interventions in a rat model of metabolic knee osteoarthritis</i>   | Supervisor    |
| 2012-2017 | Kelsey Collins, PhD, Biomedical Engineering<br><i>Diet-induced obesity and musculoskeletal health: Studies in a rat model</i>   | Supervisor    |
| 2015-2017 | Shuyue Liu, MSc, Kinesiology<br><i>The origin of force increase in actively stretched single muscle fibres</i>  | Supervisor    |
| 2012-2017 | Krysta Powers, PhD, Biomedical Engineering<br><i>A proposed mechanism for enhanced Titin-based force during Ca<sup>2+</sup> - activation</i>  | Supervisor    |
| 2012-2017 | Matt Jordan, PhD, Medical Science<br><i>Neuromuscular function and performance in alpine ski racers with anterior cruciate ligament reconstruction: a return to sport framework</i>                           | Supervisor    |
| 2009-2016 | Brandon Hisey, MD/PhD, Biomedical Engineering<br><i>Mechanics of amphibian skeletal muscle at long lengths</i>  | Supervisor    |
| 2013-2016 | Maria Engel (Yamamoto), MSc, Biomedical Engineering<br><i>The effects of increased muscle stimulation on serial sarcomere number</i>  | Supervisor    |
| 2013-2016 | Kevin Boldt, MSc, Kinesiology<br><i>Contractile properties of cardiac muscle following increasing doses of chronic exercise training and overtraining in rats</i>   | Supervisor    |
| 2013-2016 | Scott Sibole, MSc, Kinesiology<br><i>pyCellAnalyst: Extensive software for three-dimensional analysis of deforming cells</i>  | Supervisor    |
| 2014-2015 | Hendrik Enders PhD<br><i>Conticomuscular contributions to the control of rhythmic movement in humans</i>  | Co-Supervisor |
| 2009-2015 | Rafael Fortuna PhD  | Supervisor    |

|           |   |               |
|-----------|---|---------------|
|           | <i>Acute and chronic effects of Botulinum toxin type-A on the structure and function of the quadriceps femoris muscles of New Zealand white rabbits</i>     |               |
| 2010-2015 | Mike DuVall PhD   | Supervisor    |
|           | <i>Titin regulation of active and passive force in skeletal muscle</i>  |               |
| 2011-2015 | Heiliane Fontana PhD  | Co-Supervisor |
|           | <i>In-vivo vastus lateralis force-length and force-velocity relationships at the fascicle and muscle tendon unit level</i>                                  |               |
| 2012-2015 | Kaleena Johnston MSc  | Supervisor    |
|           | <i>An Examination of Sarcomere Length Non-uniformities in Actively Stretched Muscle Myofibrils</i>  |               |
| 2012-2014 | Eng Kuan Moo, PhD, Kinesiology  | Supervisor    |
|           | <i>In situ and in vitro chondrocyte biomechanics</i>  |               |
| 2011-2014 | Sigrun Matthiasdottir MSc   | Supervisor    |
|           | <i>Muscle and Fascicle Excursion in CP Children</i>   |               |
| 2011-2014 | Nada Abughazaleh MSc  | Supervisor    |
|           | <i>The Influence of Maximal and Submaximal Cyclic Concentric and Eccentric Exercise on Chondrocyte Death and Synovial Fluid Proteins in the Rabbit Knee</i> |               |
| 2010-2014 | Anthony Killick MSc   | Supervisor    |
|           | <i>Metabolically Optimal Gait Transitions in Cross-Country Skiing</i>   |               |
| 2010-2014 | Conrad Tang MSc   | Supervisor    |
|           | <i>A Prospective Study Evaluating the Effects of Manual Therapy on the Treatment of Patellofemoral Pain</i>   |               |
| 2010-2013 | Ryan Madden MSc   | Supervisor    |
|           | <i>In Situ Chondrocyte Mechanics and Mechanobiology</i>   |               |
| 2010-2013 | Andrew Sawatsky MSc   | Supervisor    |
|           | <i>The Effect of Vastus Medialis Transection on Patellofemoral Contact Pressure and Patellar Tracking</i>   |               |
| 2008-2012 | Audree McKenzie MSc   | Supervisor    |
|           | <i>Passive cardiac properties and titin expression in dilated cardiomyopathy</i>  |               |
| 2004-2011 | Doug Bourne PhD   | Supervisor    |
|           | <i>Chondrocyte viability after in vivo muscular and impact loading</i>  |               |
| 2005-2010 | Aliaa Rehan Youssef PhD   | Supervisor    |
|           | <i>The development of botulinum type-A toxin-induced muscle weakness model of OA</i>  |               |
| 2004-2010 | Tim Leonard PhD   | Supervisor    |
|           | <i>Force production in lengthened myofibrils and single sarcomeres</i>  |               |
| 2008-2009 | Neal Austin MSc   | Supervisor    |
|           | <i>In vivo skeletal muscle fiber function</i>   |               |
| 2005-2009 | Sang-Kuy Han PhD  | Supervisor    |
|           | <i>In situ chondrocyte mechanics and numerical modeling</i>   |               |
| 2007-2009 | Brandon Hisey MSc   | Supervisor    |
|           | <i>New observations on residual force enhancement in cat soleus</i>   |               |
| 2006-2008 | Eva Szabo MSc   | Supervisor    |
|           | <i>Muscle adaptation in patients with joint injury and disease</i>  |               |
| 2006-2008 | Megan Yaraskavitch MD/MSc-LIM   | Supervisor    |
|           | <i>Changes in passive muscle properties and titin in spastic cerebral palsy</i>   |               |
| 2006-2008 | Matthew Gotch MSc   | Co-Supervisor |
|           | Department of Mechanical and Manufacturing Engineering  |               |
|           | <i>The effect of anterior knee joint loading on hamstrings muscle stiffness</i>   |               |
| 2005-2008 | Ashi Mehta MSc  | Supervisor    |
|           | <i>Cross-bridge mechanics</i>   |               |
| 2002-2008 | Eun-Jeong Lee PhD   | Supervisor    |
|           | <i>History dependent force production in single skeletal muscle fibres</i>  |               |

|           |  |               |
|-----------|--|---------------|
| 2002-2006 | Gholamreza Rouhi PhD<br><i>Theoretical aspects of bone remodeling process</i>  | Co-Supervisor |
| 2001-2005 | Ali Oskouei PhD<br><i>History dependence of skeletal muscle force production in sub-maximal voluntary contractions of human adductor pollicis muscle</i>                 | Supervisor    |
| 2001-2005 | Daniel Peterson PhD<br><i>Selected mechanical properties of amphibian skeletal muscle</i>  | Supervisor    |
| 2001-2005 | Timothy Butterfield PhD<br><i>Sarcomere number following strain injury in skeletal muscle</i>  | Supervisor    |
| 1999-2004 | Robson Lemos PhD<br><i>Modeling the deformation of skeletal muscle contraction</i>   | Co-Supervisor |
| 1998-2004 | Andrea Clark PhD<br><i>Heterogeneous patellofemoral articular cartilage mechanical and biological response to compression and anterior cruciate ligament transection</i> | Supervisor    |
| 1998-2003 | Motoshi Kaya PhD<br><i>Coordination of cat hindlimb muscles</i>  | Supervisor    |
| 2001-2003 | Sean Craig MSc<br><i>Effects of in-vivo joint loading on articular cartilage chondrocyte viability</i>   | Supervisor    |
| 2000-2003 | Sang-Kuy Han MSc<br><i>Articular cartilage modeling in the 3-D patellofemoral joint contact</i>  | Co-supervisor |
| 2002-2003 | David Longino MSc<br><i>Botulinum toxin and a new animal model of muscle weakness</i>  | Supervisor    |
| 1999-2003 | Hae-Dong Lee PhD<br><i>History-dependent properties of force production in in-situ and in-vivo skeletal muscle</i>   | Supervisor    |
| 1999-2002 | Rachel Schachar MSc<br><i>Effects of active length changes on steady-state force production in mammalian skeletal muscle</i>   | Supervisor    |
| 1997-2002 | Azim Jinha MSc<br><i>Analyses of Muscle Force Predictions Based on Optimization</i>  | Supervisor    |
| 1999-2002 | Sylvain Couillard MSc<br><i>Cartilage deformation of the feline patellofemoral joint obtained from laser scanning</i>  | Supervisor    |
| 1999-2000 | Salvatore Federico MSc<br><i>Biomechanical analysis of articular cartilage in joint contact</i>  | Co-Supervisor |
| 1995-2000 | Joanne Archambault PhD<br><i>Induction of matrix metalloproteinases in tendon</i>  | Supervisor    |
| 1997-2000 | Wendy Carvalho MSc<br><i>Structural changes of unipennate skeletal muscle during isometric contractions</i>  | Supervisor    |
| 1997-1999 | Hae-Dong Lee MSc<br><i>Force depression during contractions</i>  | Supervisor    |
| 1994-1997 | Ming-Ming Liu MSc<br><i>Dynamic muscle force predictions from EMG signals using Artificial Neural Networks</i>   | Supervisor    |
| 1992-1997 | Tim Koh PhD<br><i>Regulation of sarcomere number in the growing rabbit tibialis anterior</i>   | Supervisor    |
| 1994-1997 | Jason Karp MKin<br><i>Motor unit recruitment order for isometric, concentric and eccentric voluntary contractions</i>  | Supervisor    |

|           |   |            |
|-----------|---|------------|
| 1991-1996 | Murray Maitland PhD<br><i>Longitudinal measurement of tibial motion relative to the femur during passive displacements and femoral nerve stimulation in the ACL-deficient cat model of osteoarthritis</i> | Supervisor |
| 1990-1996 | Evelyn Hasler PhD<br><i>In-vivo knee loading before and after ACL transection in an animal model of osteoarthritis</i>  | Supervisor |
| 1992-1996 | Marco Vaz PhD<br><i>Mechanism of muscle vibrations during stimulated and voluntary isometric contractions of mammalian skeletal muscle</i>  | Supervisor |
| 1993-1995 | Greg Kawchuk MSc<br><i>The characterization of functional tissue compliances in the human lumbar spine</i>  | Supervisor |
| 1990-1995 | Todd Allinger PhD<br><i>Stability and the descending limb of the force length relation in mouse skeletal muscle-A theoretical and experimental examination</i>  | Supervisor |
| 1993-1995 | Joanne Archambault MSc<br><i>Clinical aspects of overuse tendon injury and experimental aspects of tendon properties</i>  | Supervisor |
| 1989-1993 | Antonio Guimaraes PhD<br><i>The EMG-force relation of the cat soleus muscle</i>   | Supervisor |
| 1987-1990 | Lynda Read MSc<br><i>A 2D knee model applied to alpine skiing</i>   | Supervisor |

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## Graduate Students

### Present

|      |   |                       |
|------|---|-----------------------|
| 2020 | Ashna Subramaniam, MSc, Kinesiology             | Co-Supervisor         |
| 2020 | Shuyue Liu, PhD, Kinesiology                    | Supervisor            |
| 2020 | Isabel Aldrich-Witt, MSc, Kinesiology           | Supervisor            |
| 2020 | Matthew Zukowski, MSc, Kinesiology              | Supervisor            |
| 2020 | Natalie Yeung, MSc, Kinesiology                 | Supervisory Committee |
| 2020 | Nada Abughazaleh, PhD, Biomedical Engineering   | Supervisor            |
| 2019 | David Yang, MSc, Medical Science                | Supervisory Committee |
| 2019 | Tim van der Zee, PhD, Biomedical Engineering    | Supervisory Committee |
| 2019 | Margaret (Meng) Li, MSc, Kinesiology            | Supervisor            |
| 2019 | Anupriya Singh, PhD, Biomedical Engineering     | Supervisory Committee |
| 2018 | Bryan Yu, MSc, Kinesiology                      | Supervisor            |
| 2018 | Drew Lawson, MSc, Kinesiology                   | Supervisor            |
| 2018 | Michael Baggaley, PhD, Kinesiology              | Supervisory Committee |
| 2017 | Baaba Sekyiwa Otoo, PhD, Biomedical Engineering | Supervisor            |
| 2017 | Arash Khassestarash, PhD, Kinesiology           | Supervisory Committee |
| 2016 | Franziska Onasch, PhD, Kinesiology              | Supervisor            |
| 2016 | Scott Sibole, PhD, Biomedical Engineering       | Supervisor            |
| 2015 | Amir Hamedzadeh, PhD, Biomedical Engineering    | Supervisory Committee |
| 2014 | Graham MacDonald, PhD, Kinesiology              | Supervisor            |
| 2016 | Kevin Boldt, PhD, Kinesiology                   | Supervisor            |

### Past

|           |                                  |            |
|-----------|----------------------------------|------------|
| 2016-2020 | Lindsay Gorell, PhD, Kinesiology | Supervisor |
|-----------|----------------------------------|------------|

|           |   |                       |
|-----------|---|-----------------------|
| 2015-2020 | Seong-Won Han, PhD, Kinesiology                                       | Supervisor            |
| 2017-2020 | Nathaniel Morris, MSc, Kinesiology                                    | Supervisor            |
| 2016-2020 | Austyn Matheson, PhD, Biomedical Engineering                          | Supervisory Committee |
| 2016-2020 | Kotaybah Hashlamoun, PhD Biomedical Engineering                       | Supervisory Committee |
| 2014-2019 | Jaqueline Lourdes Rios, PhD, Kinesiology                              | Supervisor            |
| 2015-2018 | Alexander Chen, MSc, Kinesiology                                      | Supervisor            |
| 2014-2018 | Maurice Mohr, MSc, Kinesiology  | Supervisory Committee |
| 2010-2018 | Ryan Lewinson, MD/PhD, Biomedical Engineering                         | Supervisory Committee |
| 2013-2017 | Yasir Al-Saffar, PhD, Kinesiology (U. Malaysia, visiting)             | Co-Supervisor         |
| 2015-2017 | Shuyue Liu, MSc, Kinsiology   | Supervisor            |
| 2012-2017 | Kelsey Collins, PhD, Kinesiology                                      | Supervisor            |
| 2009-2017 | Brandon Hisey, MD/PhD, Medicine/Biomedical Engineering                | Supervisor            |
| 2012-2017 | Krysta Powers, PhD, Kinesiology                                       | Supervisor            |
| 2012-2017 | Matt Jordan, PhD, Medical Science                                     | Supervisor            |
| 2014-2016 | Baaba Skyiwa Otoo, MSc, Biomedical Engineering                        | Co-Supervisor         |
| 2013-2016 | Maria Engel (Yamamoto), MSc, Biomedical Engineering                   | Supervisor            |
| 2013-2016 | Kevin Boldt, MSc, Kinesiology   | Supervisor            |
| 2013-2016 | Scott Sibole, MSc, Biomedical Engineering                             | Supervisor            |
| 2014-2015 | SungYong (Kevin) Shin, MSc  | Supervisory Committee |
| 2014-2015 | Hendrik Enders, PhD, Kinesiology                                      | Co-Supervisor         |
| 2009-2015 | Rafael Fortuna, PhD, Kinesiology                                      | Supervisor            |
| 2010-2015 | Mike DuVall, PhD, Kinesiology (Biomedical Engineering)                | Supervisor            |
| 2012-2015 | Kaleena Johnston, MSc, Kinesiology                                    | Supervisor            |
| 2014-2015 | Sam Dorosz, MSc, Biomedical Engineering                               | Supervisory Committee |
| 2015      | Heiliane Fontana, PhD, Kinesiology                                    | Co-Supervisor         |
| 2010-2014 | Kaveh Pourakbar Saffar, PhD, Mechanical & Manufacturing Eng           | Supervisory Committee |
| 2012-2014 | Eng Kuan Moo, PhD, Kinesiology  | Supervisor            |
| 2011-2014 | Nada Abughazaleh, MSc, Biomedical Engineering                         | Supervisor            |
| 2011-2014 | Anthony Killick, MSc, Kinesiology                                     | Supervisor            |
| 2010-2014 | Sigrun Matthiasdottir, MSc, Kinesiology (Biomedical Engineering)      | Supervisor            |
| 2009-2014 | Conrad Tang, MSc, Kinesiology   | Supervisor            |
| 2010-2013 | Ryan Madden, MSc, Kinesiology (Biomedical Engineering)                | Supervisor            |
| 2010-2013 | Andrew Sawatsky, MSc, Kinesiology                                     | Supervisor            |
| 2009-2010 | Mike Duvall, MSc, Kinesiology   | Supervisor            |
| 2006-2012 | Audree McKenzie, MSc, Kinesiology                                     | Supervisor            |
| 2008-2011 | Lin Liu, MSc, Engineering   | Co-Supervisor         |
| 2005-2010 | Aliaa Youssef, PhD, Kinesiology                                       | Supervisor            |
| 2004-2011 | Doug Bourne, PhD, Kinesiology   | Supervisor            |
| 2009      | Debora Cantergi, Universidade Federal do Rio Grande do Su Brazil, MSc | Co advisor            |
| 2009      | Jared Fletcher, PhD, Kinesiology                                      | Supervisory Committee |
| 2008-2010 | Helen Buie, PhD, Mechanical & Manufacturing Eng                       | Supervisory Committee |
| 2007-2009 | Brandon Hisey, MSc, Kinesiology                                       | Supervisor            |
| 2007-2009 | Neal Austin, MSc, Kinesiology   | Supervisor            |
| 2007-2010 | Sarah Manske  | Supervisory Committee |
| 2007      | Jackie Thurston, MSc  | Supervisory Committee |
| 2007      | Tiffany Edgecombe   | Supervisory Committee |
| 2006-2008 | Matt Gotch, MSc Biomedical Engineering                                | Co-Supervisor         |
| 2006-2008 | Megan Yaraskavitch, MSc, Kinesiology                                  | Supervisor            |
| 2006-2008 | Eva Szabo, Msc, Engineering   | Supervisor            |

|           |                                      |                       |
|-----------|--------------------------------------|-----------------------|
| 2006      | Murray Heber, MSc, Medical Science   | Supervisory Committee |
| 2005-2008 | Ashi Mehta, MSc, Engineering         | Supervisor            |
| 2005      | Sam Walcott, PhD, Cornell University | Supervisory Committee |
| 2004-2010 | Tim Leonard, PhD, Kinesiology        | Supervisor            |
| 2004      | Michael Butcher                      | Supervisory Committee |
| 2003-2009 | Sang Kuy Han, PhD, Engineering       | Supervisor            |
| 2003-2007 | Karen Weiss-Bundy, MSc, Kinesiology  | Supervisor            |
| 2002-2008 | Eun-Jeong Lee, PhD Kinesiology       | Supervisor            |
| 2002-2006 | Gholamreza Lemraasky                 | Co-Supervisor         |
| 2002-2005 | Prism Schneider                      | Supervisory Committee |
| 2002-2004 | Andrew Betik, PhD                    | Supervisor            |
| 2002-2004 | Jolene Lepp, PhD                     | Supervisor            |
| 2001-2005 | Tim Butterfield, PhD                 | Supervisor            |
| 2001-2005 | Danny Peterson, PhD                  | Supervisor            |
| 2001-2005 | Ali Oskouei, PhD                     | Supervisor            |
| 2000-2004 | Sabina Bruehlmann                    | Supervisory Committee |
| 1998-2004 | Andrea Clark PhD                     | Supervisor            |
| 1998-2003 | Motoshi Kaya PhD                     | Supervisor            |
| 2001-2003 | Sean Craig MSc                       | Supervisor            |
| 2000-2003 | Sang-Kuy Han MSc                     | Co-supervisor         |
| 2002-2003 | David Longino MSc                    | Supervisor            |
| 1999-2003 | Hae-Dong Lee PhD                     | Supervisor            |
| 1999-2002 | Rachel Schachar MSc                  | Supervisor            |
| 1997-2002 | Azim Jinha MSc                       | Supervisor            |
| 1999-2002 | Sylvain Couillard MSc                | Supervisor            |
| 1999-2000 | Salvatore Federico MSc               | Co-Supervisor         |
| 1995-2000 | Joanne Archambault PhD               | Supervisor            |
| 1997-2000 | Wendy Carvalho MSc                   | Supervisor            |
| 1997-1999 | Hae-Dong Lee MSc                     | Supervisor            |
| 1994-1997 | Ming-Ming Liu MSc                    | Supervisor            |
| 1992-1997 | Tim Koh PhD                          | Supervisor            |
| 1994-1997 | Jason Karp MKin                      | Supervisor            |
| 1991-1996 | Murray Maitland PhD                  | Supervisor            |
| 1990-1996 | Evelyn Hasler PhD                    | Supervisor            |
| 1992-1996 | Marco Vaz PhD                        | Supervisor            |
| 1993-1995 | Greg Kawchuk MSc                     | Supervisor            |
| 1990-1995 | Todd Allinger PhD                    | Supervisor            |
| 1993-1995 | Joanne Archambault MSc               | Supervisor            |
| 1989-1993 | Antonio Guimaraes PhD                | Supervisor            |
| 1987-1990 | Lynda Read MSc                       | Supervisor            |

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#### External Examiner/Examining Committee Activity

|      |  |
|------|--|
| 2020 | Michael Esposito (MSc, Biomedical Engineering, Examination Committee Member)<br><i>Effects of midsole cushioning stiffness of Achilles tendon stretch during running</i>   |
| 2020 | Inaihá Benincá (MSc, Rehabilitation Sciences, Federal University of Santa Catarina, Araranguá)<br><i>The effects of immersion depth and speed on the ground reaction forces for walking and running in water</i> |
| 2020 | Austyn Matheson (PhD, Biomedical Engineering, Supervisory Committee Member)<br><i>Proteoglycan-4 concentration and biomechanical function in equine joint disease, exercise, and in vitro cartilage repair</i>   |

- 2020 Kotaybah Hashlamoun (PhD, Biomedical Engineering, Supervisory Committee Member)  
*On the permeability and diffusivity of articular cartilage*
- 2020 Keenan Barry MacDougall (MSc, Kinesiology, Supervisory Committee Member)  
*Additional in-series compliance does not affect the length dependence of activation in rat medial gastrocnemius*
- 2019 Tim Davison (PhD, Computer Science, External Examiner)  
*LifeBrush: Dynamic Illustration for the Bimolecular Mesoscale*
- 2019 Gustavo Morais (MSc, University of Sao Paulo, Ribeirao Preto School of Physical Education and Sport, External Examiner)  
*Eccentric exercise: mechanical loading of the knee joint and its contribution to osteoarthritis in mice.*
- 2019 Rachel Sondergaard (PhD, Neuroscience, Cumming School of Medicine, External Examiner)  
*Cerebellar dysfunction as a core pathophysiologic mechanism of idiopathic dystonia*
- 2019 Collen Chemerka (BSc, Medical Engineering, University of Applied Sciences, Koblenz, Germany, External Reviewer)  
*Effects of overtraining on the knee joint in mice*
- 2019 Olli Ohtonen (PhD, Sport and Health Sciences, University of Jyväskylä, Finland, External Reviewer)  
*Biomechanics in cross-country skiing skating technique, measurement techniques of force production and ski properties*
- 2018 Jørgen Danielsen (PhD, Medicine and Health Sciences, Norwegian University of Science and Technology, External Examiner)  
*Energetics and dynamics of double poling cross country skiing*
- 2017-2018 Caroline Göpfert (PhD, Sport and Health Sciences, University of Jyväskylä, Finland, External Reviewer)  
*Biomechanics of speed adaptation and functionality of arm swing in cross-country skiing*
- 2014-2018 Maurice Mohr (PhD, Kinesiology, Supervisory Committee Member)  
*Lower extremity muscle activation following a previous knee injury: implications for post-traumatic knee osteoarthritis*
- 2010-2018 Ryan Lewinson (MD/PhD, Biomedical Engineering, Supervisory Committee Member)  
*Prescription of specialized footwear for individuals with knee osteoarthritis*
- 2018 Guomin Ren (PhD, Cumming School of Medicine, Examination Committee Member)  
*Inflammatory profiling in early osteoarthritis*
- 2017 Caroline Göpfert (PhD, Faculty of Sport and Health Sciences, University of Jyväskylä)
- 2017 Robert Csapo, PhD (Habilitation, Sport Science, Leopold-Franzens-University Innsbruck, Expert)
- 2016 Scott Seamone (PhD, Biological Science, Candidacy, Internal/External Examiner)  
*Elasmobranch muscle structure and mechanical properties 4 P*
- 2016 Baaba Skyiwa Oto (MSc, Biomedical Engineering, Examination Committee Member)  
*Impact of knee joint loading on site-specific cartilage gene expression in a porcine model*
- 2016 Parth Iyer (MSc, Mechanical Engineering, Internal/External Examiner)  
*Development of a real-time performance measurement system for sprint starts*
- 2016 Daniel Comaduran-Marquez (MSc, Biomedical Engineering, Internal/External Examiner)  
*Design and development of a multichannel current-EMG system for coherence analysis*
- 2016 Aleen Pangka (PhD, Kinesiology, Internal/External Examiner)  
*Biomechanical measures of the muscle-bone unit in postmenopausal females*
- 2016 George Lawrence Powell (PhD, Biological Sciences, Internal/External Examiner)  
*Evolution of dermatocranial shape in horned lizards (phrynosoma)*
- 2014-2015 SungYong (Kevin) Shin (MSc, Kinesiology, Committee Member)  
*Integrin alpha1beta1 protects against signs of PTOA in the articular cartilage of the knee through a mechanism that involves EGFR Signalling*
- 2015 Sam Dorosz (MSc, Biomedical Engineering, Committee Member)  
*Effect of Synovial Fluid on Boundary Lubrication at a Meniscus – Cartilage Biointerface*

|           |  |
|-----------|--|
| 2015      | Ryan Lewinson (PhD, Biomedical Engineering, Committee Member)<br><i>Prescription of specialized footwear for individuals with knee osteoarthritis</i>  |
| 2015      | Joanna Weber (PhD, Mechanical & Materials Engineering, Queens University, External Examiner)<br><i>Mechanical stimulation of chondrocytes and intracellular calcium signaling</i>                                    |
| 2015      | Tuomo Silvast (PhD, Applied Physics, University of Eastern finland, External Examiner)<br><i>Contrast enhances computed tomography of articular cartilage</i>  |
| 2015      | Benjamin Hoffman (PhD, Human Mvmt Studies and Nutritional Sciences, External Examiner)<br><i>A biomechanical analysis of exercise-induced muscle damage in humans</i>  |
| 2015      | Stephen Cull (PhD, Mechanical and Manufacturing Engineering Candidacy, External Examiner)<br><i>Application of a continuum model to bone</i>   |
| 2015      | Leah Sparrow (MSc, Veterinary Medicine, External Examiner)   |
| 2010-2014 | Kaveh PourAkbar Saffar (PhD, Biomedical Engineering, Committee Member)<br><i>Biomechanical aspects of carbon nanotube as a reinforcing scaffold for bone tissue</i>  |
| 2014      | Kate Jones (MSc, Chiropractic, External Examiner)<br><i>The effect of sacroiliac manipulation lumbar extensor muscle endurance in asymptomatic individuals</i>   |
| 2014      | Lindsay Gorrell (MRes, External Examiner)<br><i>Dose optimisation of cervical spinal manipulative therapy and its effect on mechanical neck pain</i>   |
| 2013      | Nathan Murray Solbak (MSc, Kinesiology, Neutral Chair)<br><i>Quantifying biomarkers of osteoarthritis in normal sheep synovium - a baseline</i>  |
| 2009-2012 | Alex Hume (MSc, Biological Sciences, Committee Member)   |
| 2012      | Stefan Hoerzer (PhD, Kinesiology, Internal/External Examiner)<br><i>Functional groups in running biomechanics</i>  |
| 2011      | Andrey Melnikov (PhD, Mechanical and Manufacturing Engineering, Examining Committee)<br><i>Continuum mechanical model of the cardiac muscle</i>  |
| 2011      | Derek Rutherford (PhD, Biomedical Engineering, Dalhousie University, External Examiner)<br><i>Factors affecting knee joint muscle activation patterns during gait in individuals with knee osteoarthritis</i>        |
| 2011      | Kathleen Faccia (PhD, Archaeology, External Examiner)<br><i>Exploring age and activity related changes in prehistoric cis-baikal hunter-gatherer fisheries: A micro-CT analysis of cortical canal microstructure</i> |
| 2011      | Wolfgang Seiberl (PhD, Technischen Universitat Munchen, External Examiner)   |
| 2010      | John Holash (PhD, Kinesiology, Examining Committee)  |
| 2010      | Sharifah SS Shikh (MSc, University of Malaysia, March)<br><i>Development of an alternative prosthetic socket fabrication method: the hydrostatic cast system</i>   |
| 2010      | Marcus J Freeman (PhD, University of Guelph, External Examiner, July)<br><i>Longitudinal sarcomere dynamics of skeletal muscle</i>   |
| 2010      | Pete Rizun (PhD, Dept of Physics, Examining Committee)   |
| 2009      | Soraya Janet Bailey (M.Sc, Civil Engineering, External Examiner, April)<br><i>The effects of long-term fatigue and creep loading on healing ligaments at normal physiologic loads</i>                                |
| 2009      | Zainisha Vasanji (PhD, Kinesiology, Neutral Chair/Candidacy)   |
| 2009      | Ni Diao (MSc, Cardiovascular/Respiratory Sciences, External Examiner)  |
| 2008      | Tamara Glen, (MSc, Gastrointestinal Sciences, Medicine, External Committee Member)   |
| 2007      | Daniel Hahn (PhD, Technische Universität München, November)  |
| 2007      | David Rouffet (PhD, Universite Claude Bernard Lyon 1, June) <i>Study of muscular activation using surface electromyography methodological considerations for human movement analysis</i>                             |
| 2006      | Elizabeth Kelly (MSc, Program of Biomedical Engineering, External Examiner)<br><i>Functional gap junction communication and its mechanobiological role in the outer annulus fibrosus</i>                             |
| 2006      | Michelle Zec (MD, PhD, External Examiner)<br><i>In vitro characterization of fatigue damage in the medial collateral ligament of the knee</i>  |



|           |  |
|-----------|--|
| 2005      | Victor Valderrabano (PhD, Kinesiology, Neutral Chair)<br><i>Ankle Osteoarthritis – Biomechanical and orthopaedic aspects</i>   |
| 2005      | David Bereznick (PhD, University of Waterloo, External Examiner)<br><i>Lumbar manipulation: quantification and modification of the external kinetics affecting the presence and site of cavitation</i> |
| 2005      | Nathan James B. Kendrick (MSc, Internal/External Examiner)<br><i>Human observation and computer analysis of human running gaits</i>  |
| 2004      | Yichun Sun (PhD, Internal/External Examiner)<br><i>Wave-intensity analysis of right ventricular diastolic suction</i>  |
| 2004      | Marije van der Werf (MSc, Internal/External Examiner) Colloquium<br><i>Linear cell arrays and cell isolation in the inner and outer annulus fibrosus</i>   |
| 2000      | Eric Snively (MSc, Examining Committee)<br><i>Functional Morphology of the Tyrannosaurid Arctometatarsus</i>   |
| 1998-2006 | Rachid Ait-Haddou, PhD<br><i>Molecular ratchets in biology</i>   |

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## External Referee for Promotion/Tenure/Nomination

### 2020

|  |                       |
|--|-----------------------|
| Dr. Jing Xian Li, Promotion to Professor         | University of Ottawa  |
| Dr. Anja Niehoff, Promotion to Adjunct Professor | University of Cologne |

### 2019

|  |                                       |
|--|---------------------------------------|
| Dr. Alex Scott, Promotion to Professor                 | University of British Columbia        |
| Dr. Joe Quadrilatero, Promotion to Professor           | University of Waterloo                |
| Dr. Kharm Foucher, Promotion to Associate Professor    | University of Illinois at Chicago, IL |
| Dr. Mark King, Personal Title of Chair                 | Loughborough University, UK           |
| Dr. Matthew Tresch, Promotion to Professor with Tenure | Northwestern University, IL           |

### 2018

|  |                        |
|--|------------------------|
| Dr. Ross Miller, Promotion to Professor with Tenure    | University of Maryland |
| Dr. Jonas Rubenson, Promotion to Professor with Tenure | Penn State University  |

### 2017

|  |                              |
|--|------------------------------|
| Dr. Silvia Blemker, Promotion to Professor with Tenure         | University of Virginia       |
| Dr. Joanna Wakefield-Scurr, Promotion to Professor with Tenure | University of Portsmouth, UK |

### 2016

|  |                          |
|--|--------------------------|
| Dr. Anne Silverman, Promotion to Associate Professor with Tenure | Colorado School of Mines |
| Dr. Johnny Huard, Promotion to Professor with Tenure             | UT Health, Texas         |

### 2015

|   |                                |
|---|--------------------------------|
| Dr. Bradley Davidson, Promotion to Associate Professor with Tenure      | University of Colorado, Denver |
| Dr. Noor Asuan Abu Osman, Promotion to Professor                        | University of Malaya           |
| Dr. Kenton Kaufman, Promotion to Distinguished Mayo Clinic Investigator | Mayo Clinic                    |

### 2014

|   |                                   |
|---|-----------------------------------|
| Dr. David Altman, Promotion with Tenure                       | Willamette University             |
| Dr. Yingxin Gao, Promotion to Associate Professor with Tenure | Cornell University                |
| Dr. Christopher Powers, Promotion to Professor with Tenure    | University of Southern California |

|  |                       |
|--|-----------------------|
| Dr. Stephen Waldman, Promotion to Professor                  | Ryerson University    |
| Dr. Loren Chiu, Promotion to Associate Professor with Tenure | University of Alberta |

### **2013**

|   |                             |
|---|-----------------------------|
| Dr. Scott McLean, Promotion to Associate Professor with Tenure        | University of Michigan      |
| Dr. Noor Azuan Abu Osman, Promotion to Professor                      | University of Malaya        |
| Dr. Peter Keir, Promotion to Professor with Tenure                    | McMaster University         |
| Dr. Edward (Ned) Debold, Promotion to Associate Professor with Tenure | University of Massachusetts |

### **2012**

|  |                      |
|--|----------------------|
| Dr. Blaine Hoshizaki, Promotion to Full Professor    | University of Ottawa |
| Dr. Rami Korhonen, Associate Professor with Tenure   | University of Oulu   |
| Dr. Chunfeng Zhao, Promotion to Professor            | Mayo Clinic          |
| Dr. Belinda Murphy, Promotion to Associate Professor | University of Malaya |
| Dr. Fatimah Ibrahim, Promotion to Professor          | University of Malaya |

### **2011**

|  |                                   |
|--|-----------------------------------|
| Dr. Thomas Quinn, Promotion to Professor                   | McGill University                 |
| Dr. Fluck, Review of Faculty Position                      | University of Zurich              |
| Dr. Wendy Murray, Promotion to Associate Professor         | Northwestern University           |
| Dr. Joel Lenovaz, Promotion to Assistant Professor         | University of Saskatchewan        |
| Dr. Kornelia Kulig, Promotion to Professor                 | University of Southern California |
| Dr. Kenton Kaufman, Distinguished Mayo Clinic Investigator | Mayo Clinic                       |
| Dr. Darryl Thelen, Promotion to Professor                  | University of Wisconsin           |
| Dr. Hanspeter Frei, Promotion to Associate Professor       | Carleton University               |
| Dr. Gongbing Shan, Promotion to Professor                  | University of Lethbridge          |
| 2014Dr. Larry Holt, Professor Emeritus                     | Dalhousie University              |

### **2010**

|  |                                   |
|--|-----------------------------------|
| Dr. Joan Sanders, Promotion to full Professor          | University of Washington          |
| Dr. Dan Ferris, Promotion to full Professor            | University of Michigan            |
| Dr. Sylvia Blemker, Promotion to Associate Professor   | University of Virginia            |
| Dr. Richard Neptune, Promotion to full Professor       | The University of Texas at Austin |
| Dr. Antonio Preto Veloso, Promotion to full Professor  | University of Lisbon              |
| Dr. Heidi-Lynn Ploeg, Promotion to Associate Professor | The University of Wisconsin       |
| Dr. Cheryl Kozey, Research Professorship Nomination    | Dalhousie University              |

### **NON-REFEREED PUBLICATIONS**

1. Fortuna R, Vaz MA, Sawatsky A, Hart DA, Herzog W (2015) Botox injections: a 'bittersweet' medicine". Atlas of Science. Lay abstract of "A clinically relevant BTX-A injection protocol leads to persistent weakness, contractile material loss, and an altered mRNA expression phenotype in rabbit quadriceps muscles" Journal of Biomechanics.
2. Yaraskavitch M, Leonard TR, Herzog W (2010) Botox produces functional weakness in non-injected muscles adjacent to the target muscle. University of Calgary Leaders in Medicine Research Symposium pg(s) Poster.
3. Herzog W (2004) Retirement symposium for Professor Rodger Woledge. Annual meeting of the Society for Experimental Biology, March 29-April 2.
4. Herzog W (1993) Optimize your output. Impact Magazine 8.
5. Herzog W (1981) Techniques used by world class runners. Athletic Journal 61:58-59.
6. Herzog W (1981) Biomechanics of running. A beginner's guide to the science of jogging and fitness. Oppliger R.A.

## **2009**

|  |                                   |
|--|-----------------------------------|
| Dr. Kornelia Kulig, Catherine Worthingham Fellows Nomination | University of Southern California |
| Dr. Susan Brooks, Promotion to Associate Professor           | University of Michigan            |
| Dr. Benjamin J. Fregly, Promotion to Professor               | University of Florida             |
| Dr. Lesley Brown, Promotion to Professor                     | University of Lethbridge          |

## **2008**

|  |                             |
|--|-----------------------------|
| Dr. S. Waldman, Promotion to Associate Professor | Queen's University          |
| Dr. John Runciman, Promotion to Professor        | University of Guelph        |
| Dr. David Pierotti, Promotion to Professor       | Northern Arizona University |
| Dr. Steve Kautz, Promotion to Professor          | University of Florida       |
| Dr. Peter McCarthy, Promotion to Professor       | University of Glamorgan     |

## **2007**

|  |                               |
|--|-------------------------------|
| Dr. John Barden                          | University of Regina          |
| Dr. Greg Cutlip NIOSH                    |                               |
| Dr. Kenton Kaufman, Distinguished Alumni | South Dakota State University |
| Dr. John Bertram                         | University of Calgary         |

## **2006**

|                   |                         |
|-------------------|-------------------------|
| Dr. Joan Bechtold | University of Minnesota |
|-------------------|-------------------------|

## **2005**

|                        |                                   |
|------------------------|-----------------------------------|
| Dr. Daniel P. Ferris   | University of Michigan            |
| Dr. Steve Lehman       | University of California, Berkley |
| Dr. Christopher Jacobs | Stanford University               |
| Dr. Chunfeng Zhao      | Mayo Clinic College of Medicine   |

## **2004**

|                     |                                   |
|---------------------|-----------------------------------|
| Dr. David Sanderson | University of British Columbia    |
| Dr. Kenton Kaufman  | Mayo Clinic College of Medicine   |
| Dr. Richard Neptune | The University of Texas at Austin |
| Dr. Keith Williams  | University of California, Davis   |

## **2003**

|                     |                      |
|---------------------|----------------------|
| Dr. Jack Dennerlein | Harvard University   |
| Dr. John Chow       | Florida University   |
| Dr. Danny Pincivero | University of Toledo |

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## **Summer Students and Special Projects**

|                  |                    |   |
|------------------|--------------------|---|
| 2020 fall-winter | Daniyya Chaudry    | Undergraduate Honours Student, Sep 1 – Apr 30           |
| 2020 fall-winter | Taylor Pigott      | Undergraduate Honours Student, Sep 1 – Apr 30           |
| 2020 fall-winter | Jeff Ilg           | Undergraduate Honours Student, Sep 1 – Apr 30           |
| 2020 fall-winter | Tanya Cherppukaran | Undergraduate Honours Student, Sep 1 – Apr 30           |
| 2020 fall-winter | Spencer Ames       | Undergraduate Honours Student, Sep 1 – Apr 30           |
| 2020 fall-winter | Darius Ramrattan   | Undergraduate Honours Student, Sep 1 – Apr 30           |
| 2020 summer      | Jeff Ilg           | NSERC USRA Summer Studentship, May 1 – Aug 31           |
| 2020 summer      | Shabit Hassan      | PURE Summer Studentship, May 1 – Aug 31                 |
| 2020 summer      | Muzammil Nasir     | CONNECT! NSERC CREATE Summer Studentship, May 1 -Aug 31 |
| 2020 summer      | Darius Ramrattan   | CONNECT! NSERC CREATE Summer Studentship, May 1 -Aug 31 |

|                  |                           |   |
|------------------|---------------------------|---|
| 2020 summer      | Faizan Syed               | McCaig Institute R. R. Singleton Summer Student, May 1 – June 30          |
| 2020 summer      | Ty Moline                 | Summer Student, May 1 – Aug 31  |
| 2020 winter      | Jonas Schmidt             | German Visiting Undergraduate, Feb 24 – Jun 26                            |
| 2019 fall        | Armaan Sekhon             | Undergraduate Honours Student, Sep 1 – Apr 30                             |
| 2019 summer      | Asmi Multani              | HYRS Summer Student, July 1 – Aug 31                                      |
| 2019 summer      | Muzammil Nasir            | CONNECT! NSERC CREATE Summer Student, May 1 – Aug 31                      |
| 2019 summer      | Sadhiq Nazeer             | CONNECT! NSERC CREATE Summer Student, May 1 – Aug 31                      |
| 2019 summer      | Jeff Ilg                  | McCaig Institute R. R. Singleton Summer Studentship, May 1 – Aug 31       |
| 2019 summer      | Taylor Pigott             | Markin USRP Summer Studentship, May 1 – Aug 31                            |
| 2019 winter      | Helen Adam                | German Visiting Undergraduate, Mar 11 – Jul 29, 2019                      |
| 2019 winter      | Robert Graichen           | German Visiting Undergraduate, Mar 1 – Sep 1, 2019                        |
| 2018 fall        | Viviane Frasson           | Brazilian Visiting PhD Student, Sep 1, 2018 – Aug 31, 2019                |
| 2018 fall        | Kale Weigel               | Undergraduate Honours Student, Biochemistry, Sep 1, 2018 – Apr 30, 2019   |
| 2018 fall        | Stephanie Crites          | Undergraduate Honours Student, Kinesiology, Sep 1, 2018 – Apr 30, 2019    |
| 2018 summer      | Julia Beaumont            | HYRS Summer Student, July 1 – Aug 31                                      |
| 2018 summer      | Sherry Mahmood            | Undergrad. Honours Student, Health Sciences, May 1, 2018 – April 30, 2019 |
| 2018 summer      | Brennan O'Yeung           | Biomedical Engineering Undergraduate Student, volunteer, May 1 – Aug 31   |
| 2018 summer      | Maria Hernandez           | PURE Summer Studentship, May 1 – Aug 31                                   |
| 2018 summer      | John Michaiel             | CIHR Summer Studentship, May 1 – Aug 31                                   |
| 2018 summer      | Ross Crichton             | McCaig Institute R. R. Singleton Summer Studentship, May 1 – Aug 31       |
| 2018 summer      | Jeff Shin                 | McCaig Institute R. R. Singleton Summer Studentship, May 1 – Aug 31       |
| 2018 summer      | Matteo Biglioli           | CONNECT! NSERC CREATE Summer Student, May 1 – Aug 31                      |
| 2018 summer      | Neum Jelani               | CONNECT! NSERC CREATE Summer Student, May 1 – Aug 31                      |
| 2018 winter      | Colleen Chemerka          | German Visiting Undergraduate Student, Apr 1 – Sep 30                     |
| 2018 winter      | Daiani de Campos          | Brazilian Exchange Undergraduate Student, Jan 10 – Jul 9                  |
| 2018 winter      | Gustvo Paroschi de Morais | MSc, Brazilian Visiting MSc Student, Mar 1 – Aug 31                       |
| 2018 winter      | Nicolas Collao Alonso     | ELAP, Chilean Visiting MSc Student, Jan 25 – Jul 25                       |
| 2017 fall        | Faruk Örtos               | Turkish Visiting PhD Student, Nov 14, 2017 – Nov 30, 2018                 |
| 2017 fall        | Tobias Göcking            | German Visiting MSc Student, Oct 2 – Dec 20                               |
| 2017 fall        | Victoria Armstrong        | Undergraduate Honours Student, Kinesiology, Sept 1 – Apr 30               |
| 2017 fall        | Michael Moroz             | Undergraduate Honours Student, Biomedical Sciences, Sept 1 – Apr 30       |
| 2017 fall        | Lars Kooijman             | Dutch Visiting MSc Student, Sep 1 – Nov 13                                |
| 2017 fall        | Elske Kranenburg          | Dutch Visiting Undergrad Student, Sep 4 – Dec 21                          |
| 2017 summer      | Curtis Ostertag           | HYRS Summer Student, July 1 – Aug 31                                      |
| 2017 summer      | Madeleine McKenzie        | Science Undergraduate Student, Concordia U., volunteer, May 1 – Aug 31    |
| 2017 summer      | Saad Luqman               | Biomedical Engineering Undergraduate Student, volunteer, May 1 – Aug 31   |
| 2017 summer      | Shaelyn Jones             | Biomedical Engineering Undergraduate Student, volunteer, May 1 – Aug 31   |
| 2017 summer      | Kalvin Wu                 | Markin USRP Summer Studentship, May 1 – Aug 31                            |
| 2017 summer      | Carissa Chung             | Alberta Innovates Summer Studentship, May 1 – Aug 31                      |
| 2017 summer      | Michael Moroz             | CIHR Summer Studentship, May 1 – Aug 31                                   |
| 2017 summer      | Jenice Ma                 | CIHR Summer Studentship, May 1 – Aug 31                                   |
| 2017 summer      | John Michaiel             | McCaig Institute R. R. Singleton Summer Studentship, May 1 – Aug 31       |
| 2017 summer      | Hannah Kirchhübel         | German Visiting Undergrad Student, May 1 - Jun 11                         |
| 2016 fall/winter | Tanja Höpfl               | German Visiting Undergrad Student, Sep 19 - Mar 30                        |
| 2016 fall        | Koen Wishaupt             | Dutch Visiting Undergrad Student, Aug 29 – Dec 9                          |
| 2016 fall        | Martin Gröber             | German Visiting MSc Student, Aug 8 – Oct 7                                |
| 2016 summer      | Alina Arvisais            | HYRS Summer Student, July 1 – Aug 31                                      |
| 2016 summer      | James Mather              | Alberta STEP Program, May 1 – Aug 31                                      |
| 2016 summer      | Loretta Ko                | Alberta STEP Program, May 1 – Aug 31                                      |

|             |                            |   |
|-------------|----------------------------|---|
| 2016 summer | Sophia Poscente            | Markin USRP Summer Studentship, May 1 – Aug 31        |
| 2016 summer | Charlie Wang               | AIHS Summer studentship, Jul 1 – Aug 31               |
| 2016 summer | Tabitha Hawes              | NSERC USRA Summer Studentship, May 1 – Aug 31         |
| 2016 summer | Anthony Issler             | CIHR Summer Studentship, May 1 – Aug 31               |
| 2016 summer | Michael Moroz              | NSERC USRA Summer Studentship, May 1 – Aug 31         |
| 2016 Summer | Jahaan Ali                 | Summer Studentship, May 1 – Jul 31                    |
| 2016 winter | Stefan Bastings            | Dutch Visiting Undergrad Student, IEC, Feb 16 - Jul 8 |
| 2016 winter | Anouk Weemaes              | Dutch Visiting MSc Student, Feb 3 – Jun 17            |
| 2016 winter | Ellis van der Sanden       | Dutch Visiting MSc Student, Feb 3 – Jun 17            |
| 2016 winter | Francisco Cuenca Fernandez | Spanish Visiting PhD Student, Jan 7 – Apr 20          |
| 2015 fall   | Sven Friese                | German Visiting Undergrad Student, Sept 15 – Oct 21   |
| 2015 fall   | Manja van Wissen           | Dutch Visiting Undergrad Student, Aug 26 – Nov 16     |
| 2015 fall   | Susanne Ellens             | Dutch Visiting Undergrad Student, Aug 26 – Nov 16     |
| 2015 fall   | Mikko Finnilae             | Finnish Visiting Postdoc, Aug 24 – Dec 16             |
| 2015 fall   | Simo Ojanen                | Finnish Visiting PhD Student, Aug 24 – Dec 16         |
| 2015 fall   | Sonja Waeckerlin           | Markin USRP Student, Sept 1 – Feb 28                  |
| 2015 summer | Craig Martis               | USRA Summer Studentship, May 1 – Aug 31               |
| 2015 summer | Dening Wang                | NSERC CREATE CUSP Student, May 1 – Aug 31             |
| 2015 summer | Jennifer O'Reilly          | NSERC CREATE CUSP Student, May 1 – Aug 31             |
| 2015 summer | Myles Borthwick            | NSERC CREATE CUSP Student, May 1 – Aug 31             |
| 2015 summer | Paul Riek                  | AIHS Summer Studentship, May 1 – Aug 31               |
| 2015 summer | Si (David) Yong Kim        | AIHS Summer Studentship, May 1 – Aug 31               |
| 2015 summer | Sudeepta Aurka             | Markin USRP Student, May 1 – Aug 31                   |
| 2015 summer | Svetlana Kuznestova        | PURE Summer Studentship, May 1 – Aug 31               |
| 2015 summer | Thomas Zhang               | USRA Summer Studentship, May 1 – Aug 31               |
| 2015 summer | Tristan McSwiney           | NSERC CREATE CUSP Student, May 1 – Aug 31             |
| 2015 summer | Nordan Flaaten             | Summer Student, May 1 – Aug 31                        |
| 2015 summer | Jahaan Ali                 | NSERC CREATE CUSP Student, May 1 – Aug 31             |
| 2015 spring | Ester Mende                | German Visiting MSc Student, Mar 30 – May 31          |
| 2015 spring | Franziska Onasch           | German Visiting MSc Student, May 19 – July 23         |
| 2015 winter | Andrea Zignoli             | Italian Visiting Student, Mar 22- Sept 19             |
| 2015 winter | Fanny Bertram              | IFMA Visiting Student, Mar 9 – Aug 7                  |
| 2015 winter | Heiliane Fontana           | Brazilian Visiting PhD Student (ELAP), Jan 3 – May 3  |
| 2014 fall   | Noah (Jiabin) Yu           | Chinese Visiting Student, Nov 13, 2014 – Nov 13, 2015 |
| 2014 fall   | Jesus Sanchez              | Brazilian Visiting Student, Oct 14 – Dec 31           |
| 2014 fall   | Stef van der Hoorn         | MSc student, Netherlands, Sept 1 – Nov 15             |
| 2014 fall   | Jarno Senz                 | MSc student, Netherlands, Sept 1 – Nov 15             |
| 2014 summer | Paul Riek                  | HYRS Summer Student, July 1 – Aug 31                  |
| 2014 summer | Wolfgang Sieberl           | Academic Advisor, August 16 - Oct 1                   |
| 2014 summer | Jonas Fischer              | Switzerland, June 11 - July                           |
| 2014 summer | Alexis Jones               | URSA Summer Studentship, May 1 – Aug 31               |
| 2014 summer | Svetlana Kuznetsova        | NSERC CREATE CUSP Student, May 1 – Aug 31             |
| 2014 summer | Hilda Antwi-Nsiah          | AIHS Summer Studentship, May 1 – Aug 31               |
| 2014 summer | Alex Li                    | NSERC CREATE CUSP Student, May 1 – Aug 31             |
| 2014 summer | Jens Herzog                | NSERC CREATE CUSP Student, May 1 – Aug 31             |
| 2014 summer | Vivian Wang                | NSERC CREATE CUSP Student, May 1 – Aug 31             |
| 2014 summer | Sean Crooks                | PURE Summer Studentship, May 1 – Aug 31               |
| 2014 summer | Violet Campbell            | NSERC CREATE CUSP Student, May 1 – Aug 31             |
| 2014 summer | Charmi Dholakia            | OCSS Summer Studentship, May 1 – Aug 31               |

|                  |                       |   |
|------------------|-----------------------|---|
| 2014 spring      | Aline Tambourindeguy  | Brazil, March 1 – September 30  |
| 2014 spring      | Remi Vin              | IFMA Visiting Student, Mar 1 – Aug 31   |
| 2014 winter      | Jan Stutz             | Visiting Student, Switzerland, Jan 15 – Apr 30                                  |
| 2013 fall        | Vaclav Cibera         | Visiting PhD student, Czech Republic, Sept 1 – June 30                          |
| 2013 fall        | Robert Rockenfeller   | Visiting Student, Germany, Sept 1 – Sept 30                                     |
| 2013 fall        | Robbin Romijnders     | Visiting Undergraduate Student, Netherlands, Sept 1 – Nov 30                    |
| 2013 fall        | Machiel Smits         | Visiting Undergraduate Student, Netherlands, Sept 1 – Nov 15                    |
| 2013 fall        | Joeri Kerssies        | Visiting Undergraduate Student, Netherlands, Sept 1 – Nov 15                    |
| 2013 summer      | Cory Meeuwisse        | NSERC CREATE CUSP Student, May 1 – Aug 31                                       |
| 2013 summer      | Violet Campbell       | NSERC USRA Student, May 1 – Aug 31  |
| 2013 summer      | Kevin Boldt           | NSERC USRA Student, May 1 – Aug 31  |
| 2013 summer      | Sean Crooks           | AIHS Summer Undergraduate Student, May 15 – Aug 15                              |
| 2013 summer      | Vivian Wang           | Markin USRP Student, May 1 – Aug 31   |
| 2013 summer      | Jens Herzog           | NSERC CREATE CUSP Student, May 1 – Aug 31                                       |
| 2013 summer      | Yasir Al-Saffar       | Visiting PhD Student, University of Malaya, Malaysia, Jun 3 – May 2014          |
| 2013 spring      | Martina Chrastkova    | Visiting PhD Student, Czech Republic, May 21 – Jun 30                           |
| 2013 winter      | James Fick            | Visiting Scholar, University of Kuopio, Finland, Jan 16 – Mar 25                |
| 2013 winter      | Stefan Stoek          | Visiting Undergraduate Student, Netherlands, Jan 16 - Jun                       |
| 2013 winter      | Nicole Stappers       | Visiting Undergraduate Student, Netherlands, Jan 16 - Jun                       |
| 2013 winter      | Heiliane Fontana      | Visiting PhD student, Brazil, Jan 14 - Sept                                     |
| 2012 fall        | Markus von Kossel     | Brazilian ELAP Student, Oct 11 – March 30                                       |
| 2012 fall        | Fatemeh Aslanzadeh    | Turkish Exchange Student, Oct 11- Sept 30                                       |
| 2012 fall        | Atsuki Fukutani       | Visiting Japanese Student, Sept 7 – August 5                                    |
| 2012 summer      | Steven Piper          | CMCC Visiting Student, Jul 3 – Aug 31   |
| 2012 summer      | Hilda Antwi-Nsiah     | Summer AHS - HYRS student, Jul 5 – Aug 16                                       |
| 2012 summer      | Maria Yamamoto        | Visiting Undergraduate Student, May 1 – Aug 31                                  |
| 2012 summer      | Stephanie Vetsch      | Visiting Undergraduate Student, May 1 – Aug 31                                  |
| 2012 summer      | Vivian Wang           | Visiting Undergraduate Student, May 1 – Aug 31                                  |
| 2012 summer      | James Samson          | Visiting Undergraduate Student, May 1 – Aug 31                                  |
| 2012 summer      | Kerri MacGowan        | Visiting Undergraduate Student, May 1 – Aug 31                                  |
| 2012 summer      | Jens Herzog           | Visiting Undergraduate Student, May 1 – Aug 31                                  |
| 2012 summer      | Sean Crooks           | Visiting Undergraduate Student, May 1 – Aug 31                                  |
| 2012 winter      | Elsa Vulliez          | IFMA Visiting Student, Mar 19 – Aug 31  |
| 2012 winter      | Roos van der Wijdeven | Visiting undergraduate student, Feb 13 – June 30                                |
| 2012 winter      | Ivo Buil              | Visiting undergraduate student, Feb 13 – June 30                                |
| 2012 winter      | Krysta Lynn Powers    | National Science Foundation, Visiting PhD Student, Jan 9 – Aug 31               |
| 2011 fall/winter | Eng Kuan Moo          | University of Malaysia, Visiting PhD student, Sept – Apr 30                     |
| 2011 fall/winter | Agnes Cochet          | IFMA Visiting student, Sept 1 – Dec 31  |
| 2011 fall/winter | Raquel Lupion         | Federal University of Rio Grande do Sol, Visiting undergraduate, Aug 1 – Feb 28 |
| 2011 summer      | Cristina Michelutti   | Volunteer, May – Aug 31   |
| 2011 summer      | Christine Patterson   | Volunteer, June 20 – Aug 31   |
| 2011 summer      | Katrina Easton        | University of Western Australia Visiting postdoc, June 26 – July 23             |
| 2011 summer      | Davide Croci          | University of Basel Visiting Medical Student, July 9 – Aug 5                    |
| 2011 summer      | Haakon Lenes          | NSERC CREATE summer studentship ½, May 2 – June 30                              |
| 2011 summer      | Sean Crooks           | NSERC CREATE summer studentship, May 1 – Aug 31                                 |
| 2011 summer      | Maria Yamamoto        | NSERC CREATE summer studentship ½, May 2 – Jun 30                               |
| 2011 summer      | Jens Herzog           | May 1 - Aug 31  |
| 2011 winter      | Cyril Decaix          | Visiting student, IFMA, Feb 1 – Jul 31  |
| 2010 fall/winter | Anthony Killick       | Volunteer, Sept 1 - Dec 31  |

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| 2010 fall/winter | Debora Cantergi                         | Visiting Student, Brazil, ELAP, Oct 19 – Apr 18  |
| 2010 summer      | Chelsea Saltys                          | HYRS, Alberta Heritage Foundation for Health Research, July 9 – Aug 18                         |
| 2010 summer      | Eng Kuan Moo                            | Visiting Student, University of Malaysia, May 18-Nov 18  |
| 2010 summer      | Maria Yamamoto                          | Undergraduate student volunteer, May 1-Dec 31  |
| 2010 summer      | Anthony Killick                         | NSERC CREATE summer studentship, May 1–Aug 31  |
| 2010 summer      | Jens Herzog                             | summer studentship, May 1-Aug 31   |
| 2010 summer      | Erica Woo                               | NSERC USRA summer studentship, May 1–Aug 31  |
| 2010 summer      | Esther Chan                             | NSERC CREATE summer studentship, May 1–Aug 31  |
| 2010 summer      | Marie Armstrong                         | AIHS summer studentship, May 1-Aug 31  |
| 2010 winter      | Robert van der Straaten                 | Visiting student, University Zuyd, Netherlands, Mar 23-July 3                                  |
| 2010 winter      | Martijn Koevoets                        | Visiting student, University Zuyd, Netherlands, Mar 23-July 3                                  |
| 2010 winter      | Robert van der Marel                    | Visiting Student, Netherlands, Feb 1-Dec 31  |
| 2010 winter      | Fernando Lemos                          | Visiting student from Brazil, ELAP, Jan 4 - June 30  |
| 2009 fall/winter | Siru Turunen                            | University of Kuopio, Finland, Visiting MSc student, Nov                                       |
| 2009 fall/winter | Marie Armstrong                         | Markin-Flanagan Summer studentship   |
| 2009 fall        | Clemence Barraud                        | IFMA, Aug 31-Dec 18  |
| 2009 summer      | Sarah Holub                             | HYRS Alberta Heritage Foundation for Health Research, July 6-Aug 13                            |
| 2009 summer      | Erica Giles                             | NSERC USRA, University of Victoria, May 1-Aug 31   |
| 2009 summer      | Caitlin Logan                           | NSERC CREATE, University of Calgary, May 1-Aug 31  |
| 2009 summer      | Mike Duvall                             | PURE, University of Calgary, May 1-Aug 31  |
| 2009 winter      | Lena Zastrow                            | PhD Visiting Student, Universita Rome TRe, Apr 14-May 1  |
| 2009 winter      | Corinne Wiederkehr                      | Visiting Student, Zurich, Feb-June   |
| 2009 winter      | Wim Wouters                             | Visiting Student, Eindhoven University of Technology, Feb15-June 23                            |
| 2009 winter      | Jonas Rubenson                          | Visiting Professor, University of Western Australia, Jan 19-Jan 30                             |
| 2009 winter      | Daniela Emmenegger                      | Visiting Student, ETH Zurich, Feb.-July 30   |
| 2008 fall        | Daan Baars, Walter-Neils Luitwieler     | Visiting Students, The Hague University, Aug 1- Nov 29   |
| 2008 fall        | Rafael Fortuna                          | Visiting Student, Porto Alegre, Brazil, Aug 18 - Dec 31  |
| 2008 summer      | Shermin Kazemkhani                      | PhD Visiting Student, Tehran, Iran, May 26 - Feb 28  |
| 2008 summer      | Andrew Wu                               | NSERC USRA, Yale University, May 1 - Aug 31  |
| 2008 summer      | Jena Hall                               | NSERC USRA, Queen's University, May 1 - Aug 31   |
| 2008 summer      | Dianne Ikeda                            | NSERC USRA, University of Calgary, May 1 - Aug 31  |
| 2008 summer      | Mike Duvall                             | NSERC USRA, University of Calgary, May 1-Aug 31  |
| 2008             | Kevin Chi Kwan Wong                     | Engineering Internship Program-Academic Mentor   |
| 2008 winter      | Yunus Arslan                            | PhD Visiting Student, Istanbul University, Feb 4-July 31                                       |
| 2008 winter      | Rachel Nilwik                           | MSc Visiting Student, University of Maastricht, Feb 4 – July 4                                 |
| 2007 fall        | Simon Steib                             | German Student, Internship, Friedrich-Alexander-Universitaet Erlangen-Nuernberg, Sept 17-May 8 |
| 2007 summer      | Duhi Yu                                 | Visiting Student, Tokyo, Japan   |
| 2007 summer      | Guillermo Rey Ley and Javier Fresan     | Undergraduate Visiting Students-Spain  |
| 2007 summer      | Sarah Jardine                           | Canadian Memorial College of Chiropractors Sports Resident                                     |
| 2007 winter      | Marjolein Blaauboer                     | Amsterdam Graduate Student, Jan 1-Sept 2007  |
| 2007 winter      | Tim Kieran and Chris Weiland            | Netherland Student Trainees, Human Kinetic Technology, Jan 1- Sept                             |
| 2006 fall        | Michiel Punt and Diederik Postuiterweer | Netherland Student Trainees  |
| 2006 summer      | Caitlin Logan                           | Markin-Flanagan Summer Studentship   |
| 2006 summer      | Jamie Benham                            | NSERC Undergraduate Research Award   |
| 2006 summer      | Mustaali Raj                            | NSERC Undergraduate Research Award   |
| 2006 winter      | Quentin Dozolme                         | IFMA   |
| 2006 winter      | Alfio Grillo                            | University of Catania  |

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| 2006 winter | Patrick Esser and Jos Peeters  | Netherland Student Trainees                    |
| 2005 fall   | Carolina Niewola-Saszkowski  |  |
| 2005 fall   | Wouter Beerepoot   | TU Delft, Netherlands Trainee                  |
| 2005 summer | Megan Yaraskavitch   | NSERC Undergraduate Student Research Award     |
| 2004 winter | Nicolas Trouillet  | IFMA   |
| 2004 winter | Laura Hinz   | Markin-Flanagan Summer Studentship             |
| 2004 winter | Cintia de la Roche   | PhD Sandwich, CAPES, Brazil                    |
| 2004 summer | Laura Hinz   | NSERC Undergraduate Student Research Award     |
| 2004 fall   | Safi Saad, Joel Lockwood   |  |
| 2004 fall   | Renaud Feger   | IFMA   |
| 2003 winter | Seong Kim  | Volodymyr Amiot-High School Enrichment Program |
| 2003 winter | Lenaic Gifford   |  |
| 2003 summer | Rob Mutch  | Markin-Flanagan Summer Studentship             |
| 2003 fall   | Salvatore Federico, Alfio Grillo   | Catania, Italy                                 |
| 2002 winter | Dominique Forand, Ali Afzal, Keith Barrett, Emily Zhang, Graeme Campbell                       |  |
| 2002        | Salvatore Federico   | University of Catania                          |
| 2002 fall   | Sebastian Lachanat   |  |
| 2002 fall   | Elizabeth Rousanoglou, Anja Niehoff  |  |
| 2001        | Salvatore Federico   | University of Catania                          |
| 2001 winter | Olivier Desvignes  |  |
| 2001 winter | Mark Schuiling, Bernhard van Mazijk  |  |
| 2001 winter | Ernst Hansen   |  |
| 2001 summer | Harpreet Dosanjh, Brady Anderson, Sean Craig, Keith Barrett, Andrzej Stano, Jr.                |  |
| 2000        | Salvatore Federico   | University of Catania                          |
| 2000 winter | Paul van der Kampen, Roel Leenen   |  |
| 2000 winter | Luciana Brondino   |  |
| 2000 summer | Hillary Dinning, Inna Kouperman, Tenzing Lhamu   |  |
| 2000 fall   | Laurent Jobart   |  |
| 1999 summer | Inna Kouperman   |  |
| 1999 fall   | Martine Brandsma, Melvin Roerdink, Laurent Favre   |  |
| 1998 summer | Sean Craig, Marike Bijtelaar, Monique van Loon, Marilyn Kats                                   |  |
| 1997 summer | Inna Kouperman, Wendy Carvalho, Boris Vasiliev, Eric Alcantara, Michael Pfeilmaier, Jason Karp |  |
| 1996 summer | Pavel Mayzus, Boris Vasiliev, Erwin Hairwassers, David Scheele                                 |  |
| 1995 summer | Pavel Mayzus, Karen Seland, Boris Vasiliev, Tamar Epstein, Allene Huber                        |  |
| 1994 summer | Allene Huber, Pavel Mayzus, Marion Borst, Irene Hilgersom                                      |  |
| 1992-1993   | Christoph Janssen, Rock Goldade  |  |
| 1992 summer | Jason Sokolosky, Rock Goldade  |  |
| 1991 summer | Jason Sokolosky, Grant Brooks  |  |
| 1990 summer | Brett Hessel, Seema Kamal, Susan Bornemisza, Moyez Charania, Sandro Nigg                       |  |
| 1989 summer | Janet Wallace, Brett Hessel, Gayle Chaki   |  |
| 1988-1990   | Ron Platt  |  |
| 1988-1989   | Audrey Azad  |  |
| 1988-1989   | Andrew Carvalho  |  |
| 1988        | Lori Chaki-Farrington  |  |
| 1988 summer | Bradley Willcox, Evelyne Hasler  |  |
| 1987 summer | Claudio Nigg   |  |
| 1986-1987   | Lynda Read   |  |
| 1986 fall   | Ewa Olsson   |  |



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### Research Assistants

|              |                      |
|--------------|----------------------|
| 2015-present | Barbara Holash       |
| 2013-present | Ruth Seerattan       |
| 2013-present | Venus Joumaa         |
| 2013-present | Andrew Sawatsky      |
| 2002-present | Azim Jinha           |
| 1991-present | Hoa Nguyen           |
| 1988-present | Tim Leonard          |
| 2014-present | Ziad Abusara         |
| 2020-2021    | Eng Kuan Moo         |
| 2008-2015    | Amanda Lottermoser   |
| 1997-2011    | Holly Hanna          |
| 2009-2011    | Jessica Fordham      |
| 2009-2010    | Marlee Hahn          |
| 2008-2009    | Megan Yaraskavitch   |
| 2006-2010    | Ruth Seerattan       |
| 2003-2005    | Linda Mills          |
| 1997-1998    | Dale Oldham (50%)    |
| 1996-1997    | Louise Hyndman (50%) |
| 1995         | Gary Jacques (50%)   |
| 1993-1996    | Barbara Lees         |
| 1990-1992    | Joan McAslan         |
| 1989-1990    | Cathy Kellar         |
| 1989-1990    | Brett Hessel         |
| 1988-1989    | Angela Heetvelt      |
| 1987-1988    | Sheila Abrahamse     |
| 1987-1988    | Eileen Dunn          |

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### Visiting Professors (> 1 month duration)

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|--------------|--|
| 2015-present | Dr. Robert Griffiths (Florey Neuroscience Institute, University of Melbourne, Australia, several visits) |
| 2019-2020    | Dr. Shahin Ketabi, Kurdistan University, Iran  |
| 2018-2019    | Dr. Marco Vaz, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil                           |
| 2018-2019    | Dr. Stela Mattiello, Federal University of Sao Carlos, Brazil  |
| 2015-2017    | Dr. Fernando Diefenthaler (Federal University of Santa Catarina, Brazil)                                 |
| 2014         | Dr. Fernando Diefenthaler (Federal University of Santa Catarina, Brazil)                                 |
| 2014         | Dr. Isabelle Villemure, École Polytechnique de Montréal, Canada (departure December 2014)                |
| 2012-2013    | Sergio Cunha, Brazil (departure February 2013)   |
| 2007-2008    | Dr. Gudrun Schappacher, Universitat Graz, Austria (departure August 2008)                                |
| 2007-2008    | Dr. Markus Tilp, Universitat Graz, Austria (departure August 2008)                                       |
| 2005-2006    | Dr. Dominique DeJaeger   |
| 2004         | Dr. Marco Vaz  |
| 2004         | Viviane Bortoluzzi Fração  |
| 2001-2002    | Dr. Young-Doo Won  |
| 2000         | Dr. Stefan Kornecki  |
| 1999         | Dr. Yasuo Kawakami   |
| 1999         | Dr. Alan Wilson  |
| 1994-1995    | Dr. Cungen Hu  |

## CHIROPRACTIC REPORTS

### 2008 – present

Expert assessment / witness for 12 legal cases

## JOURNAL ARTICLES

### Submitted

1. Fortuna R, Sawatsky A, Fuller JC, Herzog W. The effects of HMB supplementation on muscle mass and strength in botox-injected and contralateral quadriceps femoris in rabbits. Journal of Applied Physiology - Endocrinology and Metabolism  
Submitted: 02/08/2021
2. Frasson V, Johnson J, Herzog W. Do femoral version abnormalities play a role on hip function of patients with hip pain? Journal of Orthopaedic & Sports Physical Therapy  
Submitted: 12/05/2020
3. Gorrell L, Conway PJ, Jinha A, Herzog W. Differences in biomechanical and electromyographic characteristics of successful vs. unsuccessful manual high-velocity, low amplitude spinal manipulation – an analysis of two descriptive studies. Chiropractic and Manual Therapies.  
Submitted: 04/30/2020
4. Gorrell L, Onasch F, Conway P, Herzog W. Electromyographic responses associated with high-velocity, low-amplitude manual cervical and upper thoracic spinal manipulations of individuals with mechanical neck pain – a descriptive study. Journal of Bodywork & Movement Therapies.  
Submitted: 02/27//2020
5. Han S-w, Sawatsky A, Herzog W. The non-intuitive contributions of individual quadriceps muscles to patellar tracking. Journal of Biomechanics  
Submitted: 12/14/2020
6. Han S-w, Sawatsky A, Herzog W. Effects of quadriceps muscle weakness and imbalance on patellar tracking. Journal of Biomechanics  
Submitted: 12/02/2020
7. Han S-w, Sawatsky A, Herzog W. Changes in patellar tracking when reducing the magnitude of knee extensor torque: an animal model. Journal of Orthopaedic Research  
Submitted: 07/07/2020
8. Jordan M, Morris N, Barnet J, Lawson D, Aldrich-Witt I, Herzog W. Forecasting athlete recovery after anterior cruciate ligament injury: individual recovery profiles with generalized additive modelling. Journal of Orthopaedic Research  
Submitted: 12/02/2020
9. Jordan MJ, Challis G, Morris N, Lane M, Barnet J, Herzog W. Assessing vertical jump force-time asymmetries in athletes with anterior cruciate ligament injury. Aspetar Sports Medicine Journal  
Submitted: 11/07/2019
10. Li L, Herzog W. Development of a porcine model to assess the effect of in-situ knee joint loading on site-specific cartilage gene expression. Journal of Biomechanical Engineering  
Submitted: 01/06//2020
11. Liu S, Joumaa V, Herzog W. The origin of force increases in actively stretched single muscle fibres. Journal of Experimental Biology.  
Submitted: 04/23/2018
12. MacDonald G, Rios J, Seerattan R, Reimer R, Hart D, Herzog W. Differences in adipose tissue expansion and the progression of metabolic syndrome in rats exposed to a high-fat high-sucrose diet in childhood versus adulthood. American Journal of Physiology - Endocrinology and Metabolism  
Submitted: 09/30/2019

13. Morais G, Chemerka C, Masson A, Seerattan RA, Da Rocha A, Krawetz R, Herzog W, Sanches Ramos da Silva A. Excessive downhill training leads to early onset of knee osteoarthritis. Osteoarthritis and Cartilage. Submitted: 06/12/2020
14. Power GP, Crooks S, Fletcher JR, MacIntosh BR, Herzog W. Age-related reductions in the number of serial sarcomeres contribute to shorter fascicle lengths but not elevated passive tension. Journal of Experimental Biology Submitted: 03/09/2021
15. Schmidt J, Jinha A, Herzog W. Sarcomere length measurement reliability in single myofibrils. Journal of Biomechanics. Submitted: 12/21/2020
16. Smith IC, Herzog W. Changes in twitch characteristics associated with the anticipation and experience of electrical stimulation in adductor pollicis muscle of adult humans. Journal of Applied Physiology. Submitted: 07/08/2020
17. Smith IC, Collao N, Herzog W. Reductions in peak force and instantaneous stiffness by inorganic phosphate are enhanced at short sarcomere lengths in permeabilized slow skeletal muscle fibres of the rabbit. Journal of Experimental Biology Submitted: 08/27/2020

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#### Accepted

1. Boldt KR, Joumaa V, Turnbull J, Fedak P, Herzog W. Mechanical and structural remodeling of cardiac muscle following aerobic and resistance exercise training in rats. Medicine & Science in Sports & Exercise Accepted: 01/22/2021
2. De Brito Fontana H, Herzog W. Therole of muscles in knee joint osteoarthritis. Sports Orthopaedics and Traumatology Accepted: 02/28/2021
3. Moo EK, Tanska P, Federico S, Al-Saffar Y, Herzog W, Korhonen R. Collagen fibres determine the crack morphology in articular cartilage. Acta Biomaterialia Accepted: 03/11/2021
4. Morris N, Westerblad H, Jordan MJ, Heard M, Herzog W. Electromechanical delay of the hamstrings following semitendinosus tendon autografts in return to competition athletes. European Journal of Applied Physiology. Accepted: 02/08/2021
5. Rytty S, Huang L, Tanska P, Tiulpin A, Panfilov E, Herzog W, Korhonen R, Saarakkala S, Finnilä M. Automated analysis of rabbit knee calcified cartilage morphology using micro-computed tomography and deep learning. Journal of Anatomy Accepted: 03/11/2021

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#### Published

1. Boldt KR, Rios JL, Joumaa V, Herzog W (2021) Mechanical function of cardiac fibre bundles is partly protected by exercise in response to diet-induced obesity in rats. Applied Physiology, Nutrition and Metabolism 46:46-54. <http://dx.doi.org/10.1139/apnm-2020-0275>
2. Fukutani A, Isaka T, Herzog W (2021) Evidence for muscle cell-based mechanisms of enhanced performance in stretch-shortening cycle. Frontiers in Physiology: 11: 609553.
3. Howard JJ, Herzog W. Skeletal muscle in cerebral palsy: from belly to myofibril. Frontiers in Neurology 12: 620852.
4. Huang L, Riihioja I, Tanska P, Ojanen S, Palosaari S, Kröger H, Saarakkala SJ, Herzog W, Korhonen RK, Finnälä MAJ (2021) Early changes in osteochondral tissues in a rabbit model of post-traumatic osteoarthritis. Journal of Bone and Mineral Research. ePub ahead of print. <http://doi.org/10.1002/jor.25009>

5. Joumaa V, Fukutani A, Herzog W (2021) Energy cost of force production after a stretch-shortening cycle in skinned muscle fibres: Does muscle efficiency increase? Frontiers in Physiology 11: 567538.
6. Komeili A, Otoo B, Abusara Z, Sibole S, Federico S, Herzog W (2021) Chondrocyte deformations under mild dynamic loading conditions. Annals of Biomedical Engineering 49 (2): 846-857. <https://doi.org/10.1007/s10439-020-02615-9>
7. Mahmood S, Sawatsky A, Herzog W (2021) Increased force following muscle stretching and simultaneous fibre shortening: Residual force enhancement or force depression – That is the question? Journal of Biomechanics 116: 110216. ePub ahead of Print. <https://doi.org/10.1016/j.jbiomech.2020.110216>
8. Morris N, Jordan MJ, Sumar S, van Adrichem B, Heard M, Herzog W (2021) Joint angle-specific impairments in rate of force development, strength, and muscle morphology after hamstring autograft. Translational Sports Medicine 4: 104-114.doi:10.1002/tsm2.189.
9. Smith IC, Onasch F, Krysiak K, Celichowski J, Herzog W (2021) Contractile history affects sag and boost properties of unfused tetanic contractions in human quadriceps muscle. European Journal of Applied Physiology 121:645-658. DOI: 10.1007/s00421-020-04561-9
10. Abughazaleh N, Krawetz R, Abusara Z, Herzog W (2020) The influence of maximal and submaximal cyclic concentric and eccentric exercise on chondrocyte death and synovial fluid proteins in the rabbit knee. Clinical Biomechanics 78:105095.
11. Afara IO, Sarin JK, Ojanen S, Finniläe MA, Herzog W, Saarakkala S, Korhonen RK, Toeyraes J (2020) Machine learning classification of articular cartilage integrity using near infrared spectroscopy. Cellular and Molecular Bioengineering 13:219-228. <https://doi.org/10.1007/s12195-020-00612-5>
12. Boldt KR, MacDonald GZ, Joumaa V, Herzog W (2020) Mechanical adaptations of skinned cardiac muscle in response to dietary-induced obesity during adolescence in rats. Applied Physiology, Nutrition, and Metabolism 45(8): 886-892. <https://doi.org/10.1139/apnm-2019-0555>
13. Boldt K, Han S-w, Joumaa V, Herzog W (2020) Residual and passive force enhancement in skinned cardiac fibre bundles. Journal of Biomechanics 109:109953. ePub ahead of print. <https://doi.org/10.1016/j.jbiomech.2020.109953>
14. Boldt KR, Joumaa V, MacDonald G, Rios JL, Herzog W (2020) Cardiac ventricular muscle mechanical properties through the first year of life in Sprague-Dawley rats. Mechanisms of Ageing and Development 192:111359. <https://doi.org/10.1016/j.mad.2020.111359>
15. de Brito Fontana H, de Campos D, Sawatsky A, Han S-w, Herzog W (2020) Why do muscles lose torque potential when activated within their agonistic group? Journal of Experimental Biology 7:223.
16. Collins KH, MacDonald GZ, Hart DA, Seerattan RA, Rios JL, Reimer RA, Herzog W (2020) Impact of age on host response to diet-induced obesity: development of joint damage and metabolic set points. Journal of Sport and Health Science 9: 132-139. <https://doi.org/10.1016/j.jshs.2019.06.004>
17. Fukutani A, Herzog W (2020) Differences in stretch-shortening cycle and residual force enhancement between muscles. Journal of Biomechanics 112: 11040.ePub ahead of print. <https://doi.org/10.1016/j.jbiomech.2020.110040>
18. Fukutani A, Herzog W (2020) The stretch-shortening cycle effect is prominent in the reduced force state. Journal of Biomechanics. ePub ahead of Print. <https://doi.org/10.1016/j.jbiomech.2020.110136>
19. Han S-w, Sawatsky A, Jinha A, Herzog W (2020) Effect of vastus medialis loss on rabbit patellofemoral joint contact pressure distribution. Journal of Applied Biomechanics 36: 390-396. <https://doi.org/10.1123/jab.2020-0056>
20. Hashlamoun K, Abusara Z, Ramirez-Torres A, Grillo A, Herzog W, Federico S (2020) Fluorescence recovery after photobleaching: direct measurement of diffusion anisotropy. Biomechanics and Modeling in Mechanobiology 19:2397-2412. doi: 10.1007/s10237-020-01346-z
21. Herzog W (2020) Editorial: Lessons learned. Journal of Applied Biomechanics 36(2): 57-58.
22. Herzog W (2020) Editorial: Reflections on obesity, exercise, and musculoskeletal health. Journal of Sport and Health Science 9(2): 108-109.

23. Jordan MJ, Morris N, Lane M, Barnert J, MacGregor K, Heard M, Robinson S, Herzog W (2020) Monitoring the return to sport transition after ACL injury: an Alpine ski racing case study. *Frontiers in Sports and Active Living* 2:12.
24. Kajabi A, Finniläe M, Herzog W, Saarakkala S, Korhonen R, Nieminen M, Casula V, Ojanen S, Nissi M (2020) Multiparametric MR imaging assessment reveals early cartilage degeneration at 2 and 8 weeks after ACL transection in a rabbit model. *Journal of Orthopaedic Research* 2020(38): 1974 –1986.  
<https://doi.org/10.1002/jor.24644> (Award for Excellence in Basic, Clinical, and Translational Science from the Journal of Orthopaedic Research at the 2021 ORS meeting)
25. Komeili A, Luqman S, Federico S, Herzog W (2020) Effect of cracks on the local deformations of articular cartilage. *Journal of Biomechanics*. ePub ahead of print. 110: 109970.
26. Moo EK, Herzog W (2020) Sarcomere lengths become more uniform over time in intact muscle-tendon unit during isometric contractions. *Frontiers in Physiology* 11:448.
27. Moo EK, Leonard TR, Herzog W (2020) The sarcomere force-length relationship in an intact muscle tendon unit. *Journal of Experimental Biology* 223(60): jeb215020.
28. Morais G, da Rocha A, Neave L, Lucas G, Leonard T, Carvalho A, Sanchez Ramos da Silva A, Herzog W (2020) Chronic uphill and downhill exercise protocols do not lead to sarcomerogenesis in mouse skeletal muscle. *Journal of Biomechanics* 98:109469.
29. Ojanen S, Finnilä MA, Mäkelä JT, Saarela K, Happonen E, Herzog W, Saarakkala SJ, Korhonen RK (2020) Anterior cruciate ligament transection of rabbits alters composition, structure and biomechanics of articular cartilage and chondrocyte deformation 2 weeks post-surgery in a site-specific manner. *Journal of Biomechanics* 98: 109450.
30. Rios J, Hart DA, Reimer R, Herzog W (2020) Prebiotic and exercise do not alter knee osteoarthritis in a rat model of established obesity. *Cartilage*. ePub ahead of print. doi: [10.1177/1947603520959399](https://doi.org/10.1177/1947603520959399)
31. Smith IC, Adam H, Herzog W (2020) A brief contraction has complex effects on summation of twitch pairs in human adductor pollicis. *Experimental Physiology* 105(4): 676-689.
32. Smith IC, Collao N, Herzog W (2020) The effects of inorganic phosphate on contractile function of slow skeletal muscle fibres are length dependent. *Biochemical and Biophysical Research Communications* 533(4): 818-823.  
<https://doi.org/10.1016/j.bbrc.2020.09.092>
33. Bulat M, Korkmaz N, Arslan Y, Herzog W (2019) Musculoskeletal simulation tools for understanding mechanisms of lower limb sports injuries. *Current Sports Medicine Reports* 18 (6): 210-216.
34. Dos Santos Cunha G, Reischak de Oliveira A, Vaz MA, Herzog W (2020) Maturity status effects on torque and muscle architecture of young soccer players. *Journal of Sports Sciences* 38(11-12): 1286-1295.  
<https://doi.org/10.1080/02640414.2019.1589908>
35. Fortuna R, Göcking T, Seiberl W, Herzog W (2019) Force depression following a stretch-shortening cycle depends on the amount of residual force enhancement established in the initial stretch phase. *Physiological Reports* 7(16): e14188.
36. Fukutani A, Herzog A (2019) Current understanding of residual force enhancement: cross-bridge component and non-cross-bridge component. *International Journal of Molecular Sciences* 20(21): 5479.
37. Fukutani A, Sawatsky A, Leonard T, Herzog W (2019) Contribution of the Achilles tendon to force potentiation in stretch-shortening cycle. *Journal of Experimental Biology* 222: jeb204032.
38. Fukutani A, Herzog W (2019) Influence of stretch magnitude on the stretch-shortening cycle in skinned fibres. *Journal of Experimental Biology* 222: jeb206557.
39. Fukutani A, Leonard T, Herzog W (2019) Does stretching velocity affect residual force enhancement? *Journal of Biomechanics* 89: 143 -147.
40. Geremia JM, Baroni BM, Bini RR, Lanferdini FJ, Rodriguez de Lima A, Herzog W, Vaz MA (2019) Triceps surae muscle architecture adaptations to eccentric training. *Frontiers in Physiology* 10: 1456.

41. Gorrell L, Conway P, Herzog W (2019) Reflex responses of neck, back and limb muscles to high-velocity, low-amplitude manual cervical and upper thoracic spinal manipulation of asymptomatic individuals – a descriptive study. *Journal of Manipulative and Physiological Therapeutics* 42 (8): 572-581. DOI: 10.1016/j.jmpt.2018.11.025
42. Han S-w, Sawatsky A, de Brito Fontana H, Herzog W (2019) Contribution of individual quadriceps muscles to knee joint mechanics. *Journal of Experimental Biology* 222 (6): jeb188292.
43. Hart DA, Herzog W, Reimer RA, Rios JL, Collins K (2019) Obesity: The impact on host systems affecting mobility and navigation through the environment. *European Medical Journal* 4 (1): 63-70.
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#### **EDITOR: JOURNALS AND PROCEEDINGS**

1. Herzog W (2002) Proceedings of the Banff Symposium on Skeletal Muscle. Calgary, AB.
2. Herzog W (1999) Proceedings of the Canmore Symposium on Skeletal Muscle. Canmore, Alberta .
3. Herzog W, Jinha A (1999) Proceedings of the 17th Congress of the International Society of Biomechanics. University of Calgary Press, Calgary, Alberta.
4. Herzog W (1998) Invited guest Editor of a special issue on muscle modeling. Journal of Electromyography and Kinesiology 8 (2).
5. Herzog W (1998) Proceedings of the Inaugural Scientific Conference of the Consortium of Canadian Chiropractic Research Centres. University of Calgary Press, Calgary, Alberta.
6. Herzog W (1997) Invited guest Editor of a special issue on skeletal muscle mechanics. Sportverletzungen Sportschaden 11 (3).
7. Herzog W, Nigg BM, van den Bogert AJ (1994) Proceedings of the 8th Biennial Conference of the Canadian Society for Biomechanics.

## REFEREED CONFERENCE PROCEEDINGS

1. Abughazaleh N, Herzog W (2021) Effect of prebiotic fibre supplementation introduced after three weeks of starting a high-fat sucrose diet on body composition, bone mineral content and mineral density. Canadian Arthritis Research Conference. Virtual Event. Feb 16-17, 2021. Poster presentation.
2. Orava H, Tanska P, Huang L, Ojanen SP, Maekelae, JTA, Finniläe MAJ, Saarakkala S, Herzog W, Korhonen RK, Toeyraes J (2021) The effect of subchondral bone plate thickness and trabecular bone volume fraction on the mechanical behavior of cartilage in post-traumatic osteoarthritis. Annual Meeting of the Orthopaedic Research Society, Long Beach, California, USA (Virtual Event), Feb 13-16. Podium Presentation.
3. Karjalainen KJ, Tanska P, Collins KH, Herzog W, Korhonen RK, Moo EK (2021) Differential site-specific proteoglycan loss occurs with anterior cruciate ligament transection in obese rats. Annual Meeting of the Orthopaedic Research Society, Long Beach, California, USA (Virtual Event), Feb 13-16. Poster Presentation.
4. Joumaa V, Ortes F, Herzog W (2020) Active and passive contribution to force in skeletal muscle fibres: effect of an active stretch. 64<sup>th</sup> Annual Meeting of the Biophysical Society, San Diego, CA USA. Feb 15-19. Poster Presentation.
5. Komeili A, Otoo B, Herzog W (2020) Chondrocyte and matrix deformations. Annual Meeting of the Orthopaedic Research Society, Phoenix, AZ, Feb 8-11. Poster Presentation.
6. Moo EK, Sibole SC, Federico S, Herzog W (2020) Simultaneous measurements reveal distinctly different responses to osmotic loading between tissue and cells. Annual Meeting of the Orthopaedic Research Society, Phoenix, AZ, Feb 8-11. Poster Presentation.
7. Ramrattan DA, Otoo BS, Herzog, W (2020) Chondrocyte morphological response during cyclic dynamic loading. 21<sup>st</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Oct 23. Podium Presentation.
8. Rytty SJO, Huang L, Korhonen RK, Tanska P, Tiulpin A, Herzog W, Saarakkala SJ, Finnilä MJ (2020) Automatic calcified cartilage segmentation from histological sections of rabbit knees using deep learning. International Conference on Imaging and Characterization – Future technologies and applications (ICFUTURE), Oulu, Finland, Jan 8-10. Poster Presentation.
9. Smith IC, Lamb A, Adam H, Herzog W. (2020) The anticipation of electrical stimulation causes a sympathetic response sufficient to alter twitch time parameters in adductor pollicis muscle of adult humans. Canadian Society for Exercise Physiology Online Conference, Oct 21-24, Oral Presentation.
10. De Brito Fontana H, Sawatsky A, Han S-w, Herzog W (2019) Agonistic muscle (IN)Balance during synchronized activation. 27<sup>th</sup> Congress of the International Society of Biomechanics and 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, AB, Jul 31-Aug 4. Poster Presentation.
11. De Brito Fontana H, Sawatsky A, Han S-w, de Campos D, Herzog W (2019) Loss in agonistic muscle torque during simultaneous (submaximal) activation. 4<sup>th</sup> Rocky Mountain Muscle Symposium, Canmore AB, Jul 27-29. Podium Presentation.
12. de Campos D, de Brito Fontana H, Sawatsky A, Han S-w, Herzog W (2019) Por Que Os Músculos Agonistas Perdem Seu Potencial De Gerar Força Quando Ativados Simultaneamente? XVIII Congresso Brasileiro de Biomecânica (18th Brazilian Congress of Biomechanics), Manaus, Brazil, May 1 – 4. Podium Presentation.
13. Boldt KR, Joumaa V, Herzog W (2019) Adaptations in maximal force and shortening velocity of cardiac muscle in response to aerobic and resistance exercise. Canadian Society for Exercise Physiology, Kelowna BC. Nov 6-9. Podium Presentation.
14. Boldt K, Joumaa V, Herzog W (2019) Maximum force and velocity properties of cardiac muscle following aerobic and resistance exercise training. 27<sup>th</sup> Congress of the International Society of Biomechanics and 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, AB, Jul 31-Aug 4. Poster and Podium Presentations (Finalist ABS J Biomech and ISB David Winter Young Investigator Awards).
15. Boldt KR, Han S-w, Joumaa V, Herzog W (2019) Residual and passive force enhancement in skinned cardiac fibre bundles. 4<sup>th</sup> Rocky Mountain Muscle Symposium, Canmore AB, Jul 27-29. Poster Presentation.
16. Fukutani A, Herzog W (2019) Effect of stretch-shortening cycle is prominent in the reduced force condition. 4<sup>th</sup> Rocky Mountain Muscle Symposium, Canmore AB, Jul 27-29. Podium Presentation.

17. Gorrell L, Conway PJ, Jinha A, Herzog W (2019) Differences in biomechanical and electromyographic characteristics of successful vs. unsuccessful manual high-velocity, low-amplitude spinal manipulation in an asymptomatic population. 27<sup>th</sup> Congress of the International Society of Biomechanics and 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, AB, Jul 31-Aug 4. Podium Presentation.
18. Han S-w, Joumaa V, Jinha A, Herzog W (2019) Does the amount of stretching affect residual force enhancement in cardiac myofibrils? European Muscle Conference, Canterbury, UK, Sep 7-11. Oral and Podium Presentations.
19. Han S-w, Joumaa V, Jinha A, Herzog W (2019) Residual force enhancement in cardiac myofibrils. 27<sup>th</sup> Congress of the International Society of Biomechanics and 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, AB, Jul 31-Aug 4. Podium Presentation.
20. Han S-w, Joumaa V, Jinha A, Herzog W (2019) Residual force enhancement in cardiac myofibrils on the ascending limb of the force-length relationship. 4<sup>th</sup> Rocky Mountain Muscle Symposium, Canmore AB, Jul 27-29. Podium Presentation.
21. Han S-w, Joumaa V, Jinha A, Herzog W (2019) Do cardiac myofibrils exhibit residual force enhancement properties? 63<sup>rd</sup> Meeting of the Biophysical Society, Baltimore, MD, Mar 2-6. Poster Presentation.
22. Huang L, Tanska PK, Korhonen RK, Saarakkala SJ, Herzog W, Finnilä M (2019) Novel microcomputed tomography method for thickness analysis of calcified cartilage. OARSI World Congress on Osteoarthritis, Toronto, ON, May 2-5. Poster Presentation.
23. Illg J, Rios JL, Francis D, Manske S, Boyd SK, Hallgrímsson B, Reimer RA, Hart DA, Herzog W (2019) Characterization of subchondral bone morphology in a rat model of metabolic osteoarthritis. 20<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff AB, Oct 25-27. Poster Presentation.
24. Joumaa V, Nazeer S, Herzog W (2019) Force production during eccentric contractions in skinned muscle fibres. 27<sup>th</sup> Congress of the International Society of Biomechanics and 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, AB, Jul 31-Aug 4. Podium Presentation.
25. Joumaa V, Leonard TR, Herzog W (2019) Residual force enhancement: towards a better understanding of muscle contraction. 4<sup>th</sup> Rocky Mountain Muscle Symposium, Canmore AB, Jul 27-29. Invited Podium Presentation.
26. Joumaa V, Nazeer S, Ortes F, Herzog W (2019) New insights into force after active stretch in damaged skinned muscle fibres. 63<sup>rd</sup> Meeting of the Biophysical Society, Baltimore, MD, Mar 2-6. Poster Presentation.
27. Komeili A, Otoo B, Crichton R, Herzog W (2019) Cartilage matrix 2d strain distributions for physiological loading conditions. 27<sup>th</sup> Congress of the International Society of Biomechanics and 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, AB, Jul 31-Aug 4. Poster Presentation.
28. Leonard T, Joumaa V, Larkin-Kaiser K, Herzog W (2019) Adductor longus myofibrillar passive stiffness is reduced in cerebral palsy. 4<sup>th</sup> Rocky Mountain Muscle Symposium, Canmore AB, Jul 27-29. Podium Presentation.
29. Lin L, Hatami S, Freed D, Coe JY, Colen T, Sergi C, Thompson R, Di Martino E, Herzog W, Abu Sara Z, Khoo NS (2019). Rapid leaflet expansion is the main adaptive change to maintain tricuspid \*TV) competency from detrimental remodeling: a three-dimensional echocardiography (3DE) study in a novel chronic right ventricular (RV) pressure and volume loaded piglet model. American Society of Echocardiography (ASE), Portland ON, Jun 21-25. Poster Presentation.
30. Lin L, Hatami S, Freed D, Coe J, Colen T, Sergi C, Thompson R, Di Martino E, Herzog W, Abu Sara Z, Khoo N (2019) Tricuspid valve (TV) leaflet expansion is the main adaptive change to maintain competency: a three-dimensional echocardiography (3DE) study in a novel chronic right ventricular (RV) pressure and volume loaded piglet model. Canadian Cardiovascular Congress: 71<sup>st</sup> Annual Meeting of the Canadian Cardiovascular Society, Montreal QC, Oct 24-27. Podium Presentation.
31. Lin LQ, Sigaeva T, Abu Sara Z, Hatami S, Sergi C, Di Martino ES, Herzog W, Thompson R, Coe JY, Colen TM, Freed DH, Khoo NS (2019) Tricuspid Valve (TV) Adaptive Changes to Chronic Right Ventricular (RV) Pressure and Volume Stressors in a Piglet Model Suggest Rapid Increase in Collagen Content: A Pilot Study. American Heart Association Scientific Sessions, Philadelphia PA, Nov 16-18. Podium Presentation.

32. Lin LQ, Hatami S, Thompson R, Sergi C, Coe JY, Colen TM, Di Martino ES, Herzog W, Abu Sara Z, Freed DH, Khoo NS (2019) Tricuspid Valve (TV) Adapt to Chronic Right Ventricular (RV) Pressure and Volume Load Stress by Rapid Leaflet Expansion: A Three-dimensional Echocardiography (3DE) Study in a Novel Piglet Model. American Heart Association Scientific Sessions, Philadelphia PA, Nov 16-18. Poster Presentation.
33. Millard M, Franklin D, Herzog W (2019) A three filament muscle model based on a titin-myosin interaction. 4<sup>th</sup> Rocky Mountain Muscle Symposium, Canmore AB, Jul 27-29. Podium Presentation.
34. Millard M, Leonard T, Herzog W (2019) Is titin actively preloaded? 4<sup>th</sup> Rocky Mountain Muscle Symposium, Canmore AB, Jul 27-29. Poster Presentation.
35. Moo EK, Herzog W (2019) Biomechanics of soft tissues: bridging the gap between multiple geometric scales. 27<sup>th</sup> Congress of the International Society of Biomechanics and 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, AB, Jul 31-Aug 4. Podium Presentation as Recipient of the Promising Scientist Award.
36. Moo EK, Leonard TR, Herzog W (2019) In situ investigation of the sarcomere force-length relationship in intact muscle using second harmonic generation microscopy. 27<sup>th</sup> Congress of the International Society of Biomechanics and 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, AB, Jul 31-Aug 4. Podium Presentation.
37. Moo EK, Leonard T, Herzog W (2019) The influence of muscle architecture on sarcomere force-length relationship in intact muscle. 4<sup>th</sup> Rocky Mountain Muscle Symposium, Canmore AB, Jul 27-29. Podium Presentation.
38. Nasir M, MacDonald GZ, Rios JL, Hart D, Reimer R, Herzog W. Differences in subchondral bone fat content of young and adult rats fed a high-fat high-sucrose diet. 20<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff AB, Oct 25-27. Podium Presentation.
39. Nazeer S, Joumaa V, Herzog W (2019) Active and passive contributions to force after damage in skinned muscle fibres. Podium presentation. 20<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Oct 25-27. Podium Presentation
40. Otoo BS, Komeili A, Sibole S, Abusara Z, Herzog W. Chondrocyte volumetric strain measurements across cartilage zones during dynamic loading. 20<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff AB, Oct 25-27. Podium Presentation.
41. Otoo B, Komeili A, Sibole S, Abusara Z, Herzog W (2019) Chondrocyte volumetric strain measurements during cyclic loading. 27<sup>th</sup> Congress of the International Society of Biomechanics and 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, AB, Jul 31-Aug 4. Poster and Podium Presentations (Winner David Winter Young Investigator Award).
42. Otoo BS, Herzog W (2019) Developing a system to measure chondrocyte mechanobiology during dynamic loading. OARSI World Congress on Osteoarthritis, Toronto, ON, May 2-5. Poster Presentation.
43. Pigott T, Joumaa V, Rios JL, MacDonald G, Herzog W. Is muscle integrity compromised in a rat model of obesity and metabolic osteoarthritis? 20<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff AB, Oct 25-27. Podium Presentation.
44. Rios JL, Joumaa V, Michaiei J, Reimer RA, Hart DA, Herzog W (2019) The effect of moderate exercise and prebiotic fibre supplementation on vastus lateralis muscle in a rat model of obesity. 27<sup>th</sup> Congress of the International Society of Biomechanics and 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, AB, Jul 31-Aug 4. Poster Presentation.
45. Rios JL, Joumaa V, Michaiei J, Reimer RA, Hart DA, Herzog W (2019) Protective effect of moderate exercise and prebiotic fibre supplementation on vastus lateralis muscle in a rat model of obesity. 4<sup>th</sup> Rocky Mountain Muscle Symposium, Canmore AB, Jul 27-29. Poster Presentation.
46. Rios JL, Mather JW, Michaiei J, Mattiello SM, Herzog W (2019) Moderate exercise prevents cartilage softening and muscle structural changes in a rat model of obesity. OARSI World Congress on Osteoarthritis, Toronto, ON, May 2-5. Poster Presentation.

47. Smith IC, Sawatsky A, Herzog W (2019) Relaxation is not accelerated by prior contraction in plantaris muscle of rana pipiens assessed in situ. 27<sup>th</sup> Congress of the International Society of Biomechanics and 43<sup>rd</sup> Annual Meeting of the American Society of Biomechanics, Calgary, AB, Jul 31-Aug 4. Poster Presentation.
48. Smith IC, Onasch F, Herzog W (2019) Summation properties are improved by a preceding contraction and intervening rest period. 4<sup>th</sup> Rocky Mountain Muscle Symposium, Canmore AB, Jul 27-29. Podium Presentation.
49. Boldt K, MacDonald G, Joumaa V, Herzog W (2018) Cardiac mechanical adaptations to dietary-induced childhood obesity in rats. 20<sup>th</sup> Meeting of the Canadian Society for Biomechanics, Halifax, NS. Aug 14-17. Podium Presentation.
50. De Brito Fontana H, Han S-w, Sawatsky A, Wu K, Herzog W (2018) The role of moment arm and connective tissue linkage in the summation of torque and force of agonist muscles. 8<sup>th</sup> World Congress of Biomechanics, Dublin, Ireland, Jul 8-12. Poster Presentation.
51. Chen A, Herzog W (2018) Procedures and software for correcting artifacts in sonomicrometry. 20<sup>th</sup> Meeting of the Canadian Society for Biomechanics, Halifax, NS, Aug 14-17. Poster Presentation.
52. Collao N, Smith IC, Herzog W (2018) Effects of inorganic phosphate on the force-calcium relationship at different sarcomere lengths in permeabilized rabbit psoas fibres. II Congreso Internacional Asociacion Chilena de Ciencias del Movimiento (ACCM), Santiago de Chile, Aug 2-4. Podium Presentation.
53. Fortuna R, Kirchhubele H, Seiberl W, Power GA, Herzog W (2018) Force depression following a stretch-shortening cycle is independent of stretch peak force and work performed during shortening. 8<sup>th</sup> World Congress of Biomechanics, Dublin, Ireland, Jul 8-12. Poster Presentation.
54. Fukutani A, Herzog W (2018) Residual force enhancement is attenuated by shortening in a magnitude-dependent manner. 62<sup>nd</sup> Annual Meeting of the Biophysical Society, San Francisco, CA, Feb 17-21. Poster Presentation.
55. Goecking T, Fortuna R, Seiberl W, Herzog W (2018) Force depression following a stretch-shortening cycle depends on the amount of residual force enhancement established in the initial stretch phase. 8<sup>th</sup> World Congress of Biomechanics, Dublin, Ireland, Jul 8-12. Poster Presentation.
56. Gorrell LM, Conway PJ, Herzog W (2018) Reflex responses of neck, back and limb muscles to high-velocity, low-amplitude manual cervical and upper thoracic spinal manipulation. 20<sup>th</sup> Canadian Society for Biomechanics Conference, Halifax, NS, Aug 14-17. Poster Presentation.
57. Gorrell LM, Conway PJ, Herzog W (2018) Neck, back and limb muscle reflex responses to manual cervical and upper thoracic spinal manipulation. Chiropractic and Osteopathic College of Australasia Conference, Sydney, Australia, Aug 31-Sep 2. Poster Presentation.
58. Han S-w, Sawatsky A, Jinha A, Herzog W (2018) Does the loss of vastus medialis alter patellafemoral joint contact pressures in vivo? International Society of Electrophysiology and Kinesiology, Dublin, Ireland, Jun 30 – Jul 2. Podium Presentation.
59. Han S-w, Sawatsky A, Jinha A, Herzog W (2018) Relationship between weakness of quadriceps muscle and joint contact pressure distributions, and patellafemoral pain. 8<sup>th</sup> World Congress of Biomechanics, Dublin, Ireland, Jul 8-12. Podium Presentation.
60. Joumaa V, Smith IC, Fukutani A, Leonard T, Ma W, Irving T, Herzog W (2018) Evidence for actin filament structural changes after active shortening in skinned muscle bundles. 62<sup>nd</sup> Annual Meeting of the Biophysical Society, San Francisco, CA, Feb 17-21. Poster Presentation.
61. Karabulut D, Dogru SC, Lin Y-C, Pandy M, Herzog W, Arslan YZ (2018) Modeling and simulation of the musculoskeletal system of the cat hind limb in Opensim. 8<sup>th</sup> World Congress of Biomechanics, Dublin, Ireland, Jul 8-12. Poster Presentation.
62. Komeili A, Luqman S, Abusara Z, Herzog W (2018) Effects of cracks on local strain distributions in articular cartilage. Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, Mar 10-13. Poster Presentation.
63. Komeili A, Sibole S, Abu Sara Z, Herzog W (2018) Chondrocyte deformations for dynamic loading conditions. 8<sup>th</sup> World Congress of Biomechanics, Dublin, Ireland, Jul 8-12. Podium Presentation.



64. Kranenburg E, Kooijman L, Fortuna R, Herzog W (2018) Rate of force development during isometric contraction and induced pre-activated stretch conditions in the human adductor pollicis muscle. 8<sup>th</sup> World Congress of Biomechanics, Dublin, Ireland, Jul 8-12. Podium Presentation.
65. MacDonald GZ, Reimer R, Hart D, Herzog W (2018) Eccentric exercise induces great muscle damage in a childhood obesity animal model. 20<sup>th</sup> Meeting of the Canadian Society for Biomechanics, Halifax, NS, Aug 14-17. Poster Presentation.
66. MacDonald GZ, Collins KH, Rios JL, Hart DA, Seerattan RA, Reimer RA, Herzog W (2018) Exposure of male Sprague-Dawley rats to a high-fat/high-sucrose diet from waning leads to obesity-induction but not overt knee joint damage or an inflammatory state by 17 weeks of age. Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, Mar 10-13. Poster Presentation.
67. Millard M, Franklin D, Herzog W (2018) A Continuous and Differentiable Mechanical Model of Muscle Force and Impedance. International Symposium on Wearable Robotics, Pisa, Italy, Oct 16-20. Podium Presentation. (Best Paper Award)
68. Moo EK, Herzog W (2018) Sarcomere contractile behaviours are location-dependent in living whole mouse. 20<sup>th</sup> Meeting of the Canadian Society of Biomechanics, Halifax, NS, Aug 14-17. Podium Presentation.
69. Moo EK, Leonard TR, Herzog W (2018) Is local mean sarcomere length a good force predictor in whole muscle? Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, Mar 10-13. Poster Presentation.
70. Moo EK, Leonard TR, Herzog W (2018) On using local mean sarcomere length to predict force in whole muscle. 8<sup>th</sup> World Congress of Biomechanics, Dublin, Ireland, Jul 8-12. Podium Presentation.
71. Moo EK, Herzog W (2018) Contraction dynamics of in vivo sarcomeres at different anatomical locations in activated whole muscle. 8<sup>th</sup> World Congress of Biomechanics, Dublin, Ireland, Jul 8-12. Poster Presentation.
72. Morris N, Sumar S, Jordan M, Heard M, Herzog W (2018) Extended field of view ultrasound imaging: tracking changes in hamstring muscle architecture after ACL injury in elite skiers. SPIN Conference, Montreal, QC, Oct 31 – Nov 2. Podium Presentation. (Gord Sleivert Young Investigator Award)
73. Nazeer S, Joumaa V, Herzog W (2018) Force After Active Stretch Is Not Reduced in Damaged Skinned Muscle Fibres. 19<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Canada. Oct 26-28. Podium Presentation.
74. Ojanen SP, Finnilä MAJ, Saarela K, Mäkelä J, Herzog W, Saarakkala S, Korhonen RK (2018) ACL transection of rabbits alter FCD content, tissue modulus and cell deformation mostly in the lateral femoral condyle cartilage 2 weeks post-surgery. Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, Mar 10-13. Poster Presentation.
75. Ojanen SP, Finnilä MAJ, Saarela K, Herzog W, Saarakkala S, Korhonen RK (2018) Time-dependent changes of FCD content during the progression of osteoarthritis in rabbits. Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, Mar 10-13. Poster Presentation.
76. Onasch F, Fortuna R, Herzog W (2018) EMG reflects changes in preferred force magnitude and direction while increasing pedaling effort. 20<sup>th</sup> Meeting of the Canadian Society for Biomechanics, Halifax, NS, Aug 14-17. Poster Presentation.
77. Otoo B, Jelani N, Komeili A, Herzog W (2018) Cell viability in cartilage with non-impact induced crack. 20<sup>th</sup> Meeting of the Canadian Society for Biomechanics, Halifax, NS, Aug 14-17. Poster presentation.
78. Rios JL, Mather JW, Herzog W (2018) Moderate exercise prevents cartilage softening in a rat model of obesity. 20<sup>th</sup> Meeting of the Canadian Society of Biomechanics, Halifax, NS, Aug 14-17. Podium Presentation.
79. Rios J, Reimer RA, Hart DA, Seerattan RA, Herzog W (2018) Preventive effect of a prebiotic fibre supplement on the development of osteoarthritis. OARSI World Congress on Osteoarthritis, Liverpool, United Kingdom, Apr 26-29, Poster Presentation.
80. Sibole S, Moo EK, Federico S, Herzog W (2018) Image-driven modelling and simulation of micro-scale articular cartilage mechanics. 20<sup>th</sup> Meeting of the Canadian Society of Biomechanics, Halifax, NS, Aug 14-17. Podium Presentation.

81. Tanska P, Ronkainen AP, Fick JM, Reunamo A, Herzog W, Korhonen RK (2018) The ratio between extra- and pericellular matrix proteoglycan content and applied loading magnitude modulates chondrocyte volume loss following partial meniscectomy in the knee – Experimental and computational analysis. Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, Mar 10-13. Poster Presentation.
82. Abusara Z, Andrews S, Koskel M, Herzog W (2017) Menisci prevent cell death in intact and damaged articular cartilage. Annual Meeting of the Orthopaedic Research Society, San Diego CA, Mar 19-22. Poster Presentation. (ORS Meniscus Section Member Poster Award)
83. Boldt KR, Rios JL, Joumaa V, Herzog W (2017) Mechanical and biochemical adaptations of cardiac muscle to aerobic exercise training. XXVI Congress of the International Society for Biomechanics, Brisbane, Australia, Jul 26. Podium Presentation. (Finalist, David Winter Young Investigator Award)
84. Boldt KR, Rios JL, Joumaa V, Herzog W (2017) Single fibre force production in the triceps surae following chronic exercise training. 18<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Nov 10-12. Poster Presentation.
85. Casula VC, Kajabi AW, Ojanen S, Finnilä M, Korhonen R, Herzog W, Saarakkala S, Nissi MJ, Nieminen MT (2017) Multiparametric MRI assessment reveals early cartilage degeneration at 2 and 8 weeks after anterior cruciate ligament transection in a rabbit model. 25 Annual Meeting of the International Society for Magnetic Resonance in Medicine, Honolulu, HI, Apr 22-27. Poster Presentation.
86. Collins KH, Paul HA, Hart DA, Reimer RA, Herzog W (2017) High-fat, high-sucrose diet rapidly alters muscle integrity, inflammation and gut microbiota in male rats. Banff Inflammation Workshop, Banff, AB, Jan 26-29. Poster Presentation.
87. Collins KH, Hart DA, Seerattan RA, Reimer RA, Herzog W (2017) Diet-induced obesity and the development of hip and shoulder osteoarthritis: insights from a rat model. Annual Meeting of the Orthopaedic Research Society, San Diego, Mar 19-22. Poster Presentation.
88. Collins KH, Hart DA, Seerattan RA, Reimer RA, Herzog W (2017) Diet-induced obesity, systemic inflammation, and the development of hip and shoulder osteoarthritis: insights from a rat model. OARSI World Congress on Osteoarthritis, Las Vegas, NV, Apr 27-30. Poster Presentation.
89. Finnilä MA, Ojanen S, Saarakkala A, Hewitt C, Herzog W, Nieminen P, Hart DA, Korhonen RK (2017) Increased cartilage remodeling and impaired chondrocyte mechanotransduction in early post-traumatic osteoarthritis. OARSI World Congress on Osteoarthritis, Las Vegas, NV, Apr 27-30. Podium Presentation.
90. Fontana HB, Han SW, Sawatsky A, Herzog W (2017). The non-intuitive mechanics of agonistic muscles. XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, Jul 23-27. Podium Presentation.
91. Fontana HB, Han SW, Sawatsky A, Herzog W (2017). The non-intuitive mechanics of agonistic muscles. XVII Brazilian Congress of Biomechanics, Porto Alegre, Brazil, May 8-11. Podium Presentation.
92. Fortuna R, Groeber M, Seiberl W, Power GA, Herzog W (2017) Shortening-induced force depression is modulated in a time- and speed-dependent manner following a stretch-shortening cycle. XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, Jul 23-27. Poster Presentation.
93. Fortuna R, Sawatsky A, Fuller JC, Herzog W (2017) Does HMB preserve strength and muscle mass in muscles exposed to Botox treatments. XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, Jul 23-27. Poster Presentation.
94. Fortuna R, Groeber M, Seiberl W, Power GA, Herzog W (2017) Shortening-induced force depression is modulated in a time- and speed-dependent manner following a shortening-stretching cycle. 41<sup>st</sup> Annual Meeting of the American Society of Biomechanics, Boulder, CO, Aug 8-11. Poster Presentation.
95. Fortuna R, Sawatsky A, Fuller JC, Herzog W (2017) Does HMB preserve strength and muscle mass in muscles exposed to Botox treatments. 41<sup>st</sup> Annual Meeting of the American Society of Biomechanics, Boulder, CO, Aug 8-11. Poster Presentation.
96. Fukutani A, Joumaa V, Herzog W (2017) Influence of residual force enhancement and elongation of attached cross-bridges on the stretch-shortening cycle. XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, Jul 23-27. Podium Presentation.

97. Fukutani A, Herzog W (2017) Relationship between residual force enhancement and muscle fatigue. 41<sup>st</sup> Annual Meeting of the American Society of Biomechanics, Boulder, CO, Aug 8-11. Poster presentation.
98. Han S-K, Ronkainen A, Saarakkala S, Rieppo L, Herzog H, Korhonen R (2017) Alterations in structural macromolecules in ECM and PCM in early OA lapine cartilage model. Annual Meeting of the Orthopaedic Research Society, San Diego CA, Mar 19-22. Poster Presentation.
99. Han S-w, Sawatsky A, Jinha A, Herzog W (2017) Changes in patellofemoral joint mechanics in the presence of quadriceps muscle imbalance. XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, Jul 23-27. Podium Presentation. (Finalist, David Winter Young Investigator Award)
100. Hessel AL, Joumaa V, Herzog W; Nishikawa KC (2017) A role for titin in the activation-dependent shift of the force-length relationship in skeletal muscle. 46th European Muscle Conference, Sep 19-22, Potsdam, Germany. Poster Presentation.
101. Joumaa V, Bertrand F, Liu S, Poscente S, Herzog W (2017) Partial titin degradation increases sarcomere length non-uniformities and reduces absolute residual force enhancement after active stretch in single myofibrils. 46th European Muscle Conference, Sep 19-22, Potsdam, Germany. Poster Presentation.
102. Komeili A, Chau W, Al-Saffar Y, Herzog W. (2017) Mechanical response of articular cartilage damaged by macro cracks. OARSI World Congress on Osteoarthritis, Las Vegas, NV, Apr 27-30. Podium Presentation.
103. Komeili A, Abusara Z, Federico S, Herzog W (2017). Axial strain variations thorough cartilage depth. Canadian Conference of Applied Mechanics (CANCAM), Victoria, BC, May 29 – Jun 1. Podium Presentation.
104. Leonard T, Herzog W (2017) Activated skeletal muscle myofibrils have different peak stresses at similar sarcomere lengths when lengthened beyond myofilament overlap. 61<sup>st</sup> Annual Meeting of the Biophysical Society, New Orleans LA, Feb 11-15. Podium Presentation.
105. Leonard T, Herzog W (2017) Locally deactivated sarcomeres do not over-lengthen in myofibrils. XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, Jul 23-27. Podium Presentation.
106. Liu S, Joumaa V, Herzog W (2017) The origin of the force increase observed after active stretch beyond myofilament overlap in single muscle fibers. 61<sup>st</sup> Annual Meeting of the Biophysical Society, New Orleans, LA, Feb 11-15. Poster Presentation.
107. Lugman S, Komeili A, Abusara A, Herzog W (2017) Effects of cracks on local strain distributions in articular cartilage. 18<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Nov 10-12. Poster Presentation.
108. MacDonald GZ, Mazara N, Herzog W, Power GA (2017) The bilateral deficit: a difference in contralateral limb torque. XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, July 23-27. Podium Presentation.
109. Michaie J, Rios JL, Seerattan R, Herzog W (2017) Is prebiotic fibre supplementation effective in preventing structural changes in vastus lateralis muscle in a rat model of obesity? 18<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Nov 10-12. Poster Presentation.
110. Moo EK, Sibole SC, Han SK, Herzog W (2017) In situ mapping of three-dimensional strain in live cartilage using multi-photon microscopy. 4th Annual McCaig Meeting on Musculoskeletal Diseases, Calgary, AB, May 12. Podium Presentation.
111. Moo EK, Leonard T, Herzog W (2017) Increased non-uniformity in in vivo sarcomere length during a tetanic contraction. 61<sup>st</sup> Annual Meeting of the Biophysical Society, New Orleans LA, Feb 11-15. Poster Presentation.
112. Moo EK, Sibole SC, Han S-K, Herzog W (2017) Three-dimensional Micro-scale strain mapping in live cartilage. Annual Meeting of the Orthopaedic Research Society, San Diego CA, Mar 19-22. Poster Presentation.
113. Moo EK, Sibole SC, Herzog W (2017) A novel imaging approach for morphological analysis of the pericellular matrix in live cartilage. Annual Meeting of the Orthopaedic Research Society, San Diego CA, Mar 19-22. Poster Presentation.
114. Moo EK, Leonard TR, Herzog W (2017) In vivo sarcomere length distribution during a tetanic contraction. XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, Jul 23-27. Poster Presentation.

115. Moo EK, Sibole SC, Han SK, Herzog W (2017) In situ mapping of three-dimensional strain in live cartilage. XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, Jul 23-27. Poster Presentation.
116. Ojanen SP, Finnilä MA, Saarela K, Happonen E, Herzog W, Saarakkala S, Korhonen R (2017) Site-specific changes in deformation of articular cartilage chondrocytes at very early stage of post-traumatic OA. Annual Meeting of the Orthopaedic Research Society, San Diego CA, Mar 19-22. Poster Presentation.
117. Ojanen SP, Finnilä MA, Mäkelä J, Saarela K, Happonen E, Herzog W, Saarakkala S, Korhonen R (2017) Site-specific changes of articular cartilage biomechanics and chondrocyte deformation in early OA. 23<sup>rd</sup> Congress of the European Society of Biomechanics, Seville, Spain, Jul 2-5. Podium Presentation.
118. Onasch F, Fortuna R, Herzog W (2017) Effects of constrained force application on muscle work and pedaling efficiency. 41<sup>st</sup> Annual Meeting of the American Society of Biomechanics, Boulder CO, Aug 8-11. Poster Presentation
119. Rios JL, Hart DA, Reimer RA, Seerattan RA, Herzog W (2017) Moderate exercise inhibits the development of knee OA-like changes in a rat model of diet-induced obesity. 4<sup>th</sup> Annual McCaig Meeting on Musculoskeletal Diseases, Calgary, AB, May 12. Podium Presentation.
120. Rios JL, Hart DA, Reimer RA, Collins KH, Seerattan RA, Herzog W (2017) Moderate exercise inhibits the development of knee osteoarthritis-like changes in a rat model of diet-induced obesity. OARSI World Congress on Osteoarthritis, Las Vegas, NV, Apr 27-30. Poster Presentation.
121. Rios JL, Hart DA, Reimer RA, Seerattan RA, Herzog W (2017) Moderate exercise and dietary fibre supplementation inhibits the development of knee OA-like changes in a rat model of diet-induced obesity. Bone and Joint Health Strategic Clinical Network Workshop: Obesity - Implication for Care of Albertans with Osteoarthritis, Alberta Health Services, Leduc AB, June 13-14, 2017. Poster Presentation. (3<sup>rd</sup> Place Poster Award)
122. Ronkainen A, Tanska P, Fick J, Herzog W, Korhonen R (2017) Biomechanical responses of chondrocytes after partial meniscectomy – importance of cartilage structure. Annual Meeting of the Orthopaedic Research Society, San Diego CA, Mar 19-22. Poster Presentation.
123. Santos AG, Gervasio FM, Herzog W, Menezes RL, Ribeiro DM (2017) Gait symmetry after stroke: Do cerebral hemispheres influence equally?. 21<sup>st</sup> IAGG World Congress of Gerontology & Geriatrics, San Francisco CA, July 23-27. Poster Presentation.
124. Sibole S, Moo EK, Herzog W (2017) A method to measure 3D micro-scale deformation of biological tissue. 18<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Nov 10-12. Poster Presentation.
125. Smith IC, Ali J, Power GA, Herzog W (2017) Sag is dependent on muscle length and the inter-pulse interval of stimulation in human adductor pollicis muscle. Exercise Neuroscience Meeting, Guelph, ON, Jun 15-16. Podium Presentation.
126. Smith IC, Ali J, Power GA, Herzog W (2017) The sag response in human adductor pollicis muscle. 46<sup>th</sup> European Muscle Conference, Sep 19-22, Potsdam, Germany. Poster Presentation.
127. Wu K, Han S-w, Sawatsky A, Herzog W (2017) Experimental approach to the mechanics of agonistic muscles. 18<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Nov 10-12. Podium Presentation. (Best Oral Presentation Award, Canadian Society of Biomechanics).
128. Al-Saffar Y, Pingguan-Murphy B, Herzog W (2016) Predicting Cartilage Crack Morphology. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Podium Presentation.
129. Boldt K, Rios JL, Herzog W (2016) Force properties of skinned cardiac myocyte bundles following 11-week treadmill training. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Podium Presentation.
130. Boldt K, Rios JL, Joumaa V, Herzog W (2016) Cardiac muscle and cell-level adaptations to 11-week treadmill training and overtraining. 40<sup>th</sup> American Society of Biomechanics Annual Meeting, Raleigh, NC, Aug 2-5. Poster Presentation.

131. Boldt KR, Rios JL, Joumaa V, Herzog W (2016) Cardiac myocyte bundle peak power output following chronic cardiovascular training in rats. Canadian Society for Exercise Physiology, Victoria BC, Oct 15. Podium Presentation.
132. Chau W, Komeili A, Al-Saffar Y, Herzog W (2016) The effect of macro cracks on the load bearing capacity of articular cartilage. 17<sup>th</sup> Annual Alberta Biomedical engineering Conference, Banff AB, Oct 21-23. Poster Presentation.
133. de Brito Fontana H, Herzog W (2016) Vastus lateralis maximum force-generating potential occurs at optimal fascicle length regardless of activation level. 40<sup>th</sup> American Society of Biomechanics Annual Meeting, Raleigh, NC, Aug 2-5. Podium Presentation.
134. Collins K, Hart D, Herzog W, Reimer R (2016) Muscles display differential regulatory responses and intramuscular fat accumulation with short term exposure to high fat high sucrose diet in rats. Keystone Symposia meeting on Molecular and Cellular Basis of Growth and Regeneration, Breckenridge, CO, Jan 10-14. Poster Presentation.
135. Collins KHM, Hart DA, Reimer RA, Herzog W (2016) High fat high sucrose diet results in early morphological and pro-inflammatory changes in the vastus lateralis muscle – implications for metabolic osteoarthritis. Orthopaedic Research Society Annual Meeting, Orlando, FL, Mar 5-8. Poster Presentation.
136. Collins K, Herzog W (2016) Short-term high fat-sucrose metabolic challenge results in compromised muscular integrity, alterations in gut microbiota and oxidative stress. 3<sup>rd</sup> Annual McCaig Meeting on Musculoskeletal Diseases, Calgary, AB, May 6. Podium Presentation.
137. Collins K, Sawatzky A, hart DA, Smith IC, Herzog W (2016) The rat soleus muscle maintains structural and functional integrity with diet-induced obesity. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Podium Presentation.
138. Dholakia C, Waters-Banker C, Power GA, Herzog W (2016) Is fast food speeding up the aging process? Comparing the skeletal muscle inflammatory environment in diet induces obesity model and aging model. International Conference for Healthcare and Medical Students (ICHAMS), Dublin, Ireland. Feb 19-20. Presentation.
139. Engel M, Leonard T, Herzog W (2016) Continuous electrical stimulation of skeletal muscles results in sarcomere non-uniformity and disorganization. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Podium Presentation.
140. Hahn D, Seiberl W, Power GA, Herzog W (2016) Increased performance during the stretch-shortening cycle – more than stretch reflex and recoil of elastic energy. 40<sup>th</sup> American Society of Biomechanics Annual Meeting, Raleigh, NC, Aug 2-5. Podium Presentation.
141. Holash RJ, Smith IC, Herzog W, MacIntosh BR (2016) Increased occupation of sarcomeric calcium buffers reduces required calcium release for similar troponin-c binding of subsequent activation. 45<sup>th</sup> European Muscle Conference, Montpellier, France, Sep 2-6. Poster Presentation.
142. Issler A, Collins K, Herzog W (2016) Does fibrosis differ by obesity response in the vastus lateralis muscles of rats? National Undergraduate Research Conference, Toronto, ON, Apr 1. Poster Presentation.
143. Jordan M, Heard M, Doyle-Baker P, Aagaard P, Herzog W (2016) Associated pathology and limb asymmetry in acl reconstructed elite alpine racers. International Congress on Science and Skiing, St. Christoph, Austria, Dec 10-15. Podium Presentation.
144. Joumaa V, Kim SY, Seerattan R, Herzog W (2016) Does titin explain the high passive force observed in frog tibialis anterior muscle? Experimental Biology, San Diego, CA, Apr 2-6. Poster Presentation.
145. Joumaa V, Smith IC, Leonard TR, Antipova O, Irving TC, Herzog W (2016) Effect of active shortening and stretching on lattice spacing and cross-bridge binding in skinned muscle fibres. 60<sup>th</sup> Annual Meeting of the Biophysical Society, Los Angeles, CA, Feb 27 – Mar 2. Poster Presentation.
146. Joumaa V, Fitzowitch A, Herzog W (2016) Energy cost of isometric force production after active shortening in skinned muscle fibres. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Podium Presentation.

147. Karabulut D, Dogru S, Arslan Y, Lin Y, Pandy M, Herzog W (2016) Development of a computational musculoskeletal model of the cat hind limb. International Conference of the Polish Society of Biomechanics, Biala Podlaska, Poland, Sep 5-7. Podium Presentation.
148. Ko L, Joumaa V, Rios JL, Sawatsky A, Herzog W (2016) Mechanical properties and collagen composition of the tail tendon in rats fed with a high fat and sucrose diet: Effects of exercise and dietary fiber supplement. 17<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Oct 21-23. Podium Presentation. (Best Posium Presentation Award)
149. Komeili A, Al-Saffar Y, Herzog W (2016) Crack opening in mature and immature cartilage. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Poster Presentation.
150. Komeili A, Moo EK, Federico S, Herzog W (2016) A continuum depth-dependent biphasic model of cartilage. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Poster Presentation.
151. Liu S, Joumaa V, Herzog W (2016) New insight into the active force produced by skeletal muscle after stretch. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Podium Presentation.
152. Liu S, Joumaa V, Herzog W (2016) Force after active stretch beyond myofilament overlap: titin and/or cross bridges? 17<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Oct 21-23. Poster Presentation.
- G, Herzog W (2016) Altered skeletal muscle function with dietary-induced obesity. 13<sup>th</sup> International Congress on Obesity, Vancouver, BC, May 1-4. Podium Presentation.
153. MacDonald G, Herzog W (2016) Skeletal muscle alterations resulting from diet induced obesity. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Poster Presentation.
154. Maleki M, Herzog W, Federico S (2016) Modelling large deformation-dependent permeability of articular cartilage. 22<sup>nd</sup> Congress of the European Society of Biomechanics, Lyon, France, Jul 10 – Jul 13. Podium Presentation.
155. Mather J, Rios JL, Herzog W (2016) Can exercise prevent osteoarthritis-like changes in the tibial plateau of rats exhibiting diet induced obesity? 17<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Oct 21-23. Podium Presentation.
156. Moo EK, Fortuna R, Abusara Z, Herzog W (2016) Sarcomere length and passive sarcomere lengthening are location-dependent in live mouse tibialis anterior muscle. 60<sup>th</sup> Annual Meeting of the Biophysical Society, Los Angeles, CA, Feb 27 – Mar 2. Poster Presentation.
157. Moo EK, Fortuna R, Sibole S, Abusara Z, Herzog W (2016) Sarcomere lengths and sarcomere elongations are not uniform in an intact in vivo muscle. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Podium Presentation.
158. Otoo B, Rodriguez M, Hart D, Herzog W, LePing Li (2016) Loading rate dependent cartilage mechanical behavior and gene expression in the intact knee joint. 22<sup>nd</sup> Congress of the European Society of Biomechanics, Lyon, France, Jul 10 – Jul 13. Podium Presentation.
159. Poscente S, Larkin-Kaiser KA, Leonard T, Herzog W (2016) Muscle adaptation with acute electrical stimulation in a rabbit model. 17<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Oct 21-23. Poster Presentation.
160. Powers K, Joumaa V, Nishikawa K, Herzog W (2016) Deficient force enhancement in titin mutated single fibers. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Poster Presentation.
161. Rios JL, Boldt K, Seerattan RA, Hart D, Herzog W (2016) High mileage walking does not lead to osteoarthritis changes in the rat knee. OARSI World Congress on Osteoarthritis, Amsterdam, NL, Mar 31 – Apr 4. Poster Presentation.
162. Rios J, Herzog W (2016) High mileage walking does not lead to osteoarthritis changes in the rat knee. 3<sup>rd</sup> Annual McCaig Meeting on Musculoskeletal Diseases, Calgary, AB, May 6. Podium Presentation.
163. Rios JL, Boldt K, Seerattan R, Hart DA, Herzog W (2016) A prolonged program of brisk walking does not lead to osteoarthritis-like changes in the rat knee. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Podium Presentation.

164. Rios JL, Hawes T, Joumaa V, Herzog W (2016) Effects of exercise and dietary fibre supplementation on the myosin heavy chain isoforms in rats with diet-induced obesity. 17<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, Alberta, Oct 21-23. Poster Presentation
165. Ronkainen A, Reunamo A, Fick J, Herzog W, Korhonen R (2016) Changes in the local proteoglycan content of the pericellular matrix are highly site-specific and related to cell deformation behavior 3 days after a partial meniscectomy in the rabbit knee joint. Orthopaedic Research Society Annual Meeting, Lake Buena Vista, FL, Mar 5-8. Poster Presentation.
166. Ronkainen A, Fick J, Herzog W, Korhonen R (2016) Collagen content in the local cartilage matrix controls chondrocyte shape changes in mechanically loaded healthy tissue. Orthopaedic Research Society Annual Meeting, Lake Buena Vista, FL, Mar 5-8. Poster Presentation.
167. Smith IC, Herzog W, Tupling AR (2016) The viscosity of relaxed skeletal muscle increases following disruption of the short range elastic component. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Podium Presentation.
168. Smith IC, O'Reilly JJ, Collins K, Sawatsky A, Herzog W (2016) The effects of a high fat, high sugar diet on the contractile properties of permeabilised rat vastus intermedius fibres. 19<sup>th</sup> Canadian Society for Biomechanics Biennial Meeting, Hamilton, ON, Jul 19-22. Poster Presentation.
169. Smith IC, Bellissimo C, Herzog W, Tupling R (2016) The fibre-type dependence of sag during unfused tetanic contractions can be explained by differences in cytosolic inorganic phosphate concentration. 45<sup>th</sup> European Muscle Conference, Montpellier, France, Sep 2-6. Poster Presentation.
170. Abusara Z, Kossel M, Herzog W (2015) In vivo static and dynamic deformation of articular cartilage. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Poster Presentation.
171. Al-Saffar Y, Pingguan-Murphy B, Herzog W (2015) Deformation patterns of cracked articular cartilage under compression. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Podium Presentation.
172. Boldt K, Joumaa V, Herzog W. Residual force enhancement in cardiac myofibrils. 59th annual meeting of the Biophysical Society, Baltimore USA, Feb 7-11. Poster Presentation.
173. Boldt K, Joumaa V, Herzog W (2015) Does cardiac muscle exhibit history-dependent properties? 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Podium Presentation.
174. Boldt KR, Rios JL, Herzog W (2015) Developing and Characterizing Cardiovascular Training and Overtraining Protocols in Rats. Canadian Society for Exercise Physiology Annual General Meeting, Hamilton, ON. October 15, 2015. Podium Presentation.
175. Borthwick MJ, Collings KH, Sawatsky AJ, Aurka S, Smith IC, Herzog W (2015) Diet induced obesity may affect the force-velocity relationship in rat soleus. 16<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Nov 6-8. Podium Presentation.
176. Collins KH, Paul HA, Reimer RA, Serrattan RA, Hart DA, Herzog H (2015) Relationship between the gut microbiota, lipopolysaccharide, inflammation, and metabolic osteoarthritis development: Studies in a rat model. OARSI World Congress of Osteoarthritis, Seattle, WA, April 30 – May 3. Poster Presentation.
177. Collins KH, Hart DA, Raimor RA, Herzog W (2015) Diet-induced obesity leads to increased expression of adipokines by intraarticular tissues and osteoarthritis-like changes in the rat knee. Annual Meeting of the Orthopedic Research Society, Las Vegas, NV, March 27-28. Poster Presentation.
178. Collins KH, Hart DA, Seerattan RA, Reimer RA, Herzog W (2015) Chronic Inflammation and metabolic osteoarthritis: evidence of time-course changes in a rat model. Canadian Student Health Research Forum, Winnipeg, MB, June 2-4. Poster Presentation.
179. Collins KH, Seerattan RA, Herzog W (2015) The skinny on osteoarthritis – does body fat affect quadriceps muscle composition? 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Poster Presentation.

180. Collins KH, Hart DA, Reimer RA, Seerattan RA, Herzog W (2015) Short-term exposure to a high fat high sucrose diet results in rapid intramuscular fat deposition and altered inflammatory environment. Obesity Week Conference, Los Angeles, CA, Nov. Poster Presentation.
181. Crooks S, Power GA, Herzog W (2015) Muscle fascicle length is reduced in old age owing to shorter sarcomeres and serial sarcomere loss. Leaders in Medicine Symposium, University of Calgary, October 30, Calgary, AB. Poster Presentation.
182. Engel M, Leonard T, Herzog W (2015) Long-term stimulation results in sarcomere length non-uniformity. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Podium Presentation.
183. Fick J, Ronkainen A, Sawatsky A, Madden R, Herzog W (2015) Early in situ site-specific changes in chondrocyte biomechanical responses due to a partial meniscectomy in the lateral compartment of the mature rabbit knee joint. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Podium Presentation.
184. Fontana HB, Roesler, H, Herzog W (2015) Vastus lateralis fascicle force-length relationship for maximal and submaximal activation. 26<sup>th</sup> Brazilian congress of Biomechanics, Florianopolis, Brazil, May 7. Podium Presentation.
185. Fortuna R, Power GA, Herzog W (2015) The magnitude of stretch-induced force enhancement following shortening is time-dependent. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Poster Presentation.
186. Fukutani A, Sawatsky A, Leonhard T, Herzog W (2015) Does Achilles tendon contribute to the force potentiation induced by stretch-shortening cycle? 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Podium Presentation.
187. Han SK, Mäkitalo J, Saarakkala S, Rieppo L, Federico S, Herzog W, Chun KJ, Korhonen RK (2015) The biomechanical role of pericellular matrix in early osteoarthritis cartilage of lapine retropatellar. Korean Society for Precision Engineering Fall Conference, Gyeongju, Korea, Dec 16-18. Poster Presentation (Best Paper Award).
188. Herzog J, Leonhard TR, Jinha A, Herzog W (2015) Titin hysteresis is greater for actively lengthened compared to passively lengthened skeletal muscle sarcomeres. 59<sup>th</sup> Annual Meeting of the Biophysical Society, Baltimore, MD, Feb 7-11. Poster Presentation.
189. Johnston KR, Jinha A, Herzog W (2015) The role of sarcomere length non-uniformities in residual force enhancement. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Podium Presentation.
190. Jordan M, Aagaard P., Herzog W (2015) Fatigue Impairs Landing Quadriceps-Hamstrings Co-activity and Causes Asymmetry in Elite Ski Racers With/Without ACL Reconstruction. Sport Innovation Summit, Toronto, ON, Oct 26-27. Podium Presentation.
191. Jordan MJ, Barnert J, Aagaard P, Herzog W (2015) The kinetic impulse asymmetry index in the vertical jump predicts lower body injury in elite athletes. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Podium Presentation.
192. Joumaa V, Herzog W (2015) Calcium sensitivity after active shortening in rabbit psoas fibres. 59<sup>th</sup> Annual Meeting of the Biophysical Society, Baltimore, MD, Feb 7-11. Poster Presentation.
193. Kuznetsova S, Villemure I, Abu Sara Z, Moo EK, Al-Saffar Y, Herzog W (2015) In situ chondrocyte viscoelasticity following static and dynamic compressions. 16<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Nov 6-8. Poster Presentation.
194. Larkin-Kaiser K, Joumaa V, Leonhard T, Howard J, Herzog W (2015) Larger isoforms of titin are associated with increased sarcomere lengths and severity of hip displacement in cerebral palsy. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Poster Presentation.
195. Leonhard TR, Herzog J, Jinha A, Herzog W (2015) Peak force and hysteresis in actively and passively lengthened skeletal muscle myofibrils at very long sarcomere length. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Podium Presentation.
196. Liu, Shyue, Joumaa V, Herzog, W (2015) Is titin responsible for force enhancement in skeletal muscle? 16<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Nov 6-8. Poster Presentation.



197. Martis G, Johnston K, Jinha A, Leonhard T, Herzog W (2015) Titin hysteresis and elasticity in actively stretched muscle myofibrils. 16<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Nov 6-8. Podium Presentation.
198. Moo EK, Kuznetsova S, Herzog W (2015) Adaptation of chondrocytes to mechanical compression: are membrane ruffles unfolded for cell protection? 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12- 16<sup>th</sup>. Podium Presentation.
199. Moo, EK, Sibole SC, Herzog W (2015) A novel approach to visualise the morphology of pericellular matrix in live cartilage. XXV Congress of the International Society of Biomechanics, Glasgow, UK, July 12- 16. Podium Presentation.
200. Moo EK, Amrein M, Epstein M, Duvall M, Abu Osman NA, Pingguan-Murphy B, Herzog W (2015) Strain rate-dependent membrane reservoir- key to chondrocyte death by impact. 2nd Annual Alberta Nanotechnology Symposium, Banff, AB, May 30-31. Podium Presentation.
201. Moo EK, Herzog W (2015) Protective mechanism adopted by chondrocytes through unfolding of surface ruffles during mechanical compression. Orthopaedic Research Society (ORS) Annual Meeting, Las Vegas, Nevada, United States, March 28-31. Poster Presentation.
202. Power G, Flaaten N, Dalton B, Herzog W (2015) An increased proportion of weakly bound cross-bridges contribute to the age-related maintenance of eccentric strength. 16<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Nov 6-8. Poster Presentation.
203. Power GA, Fletcher J, Herzog W, MacIntosh BR (2015) Comparing apples and oranges: superimposed twitch vs. a control twitch in estimating voluntary activation. American College of Sports Medicine Annual Meeting, San Diego, CA, May 26-30. Poster Presentation.
204. Power GA, Crooks S, Fletcher JR, MacIntosh BR, Herzog W (2015) Age-related reductions in the length and number of serial sarcomeres contribute to shortened fascicle lengths: A source of elevated passive tension in the elderly? 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Poster Presentation.
205. Powers K, Nishkawa K, Herzog W (2015) Advancement towards a mechanism for force enhancement. Alberta Nano Research Symposium, Banff AB, Canada, May 28-31. Poster Presentation.
206. Powers KL, Nishkawa K, Herzog W (2015) Towards an understanding of the mechanisms underlying force enhancement. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Podium Presentation.
207. Riek P, MacDonald G, Herzog W (2015) Metabolic effects of diet induced obesity. 16<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Nov 6-8. Poster Presentation.
208. Rios JL, Tang C, Herzog W (2015) Individuals with knee osteoarthritis use different muscle activation patterns than healthy subjects during maximal isometric knee extensions. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Podium Presentation.
209. Rios JL, Boldt KR, Seerattan R, Herzog W (2015) Does high mileage running cause knee osteoarthritis in rats? 16<sup>th</sup> Annual Alberta Biomedical Engineering Graduate Conference, Banff, AB, Nov 6-8. Podium Presentation
210. Seiberl W, Power GA, Herzog W, Hahn D. Residual force enhancement contributes to increased performance in fast stretch-shortening cycles of human skeletal muscles. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Podium Presentation.
211. Seiberl W, Power GA, Herzog W, Hahn D (2015) Der Dehnungs-Verkürzungs-Zyklus: alte Mechanismen neu aktiviert. Tagung der DVS Sektion Biomechanik: Active Health: Bewegung ist gesund, March 26-28, Berlin, Germany. Podium Presentation.
212. Smith IC, Herzog W (2015) The effects of titin degradation on passive stiffness properties of skinned rabbit psoas fibers during osmotic compression. 59<sup>th</sup> Annual Meeting of the Biophysical Society, Baltimore, MD, Feb 7-11. Poster Presentation.

213. Smith IC, Power GA, Fortuna R, Herzog W (2015) Shortening-induced force depression in human adductor pollicis during fatigue. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Poster Presentation.
214. Waters-Banker C, Sawatzky A, Jinha A, Leonard T, Herzog W (2015) Characterization of functional changes in the aponeuroses of the rabbit medial gastrocnemius during contraction in-situ. 25<sup>th</sup> Congress of the International Society of Biomechanics, Glasgow, UK, July 12-16. Podium Presentation.
215. Zhang T, Fortuna R, Herzog W (2015) Distal and proximal fascicle length changes in active and passive human gastrocnemius muscle. 16<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff, AB, Nov 6-8. Podium Presentation.
216. Abughazaleh N, Abusara Z, Krawetz R, Herzog W (2014) The influence of maximal and submaximal cyclic concentric and eccentric exercise. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Poster Presentation.
217. Abusara Z, Herzog W (2014) Cartilage biomechanics: what really happens inside a joint? 7th World Congress of Biomechanics, Boston, MA, July 6-11. Podium Presentation.
218. Al-Saffar Y, Murphy B, Herzog W (2014) Deformation patterns of cracked articular cartilage under compression. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Poster Presentation.
219. Boldt K, Joumaa V, Herzog W (2014) Contractile properties of cardiac muscle following increasing doses of chronic exercise training and overtraining in rats: MSc research proposal. The 15th Annual Alberta Biomedical Engineering Conference, October 24-26, Banff, AB pg(s) 74. Poster Presentation.
220. Boldt K, Killick A, Herzog W (2014) Metabolic efficiency in four-legged locomotion-respiration coupling. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Poster Presentation.
221. Collins K, Reimer R, Herzog W (2014) Body fat explains contralateral limb osteoarthritis damage in obese rats. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Poster Presentation.
222. Crooks S, Power GA, Herzog W (2014) Muscle fascicle length is reduced in old age owing to shorter sarcomeres and serial sarcomere loss. The 15th Annual Alberta Biomedical Engineering Conference, October 24-26, Banff, AB pg(s) 60. Poster Presentation.
223. Dholakia C, Waters-Banker C, Power GA, Herzog W (2014) Is fast food speeding up the aging process? Comparing the skeletal muscle inflammatory environment in diet induced obesity model and aging model. Bachelor of Health Sciences Research Symposium, October 2, Calgary, AB. Poster Presentation.
224. DuVall MM, Jinha A, Leonhard TR, Herzog W (2014) Titin-actin-myosin interaction observed in labeled skeletal myofibrils. 43<sup>rd</sup> European Muscle Conference, Salzburg, Austria, Sep 10-14. Poster Presentation.
225. DuVall MM, Jinha A, Leonhard TR, Herzog W (2014) Titin-actin-myosin interaction observed in labeled skeletal myofibrils. Molecular Insight into Muscle Function and protein Aggregate Myopathies, Potsdam, Germany, Jun 6. Poster Presentation.
226. Engel M, Leonard TR, Herzog W (2014) Muscle morphology of the spastic muscle. The 15th Annual Alberta Biomedical Engineering Conference, October 24-26, Banff, AB pg(s) 83. Poster Presentation.
227. Fick JM, Bartczak A, Herzog W, Korhonen R (2014) Does a partial lateral meniscectomy of the anterior horn create early changes in cell biomechanics? A preliminary study in the mature rabbit knee joint. 60th Annual Meeting of the Orthopaedic Research Society, New Orleans, AL, Mar 15-18. Poster Presentation.
228. Fontana H, Roesler H, Herzog W (2014) In-vivo vastus lateralis force-velocity relationship at the fascicle and muscle tendon unit level. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Poster Presentation.
229. Fortuna R, Sawatsky A, Vaz MA, Herzog W (2014) Persistent muscle weakness and contractile material loss in a clinically relevant Botulinum toxin type-A (BTX-A) injection pool. The 15th Annual Alberta Biomedical Engineering Conference, October 24-26, Banff, AB pg(s) 35. Podium Presentation.
230. Fortuna R, Sawatsky A, Vaz MA, Herzog W (2014) Persistent quadriceps femoris atrophy and weakness six months following a single botulinum toxin type-A injection in a rabbit model. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Podium Presentation.

- 231. Han S-K, Turunen S, Madden R, Korhonen R, Herzog W (2014) In situ pericellular deformations during mechanical compression of cartilage at 4 weeks following ACL transection. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Poster Presentation.
- 232. Herzog JA, Leonard TR, Jinha A, Herzog W (2014) Titin visco-elasticity modulated by limiting Ig domain unfolding/refolding. Biophysical Society Meeting, San Francisco, USA, Feb 15-19. Poster Presentation.
- 233. Herzog J, Leonard TR, Jinha A, Herzog W (2014) Titin visco-elastic properties differ between isolated protein and in situ sarcomere preparations. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Poster Presentation.
- 234. Herzog J, Leonard TR, Jinha A, Herzog W (2014) Is skeletal muscle titin an activable molecular spring? The 15th Annual Alberta Biomedical Engineering Conference, October 24-26, Banff, AB pg(s) 45. Podium Presentation.
- 235. Herzog W (2014) The distribution problem in biomechanics and movement control. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Podium Presentation.
- 236. Herzog W (2014) A new model of muscle contraction. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Podium Presentation.
- 237. Herzog W, Symons B (2014) The biomechanics of cervical spinal manipulation: risk of stroke? 7th World Congress of Biomechanics, Boston, MA, July 6-11. Podium Presentation.
- 238. Hisey B, Herzog W (2014) Hierarchical difference in active and passive force production at long lengths in skeletal muscles. CSCI-CITAC Annual Scientific Meeting, November 24-26, Toronto, ON. Poster Presentation.
- 239. Hisey B, Herzog W (2014) The effect of passive properties on skeletal muscle failure. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Poster Presentation.
- 240. Johnston KR, Jinha A, Herzog W (2015) The role of sarcomere length non-uniformities in residual force enhancement. The 15th Annual Alberta Biomedical Engineering Conference, October 24-26, Banff, AB pg(s) 85. Poster Presentation.
- 241. Johnston K, Jinha A, Herzog W (2014) An examination of sarcomere length non-uniformities in actively stretched muscle myofibrils. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Podium Presentation.
- 242. Jones AA, Power GA, Herzog W (2014) History dependence of EMG: implications for isometric steady-state EMG parameters following a lengthening or shortening contraction. The 15th Annual Alberta Biomedical Engineering Conference, October 24-26, Banff, AB pg(s) 40. Podium Presentation.
- 243. Jones AA, Power GA, Herzog W (2014) History dependence of EMG: does a prior shortening or lengthening contraction influence steady-state isometric EMG parameters? Proceedings of the Exercise Physiologists of Western Canada Conference, Kelowna, BC, July 16-18. Podium Presentation.
- 244. Joumaa V, Herzog W (2014) Changes in calcium sensitivity after active stretch: role of titin and lattice spacing. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Podium Presentation.
- 245. Kaiser K, Leonard TR, Logan K, Orlik R, El-Hawary J, Howard J, Herzog W (2014) Increased sarcomere length is associated with decreased range of motion in Cerebral Palsy. 7th World Congress of Biomechanics. Podium Presentation.
- 246. Killick A, Herzog W (2014) Metabolic and mechanical properties of the skate skiing techniques. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Poster Presentation.
- 247. Kuznetsova S, Villemure I, Abusara Z, Moo E, Al-Saffar Y, Herzog W (2014) In situ chondrocyte mechanics following static and dynamic compressive stresses. The 15th Annual Alberta Biomedical Engineering Conference, October 24-26, Banff, AB pg(s) 75. Poster Presentation.
- 248. Leonard TR, Kaiser K, Herzog J, Logan K, Orlik R, El-Hawary J, Howard J, Herzog W (2014) Passive forces in single myofibrils from children with Cerebral Palsy. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Poster Presentation.

249. Makela J, Herzog W, Korhonen R (2014) Collagen content is increased in lapine femoral condyle cartilage four weeks after anterior cruciate ligament transection. 60th Annual Meeting of the Orthopaedic Research Society, New Orleans. Poster Presentation.
250. Moo E, Han S-K, Federico S, Sibole S, Jinha A, Osman NAA, Pingguan-Murphy B, Herzog W (2014) Extracellular matrix integrity affects the mechanical behavior of in-situ chondrocytes under compression. 7th World Congress of Biomechanics, Boston, MA, July 7-11. Poster Presentation.
251. Power GA, Joumaa V, Hisey B, Caicedo A, Stutz J, Herzog W (2014) The effect of MHC isoform expression on the history-dependence of force production. 43rd European Muscle Conference, Salzburg, Austria, September 10-14. Poster Presentation.
252. Power GA, Joumaa V, Hisey B, Herzog W (2014) History-dependence of force production: The effect of MHC isoform expression on transient and steady-state aspects. Canadian Society for Exercise Physiology, St. John's, NL, October 22-25. Podium Presentation.
253. Power GA, Makrakos DP, Stevens DE, Herzog J, Rice CL, Vandervoort AA (2014) Shortening induced torque depression in old age: implications for power loss in the elderly? 7th World Congress of Biomechanics, Boston, MA, July 6-11. Podium Presentation.
254. Power GA, Minozzo FC, Filion ME, Morais JA, Aubertin-Leheudre M, Herzog W, Hepple RT, Rassier D, Taivassalo T (2014) Single fiber rate of force re-development in older world class masters athletes. Proceedings of the Exercise Physiologists of Western Canada Conference, Kelowna, BC, July 16-18. Podium Presentation.
255. Powers KL, Jinha A, Leonard TR, Herzog W (2014) An enhanced role for titin in actively stretched skeletal muscle. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Podium Presentation.
256. Powers KL, Schappacher-Tilp G, Jinha A, Leonard TR, Herzog W (2014) Force enhancement; a titin achievement in skeletal muscle. The 15th Annual Alberta Biomedical Engineering Conference, October 24-26, Banff, AB pg(s) 21. Podium Presentation.
257. Sibole S, Herzog W (2014) How important is the smooth transition of pericellular matrix properties to the chondrocyte microenvironment? A multiscale finite element study of healthy and osteoarthritic cases. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Poster Presentation.
258. Sibole S, Jinha A, Federico S, Herzog W (2014) Getting more from image data: pyCellAnalyst, a 3-D image reconstruction and deformation analysis tool. The 15th Annual Alberta Biomedical Engineering Conference, October 24-26, Banff, AB pg(s) 50. Podium Presentation.
259. Wang V, Kaiser K, Herzog W (2014) Embryonic myosin heavy chain expression in skeletal muscle as a marker of recovery after electrical stimulation damage. The 15th Annual Alberta Biomedical Engineering Conference, October 24-26, Banff, AB pg(s) 94. Poster Presentation.
260. Wu JZ, Herzog W, Federico S (2014) Finite Element implementation of a model for finite deformable, biphasic biological tissues with transversely isotropic statistically distributed fibers. 7th World Congress of Biomechanics, Boston, MA, July 6-11. Poster Presentation.
261. Abughazaleh N, Abusara Z, Roman K, Herzog W (2013) Changes in synovial fluid proteins and prg4 following intense muscular loading of the knee. American Society of Biomechanics Conference, Omaha, NE, September 4-7. Podium Presentation.
262. Abusara Z, Krawetz R, Steele B, DuVall M, Schmidt TA, Herzog W (2013) Changes in protein concentration in murine knee joints with muscular contraction. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9, pg(s) 133. Podium Presentation.
263. Arslan Y, Kaya M, Jinha A, Herzog W (2013) Static optimization solution to the force sharing problem. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 104. Podium Presentation.
264. Cantergi D, Loss J.F., Jinha A, Brodt G.A., Herzog W (2013) Variability of muscle contributions to leg extensions performed on the reformer apparatus. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 159. Poster Presentation.

265. Collins K, Reimer R, Herzog W (2013) Acute kinematic and kinetic changes in rats after diet induced obesity and ACL-X. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 49. Podium Presentation.
266. Crooks S, Nair A, Sawatsky A, Leonard TR, Herzog W (2013) Serial sarcomere loss in rabbit triceps surae muscles following a five hour electrical stimulation protocol. 14th Annual Alberta Biomedical Engineering Conference, Banff, AB, October 25-27. Poster Presentation.
267. Cunha SA, Fortuna R, Jinha A, Herzog W (2013) Mathematical model to optimize goalkeepers' jumping. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9, 2013 pg(s) 124. Podium Presentation.
268. DuVall M, Jinha A, Leonard TR, Herzog W (2013) Comparative stress production of native and quantum dot labeled rabbit psoas muscle myofibrils. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9, 2013 pg(s) 134. Podium Presentation.
269. Federico S, Grillo A, Herzog W (2013) Transversely isotropic composites with statistically oriented inclusions. SES 50th Annual Technical Meeting and ASME-AMD Annual Summer Meeting, Providence, RI, July 28-31. Podium Presentation.
270. Fontana H, Herzog W, Roesler H (2013) Ground reaction forces during stationary running in water and on land: effect of immersion, movement cadence and body density. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 145. Poster Presentation.
271. Han S-K, Madden R, Herzog W (2013) Pericellular matrix deformations in situ under mechanical compression. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 132. Podium Presentation.
272. Herzog J, Leonard TR, Jinha A, Herzog W (2013) Modulation of titin elasticity in working muscle to minimize energy loss in passive stretch-shortening cycles. American Society of Biomechanics Conference, Omaha, Nebraska September 4-7 2013.
273. Herzog W, Killick A (2013) Functional muscle mechanics in sports: why we should care. International Society of Biomechanics in Sports, Taipei, Taiwan. July 7-11. Podium Presentation.
274. Hisey B, Herzog W (2013) Differences between active and passive failure in whole skeletal muscle. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 138. Podium Presentation.
275. Horisberger M, Fortuna R, Valderrabano V, Herzog W (2013) Long-term cyclic muscle induced submaximal joint loading leads to cartilage degeneration in an in-vivo model. Proceedings of the 2013 Orthopaedic Research Society Annual Meeting, San Antonio, TX, January 26-29 pg(s) 85. Poster Presentation.
276. Killick A, Herzog W (2013) Impulse contribution from each limb in skate cross-country skiing. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9, 2013 pg(s) 152. Poster Presentation.
277. Leonard TR, Herzog J, Jinha A, Herzog W (2013) Myofibril (and titin) kinetics during passive stretch-shortening cycles. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 133. Podium Presentation.
278. Madden R, Herzog W (2013) The effect of loading magnitude on calcium signaling in articular cartilage chondrocytes. Proceedings of the 2013 Orthopaedic Research Society Annual Meeting, San Antonio, TX, January 26-29 pg(s) 128. Poster Presentation.
279. Madden R, Herzog W (2013) The effect of loading magnitude on chondrocyte calcium signaling in situ. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 137. Podium Presentation.
280. Makela J, Rezaeian Z, Mikkonen S, Madden R, Han S-K, Jurvelin JS, Herzog W, Korhonen R (2013) Site-dependent changes in collagen orientation and elastic moduli in lapine articular cartilage at 4 weeks after anterior cruciate ligament transection. Proceedings of the 2013 Orthopaedic Research Society Annual Meeting, San Antonio, TX, January 26-29 pg(s) 126. Poster Presentation.
281. Moo E, Amrein M, DuVall M, Abu Osman N.A, Pingguan-Murphy B, Herzog W (2013) Strain rate dependence of cell membrane reservoir is key to impact-induced chondrocyte death. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 136. Podium Presentation.

282. Moo E, Amrein W, Osman NAA, Murphy B, Herzog W (2013) Chondrocyte membrane mechanics at different loading rates. Proceedings of the 2013 Orthopaedic Research Society Annual Meeting, San Antonio, TX, January 26-29 pg(s) 88. Poster Presentation.
283. Moo E, Han S-K, Jinha A, Abu Osman N.A, Pingguan-Murphy B, Herzog W (2013) Structural integrity of extracellular matrix influences the mechanical behavior of insitu chondrocytes. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 131. Podium Presentation.
284. Moo E, Han S-K, Jinha A, Abusara Z, Federico S, Osman NAA, Murphy B, Herzog W (2013) Mechanics of in-situ chondrocytes near cartilage lesions: experimental and finite element study. Proceedings of the 2013 Orthopaedic Research Society Annual Meeting, San Antonio, TX, January 26-29 pg(s) 89. Poster Presentation.
285. Powers KL, Herzog W (2013) Active force beyond filament overlap: a titin achievement in skeletal muscle. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 135. Podium Presentation.
286. Tang C, Wuest S, Robert J, Herzog W (2013) A prospective study evaluating the effects of manual therapy on the treatment of anterior knee pain. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 64.
287. Von Kossel M, Herzog W (2013) Vastus lateralis fascicle length isometricity at different knee extensor torques and angles. XXIV Congress of the International Society of Biomechanics, Natal, Brazil, August 4-9 pg(s) 209. Poster Presentation.
288. Abusara Z, Herzog W (2012) Cells within joints release proteins into the synovial fluid during controlled muscular exercise. 2012 Canadian Society for Biomechanics, June 6-9, Vancouver, BC. Podium Presentation.
289. Abusara Z, Steele B, Schmidt TA, Herzog W (2012) Muscular loading of joints and its effect on synovial fluid composition. Proceedings of the 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7. Poster Presentation.
290. Arslan Y, Kaya M, Herzog W (2012) Evaluation of muscle force predictions using optimization theory. International Conference on Mathematical Modeling in Physical Sciences, September 3-7, Budapest, Hungary 410. Podium Presentation.
291. Collins K, Reimer R, Herzog W (2012) Does metabolically-induced obesity affect the severity of Knee Osteoarthritis? 13th Annual Alberta Biomedical Engineering Conference, Banff, AB, October 19-21. Poster Presentation.
292. Crooks S, Killick A, Herzog W (2012) Oxygen uptake in one and two skate cross country skiing at increasing grades. 13th Annual Alberta Biomedical Engineering Conference, Banff, AB, Oct 19-21. Poster Presentation.
293. DuVall M, Herzog W (2012) Proposed investigation into titin's elastic behavior during active stretch (muscle). 2012 Canadian Society for Biomechanics, June 6-9, Vancouver, BC. Poster Presentation.
294. DuVall M, Jinha A, Leonard TR, Herzog W (2012) Z-line elongation observed in titin labeled myofibrils. Proceedings of the Biophysical Society 56th Annual Meeting, San Diego, CA, February 25-29. Poster Presentation.
295. Fortuna R, Herzog W (2012) Do skeletal muscle properties recover following botulinum toxin type A treatment? ISEK 2012 Biennial Congress, Brisbane, Australia, July 19-21. Poster Presentation.
296. Fortuna R, Horisberger M, Herzog W (2012) Do skeletal muscle properties recover following repeat botulinum toxin type A injections? AACPCM 2012 Annual Meeting, Toronto, ON, September 12-15. Poster Presentation.
297. Fortuna R, Horisberger M, Vaz MA, Herzog W (2012) Do skeletal muscle properties recover following botulinum toxin type-A injections? 13th Annual Alberta Biomedical Engineering Conference, Banff, AB, Oct 19-21. Podium Presentation.
298. Fortuna R, Horisberger M, Vaz MA, Herzog W (2012) Do skeletal muscle properties recover following repeat botulinum toxin type-A injections? 2012 American Society of Biomechanics Annual Meeting, Gainesville, FL, August 15-18. Poster Presentation.

299. Fortuna R, Horisberger M, Vaz MA, Herzog W (2012) Do skeletal muscle properties recover following botulinum toxin type-A treatment? (rehabilitation). 2012 Canadian Society for Biomechanics, June 6-9, Vancouver, BC. Poster Presentation.
300. Han S-K, Madden R, Herzog W (2012) The viscoelastic recovery of chondrocytes in situ after static and dynamic compressions. Proceedings of the 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7. Podium Presentation.
301. Herzog J, Leonard TR, Jinha A, Herzog W (2012) Hysteresis and efficiency in skeletal muscle myofibrils. Proceedings of the Biophysical Society 56th Annual Meeting, San Diego, CA, February 25-29. Poster Presentation.
302. Herzog J, Leonard TR, Jinha A, Herzog W (2012) Can we study titin properties in single myofibrils? 2012 Canadian Society for Biomechanics, June 6-9, Vancouver, BC. Podium Presentation.
303. Herzog W, Joumaa V (2012) Energy cost of skeletal muscle force production is reduced in the force enhanced state (muscle). 2012 Canadian Society for Biomechanics, June 6-9, Vancouver, BC. Poster Presentation.
304. Herzog W, Leonard TR, DuVall M, Herzog J (2012) Force enhancement in skeletal muscles: a role for titin? Proceedings of the 8th European Solid Mechanics Conference, July 9-13, Graz, Austria. Podium Presentation.
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