

## **Loren Z.F. Chiu, Ph.D., C.S.C.S.**

Faculty of Physical Education and Recreation

P-320Q Van Vliet Centre

University of Alberta

Edmonton, AB T6G 2H9

Phone: 780-248-1263

E-Mail: [Loren.Chiu@ualberta.ca](mailto:Loren.Chiu@ualberta.ca)

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### **Summary of Interests**

- Analysis and optimization of multi-segmental motor skills
- Acute responses and chronic adaptations to resistance training
- Transfer of training to motor skill performance
- Physiology and mechanics of muscular strength
- Application of sport science to coaching and athletics
- Application of computers and engineering to sport science

### **Summary of Skills**

- Biomechanical performance testing – 3D optoelectronic video, digital video, force platform, load cell, linear position transducer, EMG, analog-to-digital signal acquisition and processing
- Human cadaver dissection and prosection
- Field performance testing – strength and power, vertical jumping, electronic sprint timing
- Anthropometric testing – height, weight, heart rate, blood pressure, limb circumference, subcutaneous adipose tissue skinfold, body densitometry, bioelectrical impedance
- Resistance and anaerobic-metabolic exercise technique instruction
- Design and organization of resistance training programs
- Statistical analyses – hypothesis testing, effect size calculation, reliability and validity analysis, linear and polynomial regression
- Computer hardware installation and configuration
- Computer software – Visual 3D, Vicon, Datapac 2K2, Dartfish, Ariel Performance Analysis System, BioProc2, Statistical Package for the Social Sciences, Sigma Plot, Adobe Acrobat, Adobe Photoshop, Microsoft Office, EndNote

### **Education**

- Doctor of Philosophy (Biokinesiology) [2008]  
*University of Southern California, Los Angeles, CA*  
Major: Biomechanics
- Master of Science (Human Movement Sciences and Education) [2002]  
*The University of Memphis, Memphis, TN*  
Major: Sports Science
- Bachelor of Human Kinetics [2000]  
*University of British Columbia, Vancouver, BC*  
Major: Exercise Science

### **Professional Experience**

- University of Alberta, Edmonton, AB [2008 – present]  
Assistant Professor – Faculty of Physical Education and Recreation  
*Teach undergraduate courses; supervise graduate students; perform research; procure external funding*
- El Camino College, Los Angeles, CA [2008]  
Adjunct Faculty – Division of Health Sciences and Athletics  
*Taught undergraduate course*

- California State University – Long Beach, Long Beach, CA [2006 – 2007]  
Adjunct Faculty – Department of Physical Therapy  
*Taught graduate course (lecture & laboratory)*
- University of Southern California, Los Angeles, CA [2003 – 2008]  
Graduate Assistant – Department of Biokinesiology and Physical Therapy  
*Taught graduate courses (lecture & laboratory); prosected & dissected cadavers; performed research (motion analysis, analog-to-digital signal acquisition and processing); procured external funding*
- The University of Memphis, Memphis, TN [2002 – 2003]  
Research Project Coordinator – Human Performance Laboratories  
Adjunct Faculty – Department of Biology  
Adjunct Faculty – Department of Human Movement Sciences and Education  
*Coordinated laboratory activities (research projects, performance testing and evaluation); taught graduate and undergraduate courses (lecture & laboratory); coordinated, supervised and mentored graduate and undergraduate students; maintained and serviced computer and biomechanics instrumentation*
- The University of Memphis, Memphis, TN [2000 – 2002]  
Graduate Assistant – Department of Human Movement Sciences and Education  
*Performed research; taught undergraduate and undergraduate courses (lecture & laboratory); maintained and serviced computer and biomechanics instrumentation*
- Arbutus Club, Vancouver, BC [1999 – 2000]  
Weight Room Supervisor  
*Personal training; weight room supervision; maintained and serviced fitness equipment*
- University of British Columbia, Vancouver, BC [1999 – 2000]  
Strength and Conditioning Coach – Varsity Women's Hockey  
Strength and Conditioning Consultant – Varsity Men's Rugby  
*Designed strength and conditioning programs for student athletes; taught exercise technique*

### Current Research

- Relative Contribution of Individual Joint Kinetics to Multi-Segmental Tasks.
- Neuromuscular Potentiation and Fatigue during Loaded Multi-Segmental Movements.
- Three-Dimensional Kinematic and Kinetic Analyses of the Weightlifting Pull.
- Mechanical Comparison of Vertical Jumping and Weightlifting Pulling Actions.

### Refereed Original Research Articles

- Chiu, L.Z.F. A Proposed Method for World Weightlifting Championships Team Selection. *Journal of Strength and Conditioning Research*. In Press.
- Chiu, L.Z.F., B.K. Schilling, A.C. Fry, and G.J. Salem. The Influence of Deformation on Barbell Mechanics during the Clean Pull. *Sport Biomechanics*. 7(2):260-273. 2008.
- Fry, A.C., D. Ciroslan, M.D. Fry, C.D. LeRoux, B.K. Schilling, and L.Z.F. Chiu. Anthropometric and Performance Variables Discriminating Elite American Junior Men Weightlifters. *Journal of Strength and Conditioning Research*. 20(4):861-866. 2006.
- Fry, A.C., B.K. Schilling, L.W. Weiss, and L.Z.F. Chiu.  $\beta_2$  Adrenergic Receptor Down-Regulation and Performance Decrements during High Intensity Resistance Exercise Overtraining. *Journal of Applied Physiology*. 101(6):1664-1672. 2006.
- Chiu, L.Z.F., and G.J. Salem. Comparison of Joint Kinetics during Free Weight and Flywheel Resistance Exercise. *Journal of Strength and Conditioning Research*. 8(3):555-562. 2006.
- Bloomer, R.J., A.C. Fry, B.K. Schilling, L.Z.F. Chiu, L.W. Weiss, and N. Hori. Astaxanthin supplementation does not attenuate markers of muscle injury following eccentric exercise. *International Journal of Sports Nutrition and Exercise Metabolism*. 15(4):401-412. 2005.

- Schilling, B.K., A.C. Fry, L.W. Weiss, and L.Z.F. Chiu. Myosin Heavy Chain Isoform Expression: Influence on Isoinertial and Isometric Performance. *Research in Sports Medicine*. 13(4):301-315. 2005.
- Schilling, B.K., A.C. Fry, L.Z.F. Chiu, and L.W. Weiss. Myosin Heavy Chain Isoform Expression and In Vivo Isometric Performance: A Regression Model. *Journal of Strength and Conditioning Research*. 19(2):270-275. 2005.
- Chiu, L.Z.F., A.C. Fry, B.K. Schilling, E.J. Johnson, and L.W. Weiss. Neuromuscular Fatigue and Potentiation Following Two Successive High Intensity Resistance Exercise Sessions. *European Journal of Applied Physiology*. 92(4-5):385-392. 2004.
- Chiu, L.Z.F., B.K. Schilling, A.C. Fry, L.W. Weiss. Measurement of Resistance Exercise Force Expression. *Journal of Applied Biomechanics*. 20(2):204-212. 2004.
- Chiu, L.Z.F., A.C. Fry, L.W. Weiss, B.K. Schilling, L.E. Brown, and S.L. Smith. Postactivation Potentiation Response in Athletic and Recreationally Trained Individuals. *Journal of Strength and Conditioning Research*. 17(4):671-677. 2003.
- Fry, A.C., B.K. Schilling, L.Z.F. Chiu, L.W. Weiss, R.B. Kreider, and C.J. Rasmussen. Muscle Fiber and Performance Adaptations to Resistance Exercise with MyoVive™, Colostrum or Casein and Whey Supplementation. *Research in Sports Medicine*. 11(2):109-128. 2003.

#### **Refereed Review and Technical Articles**

- Schilling, B.K., M.J. Falvo, and L.Z.F. Chiu. Force-Velocity, Impulse-Momentum Relationships: Implications for Efficacy of Purposefully Slow Resistance Training. *Journal of Sports Science and Medicine*. 7:299-304. 2008.
- Chiu, L.Z.F. Barbells, Dumbbells, Kettlebells. *National Strength & Conditioning Association Hot Topics*. <http://www.nasca-lift.org/HotTopic/download/BARBELLS.pdf>. Accessed August 29, 2007.
- Elliott, M.C.C.W., P.P. Wagner, and L. Chiu. Power Athletes and Distance Training: Physiological and Biomechanical Rationale for Change. *Sports Medicine*. 37(1):47-57. 2006.
- Chiu, L.Z.F., and B.K. Schilling. A Primer on Weightlifting: From Sport to Sports Training. *Strength & Conditioning Journal*. 27(1):42-48. 2005.
- Chiu, L.Z.F., and B.K. Schilling. The Stop Clean and Stop Snatch: An Alternative to the Hang. *Strength and Conditioning Journal*. 26(3):10-12. 2004.
- Chiu, L.Z.F., and J.L. Barnes. The Fitness-Fatigue Model Revisited – Implications for Planning Short- and Long-Term Training. *Strength and Conditioning Journal*. 25(6):42-51. 2003.
- Chiu, L.Z., L.W. Weiss, and A.C. Fry. Post-Training Massage: A Review for Strength and Power Athletes. *Strength and Conditioning Journal*. 23(4):65-69. 2001.

#### **Refereed Research Presentations/Abstracts**

- Chiu, L.Z.F., and G.J. Salem. Time Series Analysis: An Application for Athletic Performance. To be presented at the 6<sup>th</sup> International Conference on Strength Training, Colorado Springs, CO. October-November 2008.
- Chiu, L.Z.F., C.M. Powers, and G.J. Salem. Potentiation and Fatigue Responses during High-Power Resistance Exercise is Gender Specific. Presented at the 31<sup>st</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. 2008.
- Galpin, A.J., L.Z.F. Chiu, A.C. Fry, D.B. Thomason, B.K. Schilling, and C.A. Moore. Acute High-Load, High-Power Resistance Exercise Activates a Skeletal Muscle Stress-Responding Signaling Pathway in Men Weightlifters. Presented at the 31<sup>st</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. 2008.
- Galpin, A.J., L.Z.F. Chiu, A.C. Fry, D.B. Thomason, B.K. Schilling, and C.A. Moore. Acute High-Power Resistance Exercise Activates Hypertrophic Signaling Pathway in Men Weightlifters. Presented at the 31<sup>st</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. 2008.

- Fry, A.C., C.A. Moore, D.B. Thomason, L.Z.F. Chiu, B.K. Schilling, and L.W. Weiss. MAPK Phosphorylation Responses to High Power Resistance Exercise Overreaching. *Presented at the 31<sup>st</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. 2008.*
- Fry, A.C., C.A. Moore, D.B. Thomason, B.K. Schilling, L.W. Weiss, L.Z.F. Chiu, and A.J. Galpin. Resting p-38 MAPK Activation and High Intensity Resistance Exercise Overtraining. *Presented at the 55<sup>th</sup> American College of Sports Medicine Annual Meeting, Indianapolis, IN. 2008.*
- Galpin, A.J., A.C. Fry, D.B. Thomason, B.K. Schilling, and L.Z.F. Chiu. Acute High Load, High Power Resistance Exercise Activates an Apoptotic Signaling Pathway in Men Weightlifters. *Presented at the 55<sup>th</sup> American College of Sports Medicine Annual Meeting Indianapolis, IN. 2008.*
- Chiu, L.Z.F., and G.J. Salem. Joint Kinetic Contributions to Acute Performance Enhancement & Degradation. *Presented at the 2007 American Society of Biomechanics Conference, Palo Alto, CA. 2007.*
- Chiu, L.Z.F., P. Wagner, and G.J. Salem. Relative Contribution of Lower Extremity Joint Kinematics to Vertical Jumping Performance. *Presented at the 30<sup>th</sup> National Strength and Conditioning Association National Conference, Atlanta, GA. Journal of Strength and Conditioning Research. 21(4):E4. 2007.*
- Galpin, A.J., A.C. Fry, C.A. Moore, D.B. Thomason, B.K. Schilling, L.W. Weiss, and L.Z.F. Chiu. Resting JNK Activation & High Intensity Resistance Exercise Overtraining. *Presented at the 30<sup>th</sup> National Strength and Conditioning Association National Conference, Atlanta, GA. Journal of Strength and Conditioning Research. 21(4):E5. 2007.*
- Chiu, L.Z.F., P. Wagner, and G.J. Salem. Weightlifting Exercise Potentiates Joint Mechanical Work during Vertical Jumping. *Presented at the 54<sup>th</sup> American College of Sports Medicine Annual Meeting, New Orleans, LA. Medicine and Science in Sports and Exercise. 39(5):S300-S301. 2007.*
- Galpin, A.J., A.C. Fry, C.A. Moore, D.B. Thomason, B.K. Schilling, L.W. Weiss, and L.Z.F. Chiu. Resting ERK 1/2 Activation and High Intensity Resistance Exercise Overtraining. *Presented at the 54<sup>th</sup> American College of Sports Medicine Annual Meeting, New Orleans, LA. Medicine and Science in Sports and Exercise. 39(5):S37. 2007.*
- Larson, D.E., A.C. Fry, M. Greenwood, B.K. Schilling, and L.Z.F. Chiu. Ground Reaction Forces of Throwing Motions for a Baseball Catcher: Implications for Training. *Presented at the 54<sup>th</sup> American College of Sports Medicine Annual Meeting, New Orleans, LA. Medicine and Science in Sports and Exercise. 39(5):S94-S95. 2007.*
- Chiu, L.Z.F., and G.J. Salem. Accuracy of inverse dynamics calculations during weightlifting using normative versus subject-specific anthropometrics. *Presented at the 29<sup>th</sup> National Strength and Conditioning Association National Conference, Washington, DC. Journal of Strength and Conditioning Research. 20(4):E6. 2006.*
- Schilling, B.K., M.J. Falvo, L.W. Weiss, C.A. Moore, A.C. Fry, and L.Z.F. Chiu. Reach Height and Jump Displacement: Implications for Standardization of Reach Determination. *Presented at the 29<sup>th</sup> National Strength and Conditioning Association National Conference, Washington, DC. Journal of Strength and Conditioning Research. 20(4):E10. 2006.*
- Chiu, L.Z.F., P. Wagner, and G.J. Salem. Vertical Jump Performance Increases during a Weightlifting Training Session. *Presented at the 53<sup>rd</sup> American College of Sports Medicine Annual Meeting, Denver, CO. Medicine and Science in Sports and Exercise. 38(5):S294. 2006.*
- Weiss, L.W., C.A. Moore, B.K. Schilling, R. Ermert, A.C. Fry, L.Z.F. Chiu, M. Falvo, and M.P. Wendell. Efficacy of Hang Power Clean, Parallel Jump Squat, and Body Composition Variables as Predictors of Standing- and Drop-Vertical Jump Displacement. *Presented at the 53<sup>rd</sup> American College of Sports Medicine Annual Meeting, Denver, CO. Medicine and*

- Science in Sports and Exercise*. 38(5):S295-S296. 2006.
- Bloomer, R.J., A.C. Fry, C.A. Moore, L.Z.F. Chiu, B.K. Schilling, and L.W. Weiss. Resistance Exercise Overreaching Does Not Increase Resting Protein Oxidation. *Presented at the 28<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research*. 19(4):724. 2005.
- Chiu, L.Z.F., and G.J. Salem. Comparison of Joint Kinetics during Free Weight and Flywheel Resistance Exercise. *Presented at the 28<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research*. 19(4):724. 2005.
- Falvo, M.J., L.W. Weiss, B.K. Schilling, R.C. Ermert, A.C. Fry, M.P. Wendell, L.Z.F. Chiu, S. Kumar, and C. LeRoux. Reliability and Precision of Force, Power, and Velocity Measures Obtained During Jump Squats. *Presented at the 28<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research*. 19(4):724. 2005.
- Smith, W., L.W. Weiss, C.A. Moore, B.K. Schilling, R. Ermert, A.C. Fry, L.Z.F. Chiu, M.P. Wendell, and C. LeRoux. Reliability and Precision of Multiple Expressions of Hang Power Clean External Power. *Presented at the 28<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research*. 19(4):724. 2005.
- Weiss, L.W., C.A. Moore, B.K. Schilling, R. Ermert, A.C. Fry, L.Z.F. Chiu, M.P. Wendell, S. Kumar, and C.D. LeRoux. Do Hang Power Clean, Jump Squat, and Body Composition Variables Predict Restricted- and Non-Countermovement-Style Vertical Jump Displacement? *Presented at the 28<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research*. 19(4):724. 2005.
- Weiss, L.W., C.A. Moore, B.K. Schilling, R. Ermert, A.C. Fry, L.Z.F. Chiu, M.P. Wendell, and C.D. LeRoux. Reliability and Precision of Multiple Expressions of Hang Power Clean Bar Velocity. *Presented at the 28<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research*. 19(4):724. 2005.
- Barnes, J.L., L.W. Weiss, C.A. Moore, B.K. Schilling, A.C. Fry, L.Z.F. Chiu, M.P. Wendell, and C.D. LeRoux. Reliability and Precision of Multiple Expressions of Hang Power Clean External Force. *Presented at the 52<sup>nd</sup> American College of Sports Medicine Annual Meeting, Nashville, TN. Medicine and Science in Sports and Exercise*. 37(5):S261. 2005.
- Bloomer, R.J., A.C. Fry, B.K. Schilling, L.Z.F. Chiu, and L.W. Weiss. No Effect of Astaxanthin Supplementation on Markers of Skeletal Muscle Injury Following Eccentric Loading. *Presented at the 52<sup>nd</sup> American College of Sports Medicine Annual Meeting, Nashville, TN. Medicine and Science in Sports and Exercise*. 37(5):S316. 2005.
- Weiss, L.W., C.A. Moore, B.K. Schilling, A.C. Fry, L.Z.F. Chiu, M.P. Wendell, C.D. LeRoux, and S. Kumar. Association of Vertical Jump Performance to Jump Squat Power Expressions. *Presented at the 52<sup>nd</sup> American College of Sports Medicine Annual Meeting, Nashville, TN. Medicine and Science in Sports and Exercise*. 37(5):S260-261. 2005.
- Chiu, L.Z.F., and G.J. Salem. Evaluation of Kinematic Signal Noise during Resistance Exercise Motion Analysis. *Presented at the 52<sup>nd</sup> American College of Sports Medicine Annual Meeting, Nashville, TN. Medicine and Science in Sports and Exercise*. 37(5):S121. 2005.
- Moore, C.A., L.W. Weiss, B.K. Schilling, A.C. Fry, M.P. Wendell, L.Z.F. Chiu, S. Kumar, and C.D. LeRoux. Association Between Vertical Jump Displacement and Jump Squat Force Expressions. *Presented at the 52<sup>nd</sup> American College of Sports Medicine Annual Meeting, Nashville, TN. Medicine and Science in Sports and Exercise*. 37(5):S265. 2005.
- Schilling, B.K., L.W. Weiss, C.A. Moore, A.C. Fry, L.Z.F. Chiu, M.P. Wendell, S. Kumar, and C.D. LeRoux. Association of Power Measures Obtained during Hang Power Cleans and Jump

- Squats. Presented at the 52<sup>nd</sup> American College of Sports Medicine Annual Meeting, Nashville, TN. *Medicine and Science in Sports and Exercise*. 37(5):S119-120. 2005.
- Chiu, L.Z.F., and G.J. Salem. Net Joint Moment Calculation Errors during Weightlifting: Dempster Versus DEXA. Presented at the 2005 Southern California Clinic on Biomechanics, Fullerton, CA.
- Chiu, L.Z.F., A.C. Fry, B.K. Schilling, and L.W. Weiss. Relationships Between EMG Frequency Spectrum and Rate of Force Development Changes. Presented at the American Society of Biomechanics Annual Meeting, Portland, OR. 2004.
- Fry, A.C., L.Z.F. Chiu, B.K. Schilling, and L.W. Weiss. Effect of a Dietary Supplement on Skeletal Muscle  $\beta_2$  Receptor Adaptations to High Power Resistance Exercise Overreaching. Presented at the 27<sup>th</sup> National Strength and Conditioning Association National Conference, Minneapolis, MN. *Journal of Strength and Conditioning Research*. 18(4):687. 2004.
- Fry, A.C., B.K. Schilling, L.Z.F. Chiu, L.W. Weiss, M. Bressler, and E. Bernard. Skeletal Muscle  $\beta_2$  Receptor Maladaptations to High Intensity Resistance Exercise Overtraining. Presented at the 27<sup>th</sup> National Strength and Conditioning Association National Conference, Minneapolis, MN. *Journal of Strength and Conditioning Research*. 18(4):687. 2004.
- Moore, C.A., A.C. Fry, B.K. Schilling, L.Z.F. Chiu, L.W. Weiss, M. Bressler, E. Bernard, and J. Barnes. Muscle Performance Maladaptations to High Intensity Resistance Exercise Overtraining. Presented at the 27<sup>th</sup> National Strength and Conditioning Association National Conference, Minneapolis, MN. *Journal of Strength and Conditioning Research*. 18(4):687. 2004.
- Moore, C.A., A.C. Fry, L.Z.F. Chiu, B.K. Schilling, L.W. Weiss, and J. Barnes. Effect of a Dietary Supplement on Muscle Performance Adaptations to High Power Resistance Exercise Overreaching. Presented at the 27<sup>th</sup> National Strength and Conditioning Association National Conference, Minneapolis, MN. *Journal of Strength and Conditioning Research*. 18(4):687. 2004.
- Schilling, B.K., A.C. Fry, L.W. Weiss, and L.Z.F. Chiu. Correlations Between Isometric and DCER Performance. Presented at the 27<sup>th</sup> National Strength and Conditioning Association National Conference, Minneapolis, MN. *Journal of Strength and Conditioning Research*. 18(4):687. 2004.
- Weiss, L.W., B.W. Bondurant, B.K. Schilling, K. Buchanan, L.Z.F. Chiu, A.C. Fry, C. Scates, and B. Magu. Stability Reliability & Precision of Knee Extension Velocity During Load-Spectrum Testing. Presented at the 27<sup>th</sup> National Strength and Conditioning Association National Conference, Minneapolis, MN. *Journal of Strength and Conditioning Research*. 18(4):687. 2004.
- Weiss, L.W., L.Z.F. Chiu, B.K. Schilling, A.C. Fry, K. Buchanan, C. Scates, B.W. Bondurant, and B. Magu. External Loads Eliciting Maximum Concentric Force and Power During Non-Counter movement Knee Extensions. Presented at the 27<sup>th</sup> National Strength and Conditioning Association National Conference, Minneapolis, MN. *Journal of Strength and Conditioning Research*. 18(4):687. 2004.
- Fry, A.C., B.K. Schilling, L.Z.F. Chiu, N. Hori, and L.W. Weiss. Fiber Type-Specific Responses to Perceptions of Delayed Onset Muscle Soreness with Astaxanthin Supplementation. Presented at the 51<sup>st</sup> American College of Sports Medicine Annual Meeting, Indianapolis, IN. *Medicine and Science in Sports and Exercise*. 36(5):S175. 2004.
- Weiss, L.W., A.C. Fry, L.Z.F. Chiu, B.K. Schilling, K.C. Buchanan, B.W. Bondurant, B. Magu, and C. Scates. Reliability of Knee Extension Mechanical Power Across a Load-Spectrum. Presented at the 51<sup>st</sup> American College of Sports Medicine Annual Meeting, Indianapolis, IN. *Medicine and Science in Sports and Exercise*. 36(5):S352. 2004.
- Chiu, L.Z.F., A.C. Fry, E.J. Johnson, B.K. Schilling, and L.W. Weiss. High Power Resistance

- Exercise Impairs Velocity Performance. *Presented at the 24<sup>th</sup> Meeting of the Southwest Chapter of the American College of Sports Medicine, Las Vegas, NV. 2003.*
- Belzer, S.T., L.Z.F. Chiu, E.J. Johnson, M.P. Wendell, A.C. Fry, B.K. Schilling, C.B. Richey, C.A. Moore, and L.W. Weiss. High Power Training Results in Acute Neuromuscular Deficit. *Presented at the 26<sup>th</sup> National Strength and Conditioning Association National Conference, Indianapolis, IN. Journal of Strength and Conditioning Research. 17(4):632. 2003.*
- Chiu, L.Z.F., A.C. Fry, L.W. Weiss, B.K. Schilling, L.E. Brown, S.L. Smith, L.V. McCarty, E.J. Johnson, K.C. Buchanan, and C. Scates. Differential Post-Activation Potentiation Response in Athletes and Recreationally Trained Individuals. *Presented at the 26<sup>th</sup> National Strength and Conditioning Association National Conference, Indianapolis, IN. Journal of Strength and Conditioning Research. 17(4):632. 2003.*
- Criqui, M.F., L.W. Weiss, A.C. Fry, L.Z.F. Chiu, B.K. Schilling, B. Magu, K. Buchanan, B.W. Bondurant, C. Scates. Association between vertical jumping displacement and DCER Knee Extension Power. *Presented at the 26<sup>th</sup> National Strength and Conditioning Association National Conference, Indianapolis, IN. Journal of Strength and Conditioning Research. 17(4):632. 2003.*
- Fry, A.C., B.K. Schilling, L.Z.F. Chiu, L.W. Weiss, R.B. Kreider, and C.J. Rasmussen. Cellular and Performance Adaptations to Resistance Exercise with MyoVive™ & Colostrum Supplementation. *Presented at the 26<sup>th</sup> National Strength and Conditioning Association National Conference, Indianapolis, IN. Journal of Strength and Conditioning Research. 17(4):632. 2003.*
- Kumar, S., L.W. Weiss, A.C. Fry, L.Z.F. Chiu, B.K. Schilling, K. Buchanan, C. Scates, and B.W. Bondurant. Association between Vertical Jumping Displacement & External Force Produced during Load-Spectrum Knee Extensions. *Presented at the 26<sup>th</sup> National Strength and Conditioning Association National Conference, Indianapolis, IN. Journal of Strength and Conditioning Research. 17(4):632. 2003.*
- Richey, C.B., A.C. Fry, C.A. Moore, L.Z.F. Chiu, and M.W. Malone. Force Characteristics of Heavy Elastic Resistance Exercise Bands: A Pilot Study. *Presented at the 26<sup>th</sup> National Strength and Conditioning Association National Conference, Indianapolis, IN. Journal of Strength and Conditioning Research. 17(4):632. 2003.*
- Schilling, B.K., A.C. Fry, L.Z.F. Chiu, L.W. Weiss, and C.J. Rasmussen. A Statistical Model for Examining the Relationship Between MHC Isoform Expression and In-Vivo Performance. *Presented at the 26<sup>th</sup> National Strength and Conditioning Association National Conference, Indianapolis, IN. Journal of Strength and Conditioning Research. 17(4):632. 2003.*
- Weiss, L.W., L.Z.F. Chiu, B.K. Schilling, A.C. Fry, K. Buchanan, B. Magu, B.W. Bondurant, and C. Scates. Predicting Vertical Jumping Displacement via Load Spectrum Squats. *Presented at the 26<sup>th</sup> National Strength and Conditioning Association National Conference, Indianapolis, IN. Journal of Strength and Conditioning Research. 17(4):632. 2003.*
- Wendell, M.P., L.Z.F. Chiu, E.J. Johnson, A.C. Fry, B.K. Schilling, L.W. Weiss, C.A. Moore, C.B. Richey, J.L. Barnes, B.J. Miles, and M.W. Malone. Changes in Exercise Intensity During High Power Resistance Exercise Performed Not-to-Failure. *Presented at the 26<sup>th</sup> National Strength and Conditioning Association National Conference, Indianapolis, IN. Journal of Strength and Conditioning Research. 17(4):632. 2003.*
- Li, Y., L.W. Weiss, A.C. Fry, K. Buchanan, L.Z.F. Chiu, B.K. Schilling, B. Magu, B.W. Bondurant, and C. Scates. Reliability of Force Measures During Load-Spectrum Knee Extensions. *Presented at the 50<sup>th</sup> American College of Sports Medicine Annual Meeting, San Francisco, CA. Medicine and Science in Sports and Exercise. 35(5):S272. 2003.*
- Weiss, L.W., A.C. Fry, L.Z.F. Chiu, B.K. Schilling, K.C. Buchanan, B. Magu, B.W. Bondurant, and

- C. Scates. Predicting Vertical Jumping Displacement via Load-Spectrum Knee Extensions. *Presented at the 50<sup>th</sup> American College of Sports Medicine Annual Meeting, San Francisco, CA. Medicine and Science in Sports and Exercise. 35(5):S273. 2003.*
- Belzer, S.T., L.W. Weiss, B. Magu, L.Z.F. Chiu, B.K. Schilling, A.C. Fry, K. Buchanan, B.W. Bondurant, and C. Scates. Reliability of Force Measures during Load-Spectrum Squats. *Presented at the 25<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research. 16(4):484. 2002.*
- Chiu, L.Z.F., A.C. Fry, B.K. Schilling, and L.W. Weiss. Construction of a Low-Cost Biomechanical Measurement System. *Presented at the 25<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research. 16(4):484. 2002.*
- Fry, A.C., B.K. Schilling, L.Z.F. Chiu, S.T. Belzer, and L.W. Weiss. Correlations Between Myosin Heavy Chain Expression and Voluntary Muscle Performance in Moderately Resistance Trained Males. *Presented at the 25<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research. 16(4):484. 2002.*
- Greenwood, M., A.C. Fry, L.E. Brown, B.K. Schilling, M. Comeau, S.T. Belzer, and L.Z.F. Chiu. Kinematic Comparison of the Weight Shift and Pivot Techniques in a Collegiate Baseball Catcher: A Pilot Study. *Presented at the 25<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research. 16(4):484. 2002.*
- Hori, N., A.C. Fry, B.K. Schilling, L.Z.F. Chiu, S.T. Belzer, and L.W. Weiss. Kinetic Performance Effects of Astaxanthin Supplementation on Delayed Onset Muscle Soreness in Weight Trained Males. *Presented at the 25<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research. 16(4):484. 2002.*
- Schilling, B.K., A.C. Fry, L.Z.F. Chiu, E. Bernard, S.T. Belzer, and L.W. Weiss. Muscle and Performance Adaptations to High Load Resistance Exercise Overtraining. *Presented at the 25<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research. 16(4):484. 2002.*
- Weir, J.P., A.C. Fry, B.K. Schilling, S.T. Belzer, L.Z.F. Chiu, and L.W. Weiss. Heart Rate Variability is Not Affected by High Intensity Resistance Exercise Overtraining. *Presented at the 25<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research. 16(4):484. 2002.*
- Weiss, L.W., A.C. Fry, B. Magu, L.Z.F. Chiu, K. Buchanan, C. Scates, B.W. Bondurant, B.K. Schilling, and S. Henderson. Relative External Loads Eliciting Maximum Concentric Force and Power During Non-Countermovement Squats. *Presented at the 25<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research. 16(4):484. 2002.*
- Buchanan, K., L.W. Weiss, A.C. Fry, B.W. Bondurant, B. Magu, L.Z.F. Chiu, B.K. Schilling, and C. Scates. Inter-day Reliability of Velocity Measures Obtained During Load-Spectrum Squats. *Presented at the 49<sup>th</sup> American College of Sports Medicine Annual Meeting, St. Louis, MO. Medicine and Science in Sports and Exercise. 34(5):S174. 2002.*
- Chiu, L.Z.F., A.C. Fry, B.K. Schilling, and L.W. Weiss. Evaluation of Explosive Force Expression in Male Subjects. *Presented at the 49<sup>th</sup> American College of Sports Medicine Annual Meeting, St. Louis, MO. Medicine and Science in Sports and Exercise. 34(5):S174. 2002.*
- Fry, A.C., L.W. Weiss, B.W. Bondurant, L.Z.F. Chiu, B.K. Schilling, B. Magu, K. Buchanan, and C. Scates. Association Between Vertical Jumping Displacement and Mechanical Force Produced During Dynamic Constant External Resistance Squats. *Presented at the 49<sup>th</sup> American College of Sports Medicine Annual Meeting, St. Louis, MO. Medicine and*

- Science in Sports and Exercise*. 34(5):S277. 2002.
- Magu, B., L.W. Weiss, A.C. Fry, L.Z.F. Chiu, K. Buchanan, B.K. Schilling, C. Scates, and B.W. Bondurant. Association Between Vertical Jumping Distance and DCER Squatting Peak Power. Presented at the 49<sup>th</sup> American College of Sports Medicine Annual Meeting, St. Louis, MO. *Medicine and Science in Sports and Exercise*. 34(5):S277. 2002.
- Schilling, B.K., N. Hori, A.C. Fry, L.Z.F. Chiu, and L.W. Weiss. Reliability of Force, Velocity and Power Using a Computer Interfaced Dynamometer. Presented at the 49<sup>th</sup> American College of Sports Medicine Annual Meeting, St. Louis, MO. *Medicine and Science in Sports and Exercise*. 34(5):S174. 2002.
- Weiss, L.W., A.C. Fry, B. Magu, L.Z.F. Chiu, B.K. Schilling, K. Buchanan, B. Bondurant, and C. Scates. Stability Reliability of External Power Measures Obtained During Load-Spectrum Squats. Presented at the 49<sup>th</sup> American College of Sports Medicine Annual Meeting, St. Louis, MO. *Medicine and Science in Sports and Exercise*. 34(5):S277. 2002.
- Chiu, L.Z.F., A.C. Fry, B.K. Schilling, L.W. Weiss, and R.B. Kreider. The Relationship Between EMG-Time and Isometric Force-Time Curves. Presented at the 6<sup>th</sup> International Olympic Committee World Congress on Sports Science, St. Louis, MO. In: *Proceedings of the 6<sup>th</sup> International Olympic Committee World Congress on Sports Science*. 2002. p. 22.
- Schilling, B.K., A.C. Fry, L.Z. Chiu, R.B. Kreider, C.J. Rasmussen, and L.W. Weiss. Myosin Heavy Chain Expression and Dynamic Strength and Force Variables in Weight-Trained Females. Presented at the 6<sup>th</sup> International Olympic Committee World Congress on Sports Science, St. Louis, MO. In: *Proceedings of the 6<sup>th</sup> International Olympic Committee World Congress on Sports Science*. 2002. p. 72.
- Chiu, L.Z., A.C. Fry, L.W. Weiss, B.K. Schilling, C.J. Rasmussen, R.B. Kreider, S.D. Lancaster, and M.A. Starks. Correction to: "Relative Contribution of Force and Velocity to Peak Power Across a Load Spectrum: A Preliminary Study" [Published Erratum]. *Journal of Strength and Conditioning Research*. 16(1):4. 2002.
- Weiss, L.W., A.C. Fry, B. Magu, K. Buchanan, L.Z. Chiu, B.K. Schilling, B. Bondurant, C. Scates, and S. Henderson. Consistency of Squatting Force at Designated Time Intervals and at its Peak Using an Inexpensive Dynamometer. Presented at the 4<sup>th</sup> American Society of Exercise Physiologists National Conference, Memphis, TN. In: *Proceedings of the 4<sup>th</sup> American Society of Exercise Physiologists National Conference*. 2001. p. 33.
- Chiu, L.Z., A.C. Fry, L.W. Weiss, B.K. Schilling, C.J. Rasmussen, R.B. Kreider, S.D. Lancaster, and M.A. Starks. Relative Contribution of Force and Velocity to Peak Power Across a Load Spectrum: A Preliminary Study. Presented at the 24<sup>th</sup> National Strength and Conditioning Association National Conference, Spokane, WA. *Journal of Strength and Conditioning Research*. 15(3):391. 2001.
- Schilling, B.K., A.C. Fry, L.Z. Chiu, L.W. Weiss, J.I. Williams, C.J. Rasmussen, and R.B. Kreider. Myosin Heavy Chain Expression and Rate of Force Development Characteristics in Weight Trained Males and Females. Presented at the 24<sup>th</sup> National Strength and Conditioning Association National Conference, Spokane, WA. *Journal of Strength and Conditioning Research*. 15(3):398. 2001.
- Weiss, L.W., A.C. Fry, L.Z. Chiu, B. Magu, and B.K. Schilling. Evaluation of a Strength Analysis "Black Box" Dynamometer. Presented at the 24<sup>th</sup> National Strength and Conditioning Association National Conference, Spokane, WA. *Journal of Strength and Conditioning Research*. 15(3):399. 2001.
- Chiu, L.Z., M.R. Rubin, A.C. Fry, L.W. Weiss, R.C. Klesges, and B.S. McClanahan. The Effects of Short-Term Non-Axial Loading Resistance Training on Calcium Regulating Hormones. Presented at the 48<sup>th</sup> American College of Sports Medicine Annual Meeting, Baltimore, MD. *Medicine and Science in Sports and Exercise*. 33(5):S266. 2001.

### Invited Presentations/Symposia

- Chiu, L.Z.F. Analyzing the Squat: Performance, Rehabilitation and Health. *To be presented at the 2008 Canadian Society for Exercise Physiology Annual General Meeting, Banff, AB. October 2008.*
- Chiu, L.Z.F. Strength Training in Athletics. *To be presented at the International Association of Athletics Federations Elite Coaches Course – Long Jump & Triple Jump, Edmonton, AB. September 2008.*
- Chiu, L.Z.F. Coaching Weightlifting Exercises. *To be presented at the International Association of Athletics Federations Elite Coaches Course – Long Jump & Triple Jump, Edmonton, AB. September 2008.*
- Chiu, L.Z.F. Training and the Neuromuscular System – Highlights of Recent Research. *Canadian Sport Centre – Calgary Seminar, Calgary, AB. August 2008.*
- Chiu, L.Z.F., and S.S. Plisk. Transfer of Training – Selecting Exercises for Athletic Performance. *Presented at the National Strength and Conditioning Association National Conference, Las Vegas, NV. 2008.*
- Chiu, L.Z.F. Transfer of Training – A Modern View on Specificity. *Presented at the National Strength and Conditioning Association – British Columbia Provincial Clinic, Burnaby, BC. 2008.*
- Chiu, L.Z.F. Teaching Weightlifting Exercises. *Presented at the National Strength and Conditioning Association Chinese Sport Summit, Colorado Springs, CO. 2007.*
- Chiu, L.Z.F. The Role of Strength in Sport. *Presented at the National Strength and Conditioning Association Chinese Sport Summit, Atlanta, GA. 2007.*
- Chiu, L.Z.F. Development of Power for Athletic Performance. *Presented at the National Strength and Conditioning Association Lifting for Power Symposium, Colorado Springs, CO. 2006.*
- Chiu, L.Z.F. Teaching the Clean. *Presented at the National Strength and Conditioning Association Lifting for Power Symposium, Colorado Springs, CO. 2006.*
- Chiu, L.Z.F. Teaching the Snatch. *Presented at the National Strength and Conditioning Association Lifting for Power Symposium, Colorado Springs, CO. 2006.*
- Chiu, L.Z.F. Weightlifting for Explosive Strength. *Presented at the USA Weightlifting Club Coach Course, Redondo Beach, CA. 2006.*
- Chiu, L.Z.F. Competency-Based Coaching Education and Training. *Presented at the Northern California Steroid Education Clinic, San Ramon, CA. 2005.*
- Chiu, L.Z.F. Competency-Based Coaching Education and Training. *Presented at the Southern California Steroid Education Clinic, Los Angeles, CA. 2005.*
- Chiu, L.Z.F. The Role of Strength and Conditioning in Grade School Athletics. *Presented at the Northern California Steroid Education Clinic, San Ramon, CA. 2005.*
- Chiu, L.Z.F. The Role of Strength and Conditioning in Grade School Athletics. *Presented at the Southern California Steroid Education Clinic, Los Angeles, CA. 2005.*
- Chiu, L.Z.F., and B.K. Schilling. Weightlifting Variations: The Stop Snatch. *Presented at the 27<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. 2005.*
- Chiu, L.Z.F., B.K. Schilling, and J.G. Garhammer. The Science of Specificity. *Presented at the 27<sup>th</sup> National Strength and Conditioning Association National Conference, Las Vegas, NV. 2005.*
- Chiu, L.Z.F. Post-Activation Potentiation: Implications for Training and Competition. *Presented at the 26<sup>th</sup> National Strength and Conditioning Association National Conference, Minneapolis, MN. 2004.*
- Chiu, L.Z.F. Dynamic Correspondence: The Biomechanical Specificity of Training. *Presented at the Arkansas State National Strength and Conditioning Association Clinic, Jonesboro, AR. 2002.*
- Chiu, L.Z.F., and B.K. Schilling. An Introduction to Weightlifting Movements. *Presented at the Arkansas State National Strength and Conditioning Association Clinic, Jonesboro, AR.*

2002.

### **Non-Refereed Articles**

Chiu, L.Z.F. Reaching For the Top. *Pure Power Magazine*. 3(6):64-71. 2003.

Chiu, L.Z.F. Post-Activation Potentiation: For More Gains, Here's a Physiological Supercharger. *Pure Power Magazine*. 3(3):60-67. 2003.

Chiu, L.Z.F. From Physical Education to Kinesiology: An Evolving Industry. *Career INFOcus*. 28(1):11-12. 2003.

### **Funding – External**

- Iron Grip Barbell Company: Assessing the Static and Dynamic Elastic Properties of Weightlifting Barbells [Principal Investigator], US\$6,165 [Awarded; 2008]
- Heart Rate Inc.: *Comparison of Mechanics between a Flywheel Inertial Resistance Machine and Traditional Free Weight Exercise* [Principal Investigator], US\$4,020 [Awarded; 2004]
- Natural Sciences and Engineering Research Council [Canada]: *Neuromuscular Potentiation and Fatigue during Loaded Multi-Articular Movements* [Principal Investigator], CDN\$35,000 [Awarded – Declined due to location of tenure requirements]
- National Strength and Conditioning Association: *Determination of Subject Specific Anthropometrics: the Effect on Joint Kinetics during Weightlifting* [Principal Investigator], US\$2,500 [Awarded; 2004 – 2005]
- National Strength and Conditioning Association: *The Acute Effects of Maximal Effort Resistance Training on Force, Velocity and Power Production* [Principal Investigator], US\$2,550 [Awarded; 2001 – 2002]

### **Graduate Courses – Instructor of Record**

- CSULB PT 619 – Contemporary Issues in Physical Therapy: Strength & Conditioning for Rehabilitation and Performance
- UM EXSS 6604 – Advanced Methods in Strength and Conditioning
- USC BKN 588 – Physiology and Biomechanics of Resistance Exercise

### **Graduate Courses – Teaching Assistant**

- USC PT514L – Gross Anatomy
- USC PT554L – Analytical Anatomy

### **Undergraduate Courses – Instructor of Record**

- UA PEDS 400 – Human Gross Anatomy
- ECC PHED 277 – Introduction to Kinesiology and Physical Education
- UM BIOL 2011 – Anatomy/Physiology I Laboratory
- UM BIOL 2021 – Anatomy/Physiology II Laboratory
- UM EXSS 4604 – Advanced Methods in Strength and Conditioning
- UM PHED 1301 – Nautilus
- UM PHED 1302 – Free Weights and Machines

### **Undergraduate Courses – Teaching Assistant**

- UM EXSS 4204 – Evaluation and Measurement in Human Movement Sciences
- UM EXSS 4403 – Kinesiology
- UM EXSS 4604 – Advanced Methods in Strength and Conditioning

### **Certifications and Licensures**

- Human Research Curriculum (Collaborative Institutional Training Initiative) [2007]
- Human Subjects Education Program (University of Southern California) [2003]
- Health Insurance Portability and Accountability Act Education Program (University of

- Southern California) [2003]
- National Coaching Certification Program Level 1 Weightlifting (Coaching Association of Canada)
  - Practical Component [2002]
  - Technical Component [2000]
  - Theory Component [1999; Level 2 2000]
- Certified Strength and Conditioning Specialist (National Strength and Conditioning Association) [2000; recertified 2003, 2006]

### **Professional Memberships**

- American College of Sports Medicine [since 1999]
- Canadian Weightlifting Federation [since 2000]
- International Society of Biomechanics [2002 – 2007]
- International Society of Biomechanics in Sport [since 2001]
- National Strength and Conditioning Association [since 1999]
- USA Weightlifting [2002 – 2007]

### **Service – University**

- Certified Strength and Conditioning Specialist Certification Review (USC) [2004]
- Graduate Students Mentored/Supervised (UM)
  - Andrew Galpin, M.S. (Exercise & Sport Science) [2006 – 2008]
  - E. Joy Johnson, M.S. (Exercise & Sports Science) [2002 – 2003]
  - Graduate Research Assistant
    - Thesis – High Power Overreaching and Dietary Intake
- Undergraduate Students Mentored/Supervised (UM)
  - Jacque L. Barnes, B.S.Ed. (Exercise & Sports Science) [2002 – 2003]
  - Brooke Miles, B.S.Ed. (Exercise & Sports Science) [2002 – 2003]
  - Chris A. Moore, B.S.Ed. (Exercise & Sports Science) [2002 – 2003]

### **Service – Community**

- Sport Science Consultant – SPARTA Performance Science, Menlo Park, CA [2008 – present]
- Sport Science Consultant – Velocity Sports Performance, Redondo Beach, CA [2006 – 2008]
- Sport Science Consultant – Peak Performance Project, Santa Barbara, CA [2005 – 2008]
- Volunteer – USA Weightlifting, Southern Pacific Local Weightlifting Committee [2004 – 2008]
- Research Project Consultant – Heart Rate, Inc., Costa Mesa, CA [2003 – 2005]
- Project Consultant – York Barbell, York, PA [2003]

### **Service – Professional**

- Grant Reviewer (National Strength and Conditioning Association) [2008]
- Abstract Reviewer – Scientific Programs Sub-Committee (National Strength and Conditioning Association) [2007]
- Long Term Athlete Development Committee (Canadian Weightlifting Federation) [2006 – present]
- Nominations Committee (National Strength and Conditioning Association) [2006 – 2009]
  - Chair [2008 – 2009]
- Column Editor – Point/Counterpoint (Strength and Conditioning Journal) [2005 - present]
- Manuscript Reviewer
  - Journal of the American Board of Family Medicine [2004 – 2006]
  - Journal of Sports Science & Medicine [2004 – 2007]
  - Sport Biomechanics [2005]
  - Sports Medicine [2004]
  - Strength and Conditioning Journal [2003 – present]

- State Director – Southern California (National Strength and Conditioning Association) [2003 – 2006]
  - Organizer – Southern California State Clinic, Fullerton, CA. February 25, 2006.
  - Organizer & Host – Southern California Steroid Education Clinic, Los Angeles, CA. August 20, 2005.
  - Organizer – Northern California Steroid Education Clinic, San Ramon, CA. August 21, 2005.
  - Organizer – Southern California State Clinic, Long Beach, CA. January 22, 2005.
- Chair – Weightlifting Special Interest Group (National Strength and Conditioning Association) [2003 – 2008]
- Co-Founder – Weightlifting Special Interest Group (National Strength and Conditioning Association)
- Research Consortium (National Strength and Conditioning Association) [2002 – present]
- Challenge Scholarship Selection Panel (National Strength and Conditioning Association) [2002 – Declined vote due to conflict of interest]

### **Honors**

- Student Research Award – Oral Presentation (National Strength and Conditioning Association) [2007]
- Dissertation Completion Fellowship (University of Southern California) [2007]
- Cambridge Who's Who in Strength and Conditioning [2007]
- Strength and Conditioning Journal Editorial Excellence Award (National Strength and Conditioning Association) [2005]
- Student Travel Award (American Society of Biomechanics) [2004]
- Student Research Award – Oral Presentation (National Strength and Conditioning Association) [2003]
- Melvin Humphreys Prize for Student Research (The University of Memphis) [2003]
- Meritorious Achievement in Applied Muscle Physiology (The University of Memphis) [2002]
- Melvin Humphreys Prize for Student Research (The University of Memphis) [2002]
- Outstanding Graduate Student in Exercise & Sport Science (The University of Memphis) [2002]
- Challenge Scholarship (National Strength and Conditioning Association) [2001]
- Graduate Fellowship Grant (Phi Gamma Delta) [2000]
- Alexander Rutherford Scholarship (Province of Alberta) [1996]