

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

Faculty of Physical Education and Recreation

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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. β_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 6th 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 31st 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 31st 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 31st 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 31st 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 55th 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 55th 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 30th 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 30th 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 54th 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 54th 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 54th 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 29th 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 29th 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 53rd 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 53rd 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 28th 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 28th 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 28th 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 28th 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 28th 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 28th 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 52nd 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 52nd 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 52nd 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 52nd 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 52nd 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 52nd 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 β_2 Receptor Adaptations to High Power Resistance Exercise Overreaching. Presented at the 27th 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 β_2 Receptor Maladaptations to High Intensity Resistance Exercise Overtraining. Presented at the 27th 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 27th 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 27th 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 27th 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 27th 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 27th 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 51st 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 51st 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 24th 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 26th 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 26th 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 26th 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 26th 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 26th 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 26th 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 26th 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 26th 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 26th 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 50th 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 50th 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 25th 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 25th 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 25th 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 25th 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 25th 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 25th 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 25th National Strength and Conditioning Association National Conference, Las Vegas, NV. Journal of Strength and Conditioning Research. 16(4):484. 2002.*
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- 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 49th 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 49th American College of Sports Medicine Annual Meeting, St. Louis, MO. Medicine and*

- Science in Sports and Exercise*. 34(5):S277. 2002.
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- 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 49th 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 49th 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 6th International Olympic Committee World Congress on Sports Science, St. Louis, MO. In: *Proceedings of the 6th 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 6th International Olympic Committee World Congress on Sports Science, St. Louis, MO. In: *Proceedings of the 6th 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 4th American Society of Exercise Physiologists National Conference, Memphis, TN. In: *Proceedings of the 4th 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 24th 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 24th 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 24th 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 48th 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 27th 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 27th 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 26th 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]