

Curriculum Vitae

Frank Frisch
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Orange, CA. 92869
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Academic History

University of Southern California, Exercise Science, Ph.D., 1982.

Dissertation: The effects of post-exhaustive carbohydrate feedings on glycogen resynthesis in rats.

California State University, Northridge, B.A, 1973
California State University, Northridge, M.A. 1977

Professional History

Director, Kinesiology Program, Chapman University, 2014-15
Director of Science Initiatives, Brandman University, 2011
Head of the Faculty, Biological Sciences, Fall of 2010
Chairman, Department of Biological Sciences 2009-2010
Scientific Director, Science Teaching and Research (STAR) Institute 2006 -currently
Professor, Department of Biological Sciences 2002 - currently
Chairman and Professor, Division of Natural Sciences, 1994 - 2002
The Jerrel Richards Endowed Presidential Professor 1999 - 2000
Associate Dean, Wilkinson College of Letters and Sciences - 1996-1998
Associate Professor, Department of Biology and Health Sciences, 1987 - 2002
Director of Human Performance Laboratory, 1985 - 1994
Courtesy Appointment to the Department of Food Science and Nutrition, 1985
Director of Animal Research Laboratory, 1983 – 1988, 1998, 1999 - 2001
Assistant Professor of Movement and Exercise Science, 1982 - 1987
Lecturer, Department of Physical Education, California State University, Fullerton, 1980 - 1982
Lecturer, Department of Sports Medicine, Pepperdine University, Malibu, 1980 - 1982
High School Teacher (Biology, Music, English, Physical Education), Perth, Western Australia, 1974 - 1976

Publications

Ellsworth, Nicole and Frisch, Frank (2021). The Effects of Sleep Deprivation on TNF-Alpha in Menopause-Induced Rats, World Wide Journal of Multidisciplinary Research and Development. <http://wwjmr.com/archive/2021/6/1618/the-effects-of-sleep-deprivation-on-tnf-alpha-in-menopause-induced-rats>. file:///Users/frisch/Downloads/the-effects-of-sleep-deprivation-on-tnf--alpha-in-menopause-induced-rats_1627634211.pdf

Nolte, Erin & Frisch, Frank & Lopez, Oliver. (2020). The Physiological Interaction of Sleep Deprivation and Zoledronate on Distal Femur Trabecular Thickness of Ovariectomized Rats. Archives of Epidemiology, December, volume 4, in 2020. <https://doi.org/10.29011/2577-2252.100045>

Elise Levesque, Anton Ketterer, Wajiha Memon, Cameron James, Noah Barrett, Cyril Rakovski and Frank Frisch, The Chapman Bone Algorithm: A Diagnostic Alternative for the Evaluation of Osteoporosis, Journal of Bone and Muscle vol. 1(1), p. 19, 2018.

Noah D. Barrett, Cameron W. James, Joshua P. Tam, Elise S. Levesque, Anton S. Ketterer², Wajiha R. Memon, Cyril S. Rakovski, Frank Frisch, Evaluating the Predictive Quality of the Chapman Bone Algorithm Using Aggregated Data Sets, International Journal of Community Medicine and Public Health, Vol. 6 (1), p. 1, 2018. DOI: <http://dx.doi.org/10.18203/2394-6040.ijcmph20180001>

Sternlicht E., F Frisch, K.D. Sumida Zumba® Fitness Workouts: are they an appropriate alternative to running or cycling? Sport Sci. Health, 2013 DOI 10.1007/s11332-013-0155-8.

Harani, M., A. A.Dror, D. Holland, F. Caporaso, K. Sumida, F. Frisch Prevalence of Vitamin D3 Deficiency in Orange County Residents. Journal of Community Health Epub ahead of press: DOI 10.1007/s10900-011-9372-8. October 2011

Caporaso, F., F. Frisch, K. Sumida. Compromised Bone Health in Non-Obese, Older Women with Low Caloric Intake. Journal of Community Health 36(4): 559-564. 2011

Sumida K.D., S.M. Arimoto, M.J. Catanzaro, and F. Frisch. Effect of age and endurance-training on the capacity for epinephrine stimulated gluconeogenesis in isolated rat hepatocytes. Journal of Applied Physiology 95(2): 712-719, 2003.

Frisch, F and K. Sumida, "Strength Training Does Not Alter the Effects of Testosterone Propionate Injections on HDL-Cholesterol Concentrations", Metabolism, Vol. 48, No. 12, pp 1493 - 1497, 1999.

Frisch, F. and K. Sumida, "Temporal Effects of Testosterone Propionate Injections on Serum Lipoprotein Levels in Rats", Medicine and Science in Sports and Exercise, Vol. 31, No. 5, pp. 664 - 669, 1999

D.E. Artim, K.E. McKinney, C.L.Sit, T.A. Castillo, K.D. Sumida and F. Frisch, "Effects of Testosterone Propionate Injections in Male Rats", The Physiologist, Vol. 39, #5, 1996.

Sumida K., F. Frisch and C. Donovan, "Training Suppresses the Lactate Dehydrogenase Activity Without Altering the Isoenzyme Pattern", Medicine and Science in Sports and Exercise, Vol. 27, #4, pp. 507-511, 1995.

Girandola, R., R. Wiswell, F. Frisch. "Use of Complete Nutrition Liquids in Performance", Carbohydrate Utilization and Exercise, E. Fox, Ed., p. 127-131, 1983.

Frisch, F., M. Andonian, N. Khodiguian, R. Girandola. "Effects of Post Exercise Feeding Time of Glycogen Repletion Rates in Liver and Skeletal Muscle", Carbohydrate Utilization and Exercise, E. Fox, Ed., p. 135-140, Ross Laboratories, Columbus, Ohio, 1983.

Girandola, R., R. Wiswell, F. Frisch, K. Wood. "VO₂ max and Anaerobic Threshold in Pre and Post Pubescent Girls", Women and Sport, An Historical, Biological and Sportsmedical Approach, J. Borms, Ed., Karger, Basel, 1981.

Abstracts and Research Presentations

Nicole Lynn Ellsworth, Frank Frisch, Evaluation of Tumor Necrosis Factor Alpha (TNF- α) in Sleep-Deprived Menopausal-Induced Rats and the Impact on Bone Health 19 April 2020. <https://doi.org/10.1096/fasebj.2020.34.s1.09173>

Nolte, E and F. Frisch, Changes in Bone Strength and Distal Femur Trabecular Thickness following Sleep-Deprivation in Ovariectomized Rats Treated with Zoledronate, The FASEB Journal, 18 April 2020; <https://doi.org/10.1096/fasebj.2020.34.s1.06761>

Robertson, M.; Booth, D.; Wainwright, E.; Arbuckle, C.; and Frisch, F., "The Effect of Chronic Sleep Deprivation on Tumor Necrosis Factor Alpha and Bone Health in Peri-Menopausal Rats" (2014). Student Research Day Abstracts and Posters. Paper 73. http://digitalcommons.chapman.edu/cusrd_abstracts/73

F. Frisch, Z. Wilson, C. Arbuckle, E. Sternlicht, Age-Related Serum Alkaline Phosphatase Trends, Proceedings of the Federation for Experimental Biology, Boston, FASEB J., April 9, 2013 27:937.18

Wilson, Z., C. Lau, F. Caporaso, K. Sumida, F. Frisch, Alkaline Phosphatase to Parathyroid Hormone ratio in Orange County Residents. Program number D 568 630.8, Federation of Experimental Biology, Anaheim, CA April, 2010.

Lau, C., Z. Wilson, F. Caporaso, K. Sumida, F. Frisch. Parathyroid Hormone Ratio and 1,25-dihydroxyvitamin D in Young and Old Females. Program number D568 630.9, Federation of Experimental Biology, Anaheim, CA April, 2010.

Wilke, J.C., D.J. Shulkatis, F. Frisch, "The Effects of Exogenous Testosterone on Serum Lipid Profile in Strength Trained Animals". Experimental Biology Annual Meeting, Atlanta, GA, April 12, 1995.

Shulkatis, D.J., J.C. Wilke, C. Long, I. Cintron, V. Hermansson, F. Frisch, "The Effects of Testosterone and Strength Training on Testicular Mass and Body Weight", Annual

Meeting of SW District of the American College of Sports Medicine, San Diego, Nov. 5, 1994.

Coury, R., S. Milam, M. Randeria, and F. Frisch, "Anabolic Steroid Prevalence in High Schools", Annual Meeting of SW District of the American College of Sports Medicine, San Diego, Nov. 5, 1993.

Coury, R., S. Milam, M. Randeria, and F. Frisch, "Anabolic Steroid Prevalence in High Schools", Sports Med., Training and Rehab., Vol. 4, p. 307, 1993.

Frisch, F., K. Sumida and C. Donovan, "Hepatic Lactate Dehydrogenase Activity and Isoenzyme Patterns Following Endurance Training", American College of Sports Medicine Annual Meeting, Seattle, June 5, 1993.

Ortiz, S. M. and F. Frisch, "The Effects of Exogenous Testosterone and Weight Training on Serum Lipids", Young Scholars Meeting, National Science Foundation, University of California Irvine, October, 1993.

Ford, B.J. and F. Frisch, "A Novel Exercise Task to Induce Muscle Hypertrophy", American College of Sports Medicine Meeting, Houston, TX, May 1992.

Potter, F., F. Frisch. "The Validation of Predictive Equations in Determining Oxygen Uptake", South-West District of the American College of Sports Medicine, Las Vegas, Nevada, December, 1989.

Frisch, F. "Blood Profiles of Participants in an 80 km Race", Sports Medicine Bulletin, Vol.24, No. 2, 1989.

Marumoto, T., F. Frisch, L. Goss, and F. Caporaso. "Foot-strike Hemolysis or Renal Azotemia?" International Journal of Sports Medicine, vol. 4, p. 172, 1989.

Marumoto, T., F. Frisch, L. Goss, and F. Caporaso. "Blood Profiles During Ultra-Endurance Race", South-West District of the American College of Sports Medicine, Las Vegas, Nevada, December, 1988.

Vollmer, K., F. Frisch, J. Sternberg, and J. Woodard. "Salivary and Plasma Concentrations of Immunoglobulin A in Trained and Untrained Subjects", International Journal of Sports Medicine, vol. 4, p. 172, 1986.

Bennett, W. (Harvard Health Letter, editor) and F. Frisch. "Nutrition and the Athlete", American College Health Association annual conference, New Orleans, Louisiana, May, 1986.

Frisch, F. (moderator) "Exercise Physiology and the Aging Athlete: Beyond the Second Decade", symposia on exercise physiology, CAHPERD annual conference, San Diego, March 20, 1986.

Ghareeb, A., and F. Frisch. "Myocardial and Metabolic Adaptation to Chronic Ethanol Ingestion in Trained and Untrained Mice" CAHPERD annual conference, Oakland, CA., March, 1985.

Clear, M. and F. Frisch "Validation of Generalized Formulae for Prediction VO₂ During Treadmill Performance" SWACSM presented November 1985.

Priest, C. and F. Frisch. "Rehydration and Beverage Choice in Dehydrated Subjects", CAHPERD annual conference, Oakland, CA., March, 1985.

Frisch, F., D. DeBaets, and F. Caporaso. "The Effects of Thermally Induced Dehydration on Salivary Na⁺ and K⁺ Concentrations, Abstracts of the American Association for the Advancement of Science Annual Meeting, p. 133, 1985, and presented at annual AAAS meeting, Los Angeles, May, 1985.

Andonian, M., F. Frisch, and R. Wiswell. "Influence of Ethanol Ingestion on Lactate Production During Steady-State Submaximal Exercise" International Journal of Sports Medicine, Vol. 6, p. 157, 1984.

Andonian, M., and F. Frisch. "Glycogen Repletion in Crural and Costal Portions of Rat Diaphragm", International Journal of Sports Medicine Vol. 1, p. 162, 1983.

Frisch, F., M. Andonian, N. Khodiguian, R. Girandola. "Effects of Post Exercise Feeding Time and Glycogen Repletion Rates in Liver and Skeletal Muscle of Rats", International Journal of Sports Medicine, Vol. 1, p. 163, 1983.

Frisch, F.. "Biochemical Dynamics of Muscle Contraction", National Association of Athletic Trainers, Palm Springs, CA. August 1983.

Andonian, M., and F. Frisch. "Glycogen Repletion in Crural and Costal Portions of Rat Diaphragm", International Journal of Sports Medicine, Vol 1, p. 162, 1983.

Frisch, F., and M. Andonian. "Decapitation vs. Sodium Pentobarbital in the Determination of Tissue Glycogen", CAHPERD annual conference, Monterey, California, 1982.

Girandola, R., R. Wiswell, F. Frisch. "Use of Complete Nutrition Liquids in Performance", Ross Laboratories Symposium on Nutrient Utilization and Exercise, Innisbrook, Florida, November 1982.

Andonian, M., and F. Frisch. "Glycogen Repletion in Crural and Costal Portions of Rat Diaphragm", South-West District of the American College of Sports Medicine, Las Vegas, Nevada, November 1982.

Frisch, F. N. Khodiguian, M. Andonian, R. Girandola, "Glycogen Repletion Rates in Heart, Liver and Skeletal Muscle of Rats", Ross Laboratories Symposium on Nutrient Utilization and Exercise, Innisbrook, Florida, November 3, 1982.

Frisch, F., M. Andonian, N. Khodiguian, R. Girandola. "Post Exercise Refeeding Schedules for Hepatic, Cardiac and Skeletal Muscle Glycogen Resynthesis", South-West District of ACSM, Las Vegas, Nevada, November 10, 1982.

Frisch, F. "Physiological Aspects of Women in Sport", presented CAHPER annual conference, Los Angeles, California, 1981.

Frisch, F., N. Khodiguian, and K. Wood. "The Effects of Acute Stress on Ventilatory pH", AAHPERD Abstracts, 1981.

Khodiguian, N., and F. Frisch. "Effects of Exercise on Residual Lung Volume and Vital Capacity", International Journal of Sports Medicine (abstracts), Vol. 1, p.14, 1981.
Frisch, F., K. Wood, N. Khodiguian. "The Effects of Acute Stress on Ventilatory pH", presented AAHPERD annual conference, Boston, MA., April, 1981.

Girandola, R., R. Wiswell, F. Frisch, K. Wood. "Metabolic Adjustments to Exercise in Pre and Post Pubescent Girls", ACSM annual meeting, Miami, Florida, June, 1981.

Khodiguian, N., and F. Frisch. "The Effects of Exercise on Residual Lung Volume and Vital Capacity", South-West District of the American College of Sports Medicine, Las Vegas, Nevada, International Journal of Sports Medicine (abstracts) Vol. 1, p. 14, December, 1981.

Girandola, R., R. Wiswell, F. Frisch, K. Wood. "VO₂ max and Anaerobic Threshold in Pre and Post Pubescent Girls", International Congress of Women in Sports, Rome, Italy, 1980.

Frisch, F. "Anaerobic Threshold - Physiological Mechanisms", presented annual CAHPERD conference, Fresno, California, 1980.

University Honors and Awards

The Jerrel Richards Endowed Presidential Professor 1999 – 2000.

Valerie Scudder Award for Excellence in Teaching, Research Advising, & Service, 1987, 1996.

Proprietary Research

Comparison of Two Products During a Graded Exercise Task, NutriLife, Inc. 1992,

Grants and Funding

Awards less than \$100,000:

Optimal Feeding Times and the Use of Liquid Diet, Ross Laboratories, Columbus, Ohio, 1980, funding to support Ph.D. studies

Glass Electrode Application in pH Determination of Ventilatory Gas, USC Biomedical Research Support Funds, 1980, \$1,200

Prevalence of Anabolic Steroid Use Among Orange County High School Students, Irvine Health Foundation, 1991 – 1992. \$17,000

Ford Foundation, Science Education, 1998, \$10,000.

Washington Mutual Foundation, 2007, \$25,000

United Way of Orange County for:

Mathematics, Engineering and Science Achievement. \$10,000, 2013-2014

Mathematics, Engineering and Science Achievement. \$10,000, 2014-2015

Mathematics, Engineering and Science Achievement. \$10,000, 2015-2016

Mathematics, Engineering and Science Achievement. \$10,000, 2016-2017

Mathematics, Engineering and Science Achievement. \$10,000, 2017-2018

Awards equal to or greater than \$100,000:

The McPherson Trust Grant, for Science Renovation and Equipment, 1994, \$100,000.

Betty Hutton Williams Foundation, Science Equipment and Support, 1995, \$400,000.

Steele Foundation Grant, Biotechnology Development and Curricular Development, 1995, \$200,000.

Ralph M. Parsons Foundation Grant, General Chemistry Initiative, 1995, \$100,000.

Ralph M. Parsons Foundation Grant, Organic Chemistry Lab Renovation, 1998, \$150,000.

Ralph M. Parsons Foundation Grant, Geosciences Renovation Grant, 2002, \$100,000.

Ralph M. Parsons Foundation Grant, Zoology Lab Renovation, 2003, \$150,000.

Ralph M. Parsons Foundation Grant, Exercise Physiology Lab Renovation, 2006, \$150,000.

Mabel and Arnold Beckman Foundation, Physics Laboratory Renovation, 1996, \$300,000.

William M. Keck Foundation Grant, for Innovations in Physical Sciences, 1996, \$575,000.

Steele Foundation Grant, Biotechnology Development and Curricular Development, 1998, \$250,000

The James Hancock Endowed Chair in Cardiovascular Science for the Division of Natural and Applied Sciences, 2000, \$1,000,000

Project SMART, Science, Math, Reading & Technology – A Collaboration Between the State of California, Chapman University and Anaheim City School District
Miller, R. (PI) and F. Frisch, (Co-PI), California Endowment for Post Secondary Education, 2007, \$984,000

James Irvine Foundation, Characterizing Bone Health in Orange County Residents, 2007, \$500,000

Mathematics, Engineering and Science Achievement, University of California, Office of the President, 2010-2012 , \$278,000

Mathematics, Engineering and Science Achievement, University of California, Office of the President, 2014-2015 , (two years) \$178,000

California Math and Science Partnership, California Department of Education, 2014 – 2017, Chapman Anaheim Science Partnership, (three years) \$1,400,000

Mathematics, Engineering and Science Achievement, University of California, Office of the President, 2017 , (one year) \$105,000

Foundation Participation

Boojum Foundation, 1994 – 1999, President, 1996

Inside the Outdoors Foundation (Orange County Department of Education Affiliate)
Vice President, 1994, President, 1997 – 2002. Board Member 1993 - 2007

Courses Taught at Chapman University

Anatomy
Anatomy Laboratories
Human Physiology
Comparative Physiology
Physiology Laboratories
Applied Physiology
Biology of Aging
Biomechanics
Environmental Physiology
Exercise Physiology
High Intensity Physical Conditioning
Human Physiology
Kinesiology
Kinesiology for Dancers
Motor Development

Nutrition
Nutrition and Performance
Science in Motion
Seminar in Current Topics
Statistics
Vertebrate Physiology
Weight Training

Societies

National Science Teachers Association
American Physiological Society

College Committee Positions Held

President of the Faculty Senate (2020-2021)
Vice-President of the Faculty Senate (2019-2020)
Institutional Review Board (IRB), Chair 2007
Research and Development Council 2006
Academic Advisement Task Force, Chair
School of Music Faculty Personnel Committee
Academic Committee
Graduate Studies Council
Faculty Personnel Committee (1998,2003)
Computer Planning Committee
Academic Standards Committee (Chairman - 1988)
Research Council - grants and funding considerations – now called Research and Development Committee
Student Life Committee (Chairman - 1990)
Director, Animal Vivarium (1998 to present)

Current Interests

Reviewer for Journal of College Science Teaching
Chapman Early Music Ensemble, woodwinds (Spring semesters only)