

DANIEL PAUL HEIL, Ph.D., FACSM
CURRICULUM VITAE (Abbreviated)
Updated - January 2011



BUSINESS ADDRESS

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CURRENT POSITION

- **Professor, Exercise Physiology** (9/10 - Present)
 - Dept. of Health and Human Development, Montana State University, Bozeman, MT.
 - (9/03-9/10) Associate Professor, Exercise Physiology, Montana State University.
 - (9/98-5/03) Assistant Professor, Exercise Physiology, Montana State University.

EDUCATION

- **Doctor of Philosophy** (1997)
 - Dept. of Exercise Science, University of Massachusetts, Amherst, MA.
 - Major area: Exercise Science.
 - Concentration: Applied physiology of exercise.
 - Minor concentrations: Biomechanics and statistics.
 - Major professor: Patty S. Freedson, Ph.D.
 - Average cumulative GPA (on a 4.0 scale) = 3.93.
 - Dissertation title: *Body Mass Scaling of Endurance Cycling Performance.*
- **Master of Science** (1991)
 - Dept. of Exercise and Sport Science, Oregon State University, Corvallis, OR.
 - Major area: Human Performance.
 - Concentration: Applied physiology of exercise.
 - Minor concentrations: Nutrition and statistics.
 - Major professor: Anthony R. Wilcox, Ph.D.
 - Average cumulative GPA (on a 4.0 scale) = 3.90.
 - Thesis title: *The Effect of Seat-Tube Angle Variation on Cardiorespiratory Responses During Submaximal Bicycling.*
- **Bachelor of Science** (1989)
 - Dept. of Biology, Oregon State University, Corvallis, OR.
 - Major area: Biology.
 - Average cumulative GPA (on a 4.0 scale) = 3.74.

ACADEMIC TEACHING EXPERIENCE

• Undergraduate Academic Courses

· *Exercise Physiology + Labs* (Montana State University - MSU, University of Southern Indiana - USI); *Exercise Testing and Prescription* (MSU, USI); *Disease and Lifestyle* (MSU); *Measurement and Evaluation* (USI); *Anatomical Kinesiology + Labs* (USI); *Biomechanics + Labs* (USI); *Wellness/Fitness Appraisal + Labs* (USI); *Human Performance and Nutrition* (Lab only at University of Massachusetts - Umass); Sponsored Undergraduate Research (MSU and USI).

• Graduate Courses

· *Graduate Exercise Physiology* (Lecture + Lab, MSU); *Cardiology and Exercise ECG* (Lecture + Lab, MSU); *Measurement & Evaluation of Physical Activity* (MSU); *Respiratory Dynamics* (Lab only, Oregon State University); *Physiology Instrumentation* (Lab only, Umass).

PROFESSIONAL WORK EXPERIENCE

• **Professor.** Dept. of Health and Human Development, Montana State University (*MSU: 9/2010-Present*)

· Promoted in September of 2010.
· *Responsibilities are the same as those described below.*

• **Associate Professor.** Dept. of Health and Human Devl., Montana State University (*MSU: 8/03-5/2010*)

· Promoted in August of 2003.
· *Responsibilities are the same as those described below.*

• **Assistant Professor.** Dept. of Health and Human Devl., Montana State University (*MSU: 8/98-5/03*)

· **Teaching responsibilities** include graduate and undergraduate courses in Exercise Physiology, an undergraduate course in Exercise Testing & Prescription (based upon ACSM HFI certification), as well as a graduate course in Measurement and Evaluation (Fall 2009). I have also taught single semester undergraduate courses in Biomechanics and Physical Activity and Chronic Disease.

· **Research responsibilities** include the acquisition and maintenance of physiology equipment for the Movement Science / Human Performance Lab, performing original research within my field of expertise, as well as the publication and presentation of this research in peer-reviewed journals and conferences (regional and national), respectively. Responsibilities also included the direction of graduate (Masters) and undergraduate Exercise Physiology research theses and projects, respectively.

· **Director of Human Performance Laboratory**, a component of the Movement Science Laboratory. Primary responsibility has been to acquire funding for physical renovations to the lab space, as well as for instrumentation. Additional responsibilities include the creation and maintenance of lab testing contracts with local and regional organizations. The lab's testing services have primarily focused on servicing the Bozeman city fire fighters (annual health screening), US Forest Service (contracted services), and the Bridger Ski Foundation (tri-annual fitness testing to aid with training program design).

• **Assistant Professor.** Dept. of Physical Education, University of Southern Indiana (*USI: 7/96-6/98*)

· **Teaching responsibilities** included 12 credit hours per semester of undergraduate courses in Exercise Science for P.E. majors

· **Research responsibilities** included the development and maintenance of a *Human Performance Laboratory* (including equipment servicing), performing original research within my field of expertise, as well as the publication and presentation of this research in peer-reviewed journals and conferences (regional and national), respectively. Responsibilities also included the direction of undergraduate Exercise Science research projects for presentation at local Undergraduate Research Conference.

· **Other responsibilities** included creation of an Exercise Science major within the P.E. department, the advising of students interested in Exercise Science. Also acquired funding to build and fully instrument a new 2000 ft² Human Performance Laboratory.

PUBLICATIONS

NOTE: Articles and abstracts marked with an (I), (N), (R), or (S) have been presented at International, National, Regional, and/or State conferences, respectively, and are NOT repeated in the conference presentations section of the CV.

• Manuscripts (Original Research, Peer-Reviewed, Refereed)

Published Manuscripts

- 2011 **Heil, D.P.**, S. Brage, M. Rothney. Modelling physical activity outcomes from wearable monitors. *Medicine and Science in Sports and Exercise (In Press)*.
Rowe, D.A., G.J. Welk, **D.P. Heil**, M.T. Mahar, C.D. Kemble, A. Calabro, and K. Camenisch. Stride rate recommendations for moderate intensity walking. *Medicine and Science in Sport and Exercise* 43(2);(in Press).
Hooker, S.P., A. Feeney, B. Hutto, K.A. Pfeiffer, **D.P. Heil**, J.E. Vena, M.J. Lamonte, S.N. Blair. Validation of the Actical activity monitor in middle-age and older adults. *Journal of Physical Activity and Health* 8(3): in Press.
Heil, D.P., S.J. Willis. Determinants of both classic and skate cross country ski performance in competitive junior and collegiate skiers. *Science and Skiing V*. Eds: E. Muller, S. Lindinger, S. Stoggl, J. Pfusterschmied. In Press.
Willis, S.J., **D.P. Heil**. Can sprint skiing on an indoor track predict on-snow skate sprint performance in competitive skiers? *Science and Skiing V*. Eds: E. Muller, S. Lindinger, S. Stoggl, J. Pfusterschmied. In Press.
Seifert, J.G., J. Portmann, **D.P. Heil**, S.J. Willis. Energy expenditure of professional ski patrollers during patient transport. *Science and Skiing V*. Eds: E. Muller, S. Lindinger, S. Stoggl, J. Pfusterschmied. In Press.
- 2010 **Heil, D.P.** Acid-base balance and hydration status following consumption of mineral-based alkaline bottled water. *Journal of the International Society of Sports Medicine* 7:29 (13 September 2010).
- 2009 **Heil, D.P.**, G.G. Bennett, K.S. Bond, M.D. Webster, K.Y. Wolin. Influence of Activity Monitor Location and Bout Duration on Free-Living Physical Activity. *Research Quarterly in Exercise and Sport* 80(3):1-10.
(NR) Alsobrook, N.G., **D.P. Heil**. Anaerobic and aerobic upper body power as determinants of classical cross-country ski performance. *European Journal of Applied Physiology* 105:633-641.
- 2008 Wolin, K.Y., **D.P. Heil**, S. Askew, C.E. Matthews, G.G. Bennett. Validation of the International Physical Activity Questionnaire - Short Among Blacks. *Journal of Physical Activity and Health* 5:1-15.
Whitt-Glover, M.C., P.E. Hogan, W. Lang, **D.P. Heil**. Pilot study of a faith-based physical activity program among sedentary blacks. *Preventing Chronic Disease* 5(2):1-9.
Lynch, W.C., **D.P. Heil**, M.D. Havens, E. Wagner. Body dissatisfaction mediates the association between body mass index and risky weight control behaviors among White and Native American adolescent girls. *Appetite* 51(1):210-213.
- 2007 Lynch, W.C., **D.P. Heil**, E. Wagner, M. Havens. Ethnic differences in BMI, weight concerns, and eating behaviors: Comparison of Native American, White, and Hispanic Adolescents. *Body Image* 4:179-190.
- 2006 (N) **Heil, D.P.** Predicting energy expenditure using the Actical activity monitor. *Research Quarterly in Exercise and Sport* 77(1):64-80.
- 2005 (N) **Heil, D.P.** Body size as a determinant of the one-hour cycling record at sea level and altitude. *European Journal of Applied Physiology* 93(5-6):547-554.
(NR) Miles, M.P., **D.P. Heil**, K.R. Larson, S.B. Conant, S.M. Schneider. Prior resistance training and sex influence muscle response to arm suspension. *Medicine and Science in Sports and Exercise* 37(11):1983-1989.
- 2004 (N) **Heil, D.P.**, J. Engen, B.K. Higginson. Influence of Ski Pole Grip on Upper Body Power Output in Cross-country Skiers. *European Journal of Applied Physiology* 91(4):481-487.

- 2003 (N) Heil, D.P., B.K. Higginson, C.P. Keller, and C.A. Juergens. Prediction and classification of energy expenditure from CSA output during overground walking. *Journal of Exercise Physiology* 6(1):1-11.
- 2002 Heil, D.P. Body mass scaling of frontal area in competitive cyclists without aerobars. *European Journal of Applied Physiology* 87:520-528.
 (N) Heil, D.P. Estimating energy expenditure in wildland fire fighters using a physical activity monitor. *Journal of Applied Ergonomics* 33(5):405-413.
 (N) Heil, D.P., and S.R. Mathis. Characterizing free-living light exposure as a function of work environment using a wrist-worn light monitor. *Journal of Applied Ergonomics* 33(4):357-363.
- 2001 (N) Heil, D.P. Body mass scaling of projected frontal area in competitive cyclists. *European Journal of Applied Physiology* 85(3/4):358-366.
 (N) Heil, D.P., O. Murphy, A.R. Mattingly, and B.K. Higginson. Prediction of uphill time-trial bicycling performance using a scaling-derived ergometer protocol. *European Journal of Applied Physiology* 85(3/4):374-382.
- 1999 Matthews, C.E., D.P. Heil, P.S. Freedson, and H. Pastides. Classification of cardiorespiratory fitness without exercise testing. *Medicine and Science in Sports and Exercise* 31(3):486-493.
- 1998 (N) Heil, D.P. Body mass scaling of submaximal oxygen uptake during graded treadmill bicycling. *Journal of Applied Physiology* 85(4):1376-1383.
- 1997 Heil, D.P. Body mass scaling of peak oxygen uptake in 20 to 79 year old adults. *Medicine and Science in Sports and Exercise* 29(12):1602-1608.
 (N) Heil, D.P., T.R. Derrick, S. Whittlesey. The relationship between preferred and optimal positioning during submaximal cycle ergometry. *European Journal of Applied Physiology* 75:160-165.
 Heil, D.P. The pressor response to submaximal cycle ergometry while using aerodynamic handlebars. *International Journal of Sports Medicine* 18(1):1-7.
- 1995 (N) Heil, D.P., A. Wilcox, and C. Quinn. The effect of seat-tube angle variation on cardiorespiratory responses during submaximal bicycling. *Medicine and Science in Sports and Exercise* 27(5):730-735.
 (N) Heil, D.P., P.S. Freedson, L.E. Alquist, J. Price, and J.M. Rippe. Non-exercise regression models to estimate peak oxygen consumption. *Medicine and Science in Sports and Exercise* 27(4):599-606.
- **Other Publications (Non-Refereed for Popular Literature and Professional Organizations)**
- 2011 Heil, D.P., S.J. Willis. Is Vertical Jumping Ability Related to Nordic Skiing Performance? *XC World Digest - The Official Newsletter of the American Cross Country Skiers (AXCS)*, in press.
- 2010 Heil, D.P., N. Bishop. Tracking Heart Rate for Health - Lessons From a Master Skier. *XC World Digest - The Official Newsletter of the American Cross Country Skiers (AXCS)*, pgs 16-19.
 Heil, D.P. The Benefits of Level Three Training. *Master Skier*, 2010-2011 Season, pgs 63-64.
- 2009 Heil, D.P. Using Heart Monitors. *Master Skier*, 2009-2010 Season, pp. 58-59.
 Heil, D.P. Optimize Your Recovery. *Master Skier*, Race Season, pp. 33 & 40.
 Jacobson, E., D.P. Heil. Stiffness Matters - MSU Research on Ski Pole Stiffness. *XC World Digest - The Official Newsletter of the American Cross Country Skiers (AXCS)*, 11(1):32-33.
- 2008 Heil, D.P. Training With TRIMP. *Master Skier*, Mid-Season, pp 33 & 40.
 Heil, D.P. Keeping a Training Log. *Master Skier*, Pre-Season, pp 43 & 46..
 Jacobson, E., D.P. Heil. Does Ski Pole Stiffness Influence Skiing Performance? *XC World Digest - The Official Newsletter of the American Cross Country Skiers (AXCS)*, 10(1):18-19.
- 2007 Heil, D.P. Pay Attention to Your BMI. *Master Skier*, Mid-Season, pg 11.
 Heil, D.P. Gender Differences in Heart Rate Monitoring. *Master Skier*, Pre-Season, pg 30.

- Camenisch, K. and **D.P. Heil**. Flexibility and Nordic Ski Performance - Recent Research Results. *XC World Digest - The Official Newsletter of the American Cross Country Skiers (AXCS)*, 9(2):18-19.
- Heil, D.P.** Either Use it or Lose it! *Master Skier*, Race Season, pgs 37-38.
- Camenisch, K. and **D.P. Heil**. Can Flexibility Influence Nordic Ski Performance? *XC World Digest - The Official Newsletter of the American Cross Country Skiers (AXCS)*, 9(1):18-19.
- Heil, D.P.** The 2007 ACSM Northwest Conference - A Success by Any Measure! *Spring 2007 ACSM Northwest electronic newsletter* to all members.
- 2006 **Heil, D.P.** Can Weight Loss Improve Nordic Ski Performance? *XC World Digest - The Official Newsletter of the American Cross Country Skiers (AXCS)*, 8(2):18-19.
- Heil, D.P.** and N. Alsobrook. Upper Body Power and Nordic Ski Performance - Part II. *XC World Digest - The Official Newsletter of the American Cross Country Skiers (AXCS)*, 8(1):18-19.
- Heil, D.P.** Volume versus Intensity. *Master Skier*, Mid-Season, pgs. 37 & 46.
- 2005 **Heil, D.P.** Balance Training and Physical Performance. *Outside Bozeman*, Winter 2005-2006, pgs. 38-39.
- Heil, D.P.** Tracking Aerobic Fitness With Heart Rate. *Master Skier*, Mid-Season, pgs. 13-14.
- Heil, D.P.** Staying Fueled During Exercise. *Outside Bozeman*, Fall 2005, pgs. 34-35.
- Heil, D.P.** Cross Training - It Really Works! *Master Skier*, Fall 2005 Pre-Season Issue, pgs. 41-42.
- Heil, D.P.** Upper Body Power and Nordic Ski Performance - Part I. *XC World Digest - The Official Newsletter of the American Cross Country Skiers (AXCS)*, 7(2):18-19.
- Heil, D.P.** Reproductive Function in Athletic Women. *The Official Newsletter of the American Cross Country Skiers (AXCS)*, 7(1):16, 35-36.
- Heil, D.P.** Lab Testing - Who Needs it?. *Master Skier*, Race Season issue 3:53.
- 2004 **Heil, D.P.** President's Message. NWACSM Chapter Newsletter, Fall 2004 issue.
- Heil, D.P.** A Hard Lesson Learned From Heart Rate Monitoring. *Master Skier*, Early Fall ,issue.
- Heil, D.P.** President's Message. NWACSM Chapter Newsletter, Summer 2004 issue.
- Heil, D.P.** Age and Skiing Performance in Master Skiers. *The Official Newsletter of the American Cross Country Skiers (AXCS)*, 6(2):16-17.
- Heil, D.P.** President's Message. NWACSM Chapter Newsletter, Spring 2004 issue.
- Heil, D.P.** A Study on Max Heart Rates. *Master Skier*, 3:31-32.
- 2003 **Heil, D.P.** Aging and Upper Body Power. *Master Skier*, 1:13-14.

CONFERENCE PRESENTATIONS

NOTE: With the exception of sponsored undergraduate research projects, only those presentations that have NOT already been listed as a manuscript in the CV are listed below.

• Published Abstracts (Original Research, Peer-Reviewed, Refereed)

NOTE: Abstracts marked with the symbol ‡ are presentations for which the student won an award at the NWACSM Conference.

- 2011 (N) **Heil, D.P.**, M.C. Whitt-Glover, P.H. Brubaker, S.M. Howe. Predicting the AEE-based moderate intensity cut point using RMR and BMI. In review for 2011 ACSM conference.
- (N) Whitt-Glover, M.C., **D.P. Heil**, L.A. Hornbuckle, S.A. Ham, B.E. Ainsworth. A calibration method to improve the criterion validity of self-reported physical activity. In review for 2011 ACSM conference.
- (N) Langford, D.E., S. Sterling, L. Lee, K. Zollinger, J. King, **D.P. Heil**. The energy expenditure of ballroom dance. In review for 2011 ACSM conference.
- (NR) Taylor, K.J., S.J. Willis, **D.P. Heil**. Test-retest reliability of vertical jump performance in competitive cross country skiers. In review for 2011 ACSM conference.
- (N) Willis, S.J., **D.P. Heil**. Determinants of on-snow skate sprint cross-country skiing performance for junior and collegiate skiers. In review for 2011 ACSM conference.

- (NR) Bakken, B., K.A. Borgen, S.J. Willis, **D.P. Heil**. The influence of compression tights on markers of economy for cross-country skiers during steady-state running. In review for 2011 ACSM conference.
- 2010 (I) **Heil, D.P.** Modelling the age-related decline in cross country ski performance. *5th International Congress on Science and Skiing - Book of Abstracts*. Eds: E. Muller, S. Lindinger, S. Stoggl, J. Pfusterschmied. Pg 157.
- (I) **Heil, D.P.**, S.J. Willis. Determinants of both classic and skate cross country ski performance in competitive junior and collegiate skiers. *5th International Congress on Science and Skiing - Book of Abstracts*. Eds: E. Muller, S. Lindinger, S. Stoggl, J. Pfusterschmied. Pg 47.
- (I) Willis, S.J., **D.P. Heil**. Can sprint skiing on an indoor track predict on-snow skate sprint performance in competitive skiers? *5th International Congress on Science and Skiing - Book of Abstracts*. Eds: E. Muller, S. Lindinger, S. Stoggl, J. Pfusterschmied. Pg 92.
- (I) Seifert, J.G., J. Portmann, **D.P. Heil**, S.J. Willis. Energy expenditure of professional ski patrollers during patient transport. *5th International Congress on Science and Skiing - Book of Abstracts*. Eds: E. Muller, S. Lindinger, S. Stoggl, J. Pfusterschmied. Pg 52.
- (N) Hornbuckle, L., M.C. Whitt-Glover, **D.P. Heil**. A comparison of physical activity outcome variables from bilateral wrist-worn accelerometers. *Med Sci Sports Exerc* 42(5):S484.
- 2009 (N) **Heil, D.P.**, A.M. Hymel, C.K. Martin. Predicting free-living activity energy expenditure with hip and wrist accelerometry versus doubly labeled water. *Med Sci Sports Exerc* 41(5): S351.
- (N) Howe, S.M., **D.P. Heil**. The influence of bout interruptions on predicted physical activity during treadmill walking and running. *Med Sci Sports Exerc* 41(5): S395.
- (N) Dock, M., R. Pickels, **D.P. Heil**. Influence of pedometer tilt angle on step counting validity during controlled treadmill walking trials. *Med Sci Sports Exerc* 41(5): S353.
- (N) Jacobson, E.A., R. Pickels, **D.P. Heil**. Effect of ski pole stiffness on upper body power output in cross-country skiers. *Med Sci Sports Exerc* 41(5): S194.
- (N) **Heil, D.P.**, J. Seifert. Influence of bottled water on rehydration following a dehydrating bout of cycling exercise. *J Int Soc Sports Nut* 6(Supplement 1):P9
- 2008 (N) **Heil, D.P.**, C. Black, M. Duet, L. Li. Predicting activity energy expenditure with activity monitors in adults with peripheral neuropathy. *Med Sci Sports Exercise* 40(5):S199.
- (N) Howe, S.M., K. Camenisch, M.M. Dock, E.A. Jacobson, R.J. Pickels, M.D. Webster, D. Danevski, **D.P. Heil**. Prediction of maximal oxygen uptake in Nordic skiers. *Med Sci Sports Exercise* 40(5):S418.
- (N) Webster, M.D., **D.P. Heil**. Reliably measuring habitual free-living physical activity with hip- and wrist-worn activity monitors. *Med Sci Sports Exercise* 40(5):S199.
- (N) Black, C.L., M. Duet, **D.P. Heil**, L. Li. Activity energy expenditure predictions underestimate walking in adults with peripheral neuropathy. *Med Sci Sports Exercise* 40(5):S199.
- (N) Duet, M.M., **D.P. Heil**, C.L. Black, J.M. Hondzinski, L. Li. Physical activity monitor recordings are task and population dependent. *Med Sci Sports Exercise* 40(5):S200.
- (NR) Higginson, B.K., **D.P. Heil**. Influence of exercise intensity on heart rate response while shooting in elite Summer biathletes. *Med Sci Sports Exercise* 40(5):S164.
- 2007 (N) **Heil, D.P.**, M.C. Whitt-Glover, P.H. Brubaker, Y. Mori. Influence of moderate intensity cut point on free-living physical activity outcome variables. *Med Sci Sports Exerc* 39(5):S185.
- (NR) Dock, M., S.M. Howe, K. Camenisch, **D.P. Heil**. Validation of a step counting algorithm for an accelerometry-based activity monitor. *Med Sci Sports Exerc* 39(5):S180.
- ‡ (NR) Howe, S.M., M. Dock, K. Camenisch, **D.P. Heil**. Reliability of accelerometry-based activity monitor output during treadmill walking. *Med Sci Sports Exerc* 39(5):S181.
- (N) McKenzie, J., **D.P. Heil**. GPS-based prediction of energy expenditure for outdoor walking during downhill, level, and uphill grade classifications. *Med Sci Sports Exerc* 39(5):S178.
- (N) Rowe, D.A., G. Welk, **D.P. Heil**, M.T. Mahar, C.D. Kenble, M.A. Calabro, K. Camenish. Influence of height and stride length on estimation of walking intensity from stepping rate. *Med Sci Sports Exerc* 39(5):S183.

- (N) Manning, J.M., H. Finkernagel, U. Finkernagel, G. Schmidt, **D. Heil**, D. Svolo, F. Bellina, D. Van Allen, P. Mahady. Core body temperatures of ultra runners during a 217 km run in extreme heat. *Med Sci Sports Exerc* 39(5):S178.
- (N) Laskin, J.J., M. Blair, S. Ostertag, A. Elias, **D.P. Heil**. Estimation of energy expenditure using accelerometry in individuals with locomotor dysfunction: Do current algorithms work? *Med Sci Sports Exerc* 39(5):S435.
- (N) Rowe, D.A., G. Welk, **D.P. Heil**, M.T. Mahar, C.D. Kemble, J.L. Aycock, A.M. Guerieri, M.A. Calabro, K. Camenisch. Prediction of energy expenditure from overground and treadmill walking speed in healthy adults. *Res Q Exerc Sport* 78(1):A-44.
- 2006 (N) **Heil, D.P.**, P.E. Hogan, M.C. Whitt-Glover. The influence of bout duration on agreement between accelerometry data and self-report physical activity. *Med Sci Sports Exerc* 38(5):S560.
- (N) Whitt-Glover, M.C., P.E. Hogan, **D.P. Heil**. The effect of a church-based program on physical activity levels among sedentary African Americans. *Med Sci Sports Exerc* 38(5):S5.
- (N) Ruby, B.C., A. Reinert, S.J. Montain, **D.P. Heil**. Measurements of water turnover during the Ironman Triathlon. *Med Sci Sports Exerc* 38(5):S217.
- (N) Alsobrook, N.G., J.L. Lore, **D.P. Heil**. The role of upper body power in classical cross-country skiing performance. *Med Sci Sports Exerc* 38(5):S238.
- (N) Manning, T.F., J.L. Lore, J.M. McKenzie, A. Moss, S.L. Swanson, **D.P. Heil**. Pedometer longevity - How long will a pedometer maintain step counting accuracy? *Med Sci Sports Exerc* 38(5):S557.
- ‡ (NR) McKenzie, J.M., T.F. Manning, **D.P. Heil**. GPS-based prediction of energy expenditure for slow and fast outdoor walking. *Med Sci Sports Exerc* 38(5):S501.
- 2005 (N) **Heil, D.P.** A mathematical model of the 2004 Tour de France l'Alpe-d'Huez time-trial winning performance. *Med Sci Sports Exerc* 37(5):S105.
- (NR) McKenzie, J.M., T.F. Manning, C.A. Juergens, **D.P. Heil**. A lab-based test to evaluate pedometer longevity. *Med Sci Sports Exerc* 37(5):S117.
- ‡ (NR) Moss, A., C.A. Juergens, J.M. McKenzie, B.C. Ruby, **D.P. Heil**. Predicting projected frontal area of cycling in women competing at the 2004 Hawaiian Ironman Triathlon. *Med Sci Sports Exerc* 37(5):S105.
- (N) Whitt-Glover, M.C., **D.P. Heil**, P.E. Hogan, T.L. Frederick, G.D. Hargis, M.L. Nowell. A church-based program to increase physical activity among sedentary African-Americans (in press).
- 2004 (N) **Heil, D.P.**, B.C. Ruby, S.E. Gaskill, D.E. Lankford, B.J. Sharkey. Prediction of energy expenditure during simulated wildland fire suppression task. *Med Sci Sports Exerc* 36(5):S219.
- (N) Ruby, B.C., S.E. Gaskill, **D.P. Heil**, S. Harger, B.J. Sharkey. Liquid and solid carbohydrate feedings increase self-selected work rates during arduous wildfire suppression. *Med Sci Sports Exerc* 36(5):S219.
- (N) Lynch, W.C., M.C. Havens, E.C. Wagner, **D.P. Heil**. Risk factors for eating problems among Native American and Caucasian adolescents. Presented at annual AED conference.
- (N) Zderic, T.W., B.C. Ruby, **D.P. Heil**, M.T. Hamilton. Postprandial hypertriglyceridemia and suppression of muscle lipoprotein lipase activity by one day of physical inactivity in humans.
- 2003 (N) **Heil, D.P.**, N.J. Klippel. Validation of energy expenditure prediction algorithms in adults using the Actical electronic activity monitor. *Med Sci Sports Exerc* 35(5):S285.
- (N) Klippel, N.J., **D.P. Heil**. Validation of energy expenditure prediction algorithms in adolescents/teens using the Actical electronic activity monitor. *Med Sci Sports Exerc* 35(5):S282.
- (N) Higginson, B.K., **D.P. Heil**, J. Engen. Influence of ski pole grip systems on upper body power output in nordic skiers. *Med Sci Sports Exerc* 35(5):S363.
- (N) Setula, C., **D.P. Heil**, N.J. Klippel. Comparison of three concomitant measures of power output on a modified cycle ergometer. *Med Sci Sports Exerc* 35(5):S275.
- (N) Ruby, B.C., S.E. Gaskill, D.E. Lankford, D. Slivka, **D.P. Heil**. Self-selected work rates are significantly reduced during arduous wildfire suppression without liquid CHO ingestion. *Med Sci Sports Exerc* 35(5):S210.
- (N) Lankford, D.E., S.E. Gaskill, B.C. Ruby, **D.P. Heil**, B.J. Sharkey. Influence of submaximal VO₂ at Ventilatory threshold on self-selected work rate during wildland firefighting. *Med Sci Sports Exerc* 35(5):S210.

- (N) Gaskill, S.E., B.C. Ruby, **D.P. Heil**, B.J. Sharkey. Seasonal changes in wildland firefighter aerobic fitness. *Med Sci Sports Exerc* 35(5):S131.
- ‡(N) Monahan, K.R., S.B. Conant, **D.P. Heil**, D.L. King, M.P. Miles. The impact of resistance training on the skeletal muscle response to unloading. *Med Sci Sports Exerc* 35(5):S385.
- 2002 (N) **Heil, D.P.** Defining the Role of Body Mass as a Determinant of Time-Trial Cycling Performance. Sixth IOC World Congress on Sport Sciences, *Med Sci Sports Exerc* 34(5):IOC29.
- (N) **Heil, D.P.**, P.S. Freedson, C.E. Mathews, A.L. Dunn, L. Pruitt. Assessing change in VO₂max with a non-exercise regression model. *Med Sci Sports Exerc* 34(5):S229.
- (NR) Klippel, N.J., **D.P. Heil**. A simulation for determining the optimal bicycle geometry for a flat time-trial. *Med Sci Sports Exerc* 34(5):S25.
- (N) Murphy, O.F., **D.P. Heil**, D.L. King. Validity of a stationary cycling protocol for tracking changes in uphill cycling time-trial performance. *Med Sci Sports Exerc* 34(5):S22.
- ‡(NR) Higginson, B.K., **D.P. Heil**, S. Conant. Effect of exercise intensity on shooting performance in elite-level summer biathletes. *Med Sci Sports Exerc* 34(5):S26.
- (N) Mathis, S.R., **D.P. Heil**. Characterizing free-living light exposure as a function of work environment using a wrist-worn light monitor. *Med Sci Sports Exerc* 34(5):S194.
- (NR) Munding, E., **D.P. Heil**, A. Statdlander, A. Tesoro. Prediction of energy expenditure during simulated rock climbing. *Med Sci Sports Exerc* 34(5):S256.
- (N) Lankford, D.E., **D.P. Heil**, B.C. Ruby, S.E. Gaskill, K. Hansen. A revised algorithm for estimating energy expenditure in wildland firefighters with the CSA activity monitor. *Med Sci Sports Exerc* 34(5):S195.
- (N) Ruby, B.C., S.E. Gaskill, **D.P. Heil**, K. Hansen, D.E. Lankford. Changes in salivary IGA during arduous wildfire suppression relative to work shift length. *Med Sci Sports Exerc* 34(5):S195.
- (N) Gaskill, S.E., B.C. Ruby, **D.P. Heil**, K. Hansen, D.E. Lankford. Fitness, workrates and fatigue during arduous wildfire suppression. *Med Sci Sports Exerc* 34(5):S195.
- 2001 (NS) **Heil, D.P.** Estimating energy expenditure in Montana's wildland firefighters using the CSA accelerometer. *Med Sci Sports Exerc* 33(5):S950.
- 2000 (N) **Heil, D.P.**, A.R. Mattingly. Prediction of uphill time-trial bicycling performance using a scaling-derived ergometer protocol. *Med Sci Sport Exerc* 32(5):S139.
- ‡(NRS) Keller, C.P., **D.P. Heil**, B.K. Higginson. Prediction of energy expenditure during overground walking using the Tritrac accelerometer. *Med Sci Sport Exerc* 32(5):S325.
- ‡(NRS) Higginson, B.K., **D.P. Heil**, C.P. Keller. Utility of a computer algorithm for detecting bouts of physical activity using the CSA accelerometer. *Med Sci Sport Exerc* 32(5):S325.
- (NRS) Bower, J.A., **D.P. Heil**, R.W. Staley, C. Hardy. Influence of hip placement of CSA accelerometer output during overground walking. *Med Sci Sport Exerc* 32(5):S326.
- (NRS) Staley, R.W., **D.P. Heil**, J.A. Bower, C. Hardy. Influence of hip placement on Tritrac accelerometer output during overground walking. *Med Sci Sport Exerc* 32(5):S326.

• **Invited Presentations or Conference Symposia (Non-Refereed)**

- 2011 **Heil, D.P.** Activity Monitoring. Slide presentation at the NWACSM Annual Conference (Eugene, OR).
- 2010 **Heil, D.P.** Aging Skiers and Their Quest for Muscular Power. Invited Saturday evening slide presentation as part of the West Yellowstone Thanksgiving Ski Festival (West Yellowstone, MT).
- Heil, D.P.** An allometric scaling approach to describing body mass as a determinant of time-trial cycling performance. Invited presentation given during visit to Mid-Sweden University (Ostersund, Sweden).
- 2009 **Heil, D.P.** *What are your subjects really doing?* Slide presentation at the NWACSM Annual Conference (Seattle, WA).
- Heil, D.P.** *What can you do with a major in Exercise Science?* Slide presentation to current and prospective students at the MSU campus (March 2009).
- 2008 **Heil, D.P.** *Small Changes in Body Position and Saddle Design: Influence on Optimal Cycle Position?* The Science of Cycling Symposium and Expo (Denver, CO).
- Heil, D.P.** *Optimizing Health While Maximizing Nordic Ski Performance - A True Balancing Act for*

- Master Skiers. World Master's Cross Country Championships (McCall, ID).*
- Heil, D.P.** *Modeling the Limits of Human Performance: The 1-Hour Cycling Record.* HHD-MSU Research Seminary presentation (Dec 2008).
- 2007 **Heil, D.P.** *Best-Practice Recommendations for the Collection and Processing of Free-Living Physical Activity Monitor Data.* Dept of Kinesiology, Louisiana State University (Baton Rouge, LA).
- Heil, D.P.** *Optimal Cycling Position: A Review of the Scientific Literature.* The Science of Cycling Symposium and Expo (Boulder, CO).
- Heil, D.P.** *The Art & Science of Choosing the Best Pedometer.* The Health & Physical Education Council (HPEC) of Alberta (Edmonton, Alberta, Canada).
- Heil, D.P.** *The importance of strength training for improving Nordic ski performance.* Presentation to MSU Nordic ski team and coaches.
- 2006 **Heil, D.P., J. Downing.** *Testing of Elite and Master Athletes.* NWACSM Annual Conference presentation at Oregon State University (Corvallis, OR).
- Heil, D.P.** *Determination of Body Position for Optimizing Time Trial Cycling Performance: An Integration of Physiology and Physics.* Presented at 2006 National ACSM Conference (Denver, CO) in symposium titled *The Science of Cycling: Transforming Research into Practical Applications for Athletes and Coaches.*
- 2005 **Heil, D.P.** *Limits of Human Performance During Time-Trial Bicycling: From l'Alpe d'Huez to the Hawaiian Ironman Triathlon.* NWACSM Annual Conference at the University of Idaho (Moscow, ID).
- 2004 **Heil, D.P.** *An Introduction to Exercise Prescription: A Guide to Frequently Asked Patient Questions.* Given to medical physicians at Bozeman Deaconess Hospital as part of their weekly lecture series (Bozeman, MT).
- 2003 **Heil, D.P.** *High-Tech Gadgets for Measuring Energy Expenditure.* NWACSM Annual Conference at the University of Montana (Missoula, MT).
- 2002 **Heil, D.P.** *Influence of Ski Pole Grip Systems on Upper Body Power Output in Cross-Country Skiers.* Two separate presentations given to Team Rossignol (a professional cross-country ski team) and Team Yoko/Toko at the West Yellowstone Thanksgiving Training Camp.
- 2000 **Heil, D.P., B.K. Higginson, C.P. Keller, and C.A. Juergens.** Prediction and classification of energy expenditure from CSA output during overground walking. Part of AAHPERD Research Consortium Symposium on sponsored research (Orlando, FL).

• Other National/International Conference Presentations (Refereed, Non-Published):

NOTE: The following indicate the type of conference: (I) = International, (N) = National (R) = Regional, and (S) = State . Abstracts in this section are NOT repeated elsewhere within the CV.

- 2011 (I) Rowe, D.A., Welk, G.J., **Heil, D.P.**, and M.T. Mahar. Studying Walking: Comparison of the cadence / speed / energy expenditure relationship during overground versus treadmill walking. 2nd International Conference on Ambulatory Monitoring of Physical Activity and Movement (ICAMPAM), Glasgow, England.
- 2009 (N) Wolin, K.Y. **D.P. Heil**, G.G. Bennett. Validity of the IPAQ for measuring sedentary time. *International Conference on Diet and Activity Methods* (Washington, D.C.).
- (N) Hooker, S., M. Feeney, **D.P. Heil**, E. Hutto, S.N. Blair, J. LaMonte, E. Vena, A. Pfeiffer. Validation of the Actical accelerometer for assessing physical activity in older adults. *International Conference on Diet and Activity Methods* (Washington, D.C.).
- 2008 (N) Whitt-Glover, M., and **D.P. Heil**. ACSM Symposium titled "*Unique challenges for increasing physical activity among minority women*". D.P. Heil's presentation was titled "*Processing objectively-monitored physical activity data in special populations*". Slide presentation at the National ACSM conference (Indianapolis, IN).

- 2007 (I) Howe, S.M., M. Dock, K. Camenisch, **D.P. Heil**. Reliability of accelerometry-based activity monitor output during indoor & outdoor walking trials. Poster presentation at the 2007 ISBN Physical Activity Conference in Oslo, Norway.
- 2006 (N) **Heil, D.P.**, S.J. Montain, B.C. Ruby, J.M. McKenzie, A. Reinert, C.A. Juergens. Evaluating heart rate, core temperature, and physiological strain index during the Hawaiian Ironman Triathlon. Poster presentation at the 2nd annual meeting for Physiology and Pharmacology of Temperature Regulation (Phoenix, AZ).
- (N) **Heil, D.P.**, B.C. Ruby. Estimating gastric transit time for a core body temperature capsule. Poster presentation at the 2nd annual meeting for Physiology and Pharmacology of Temperature Regulation (Phoenix, AZ).
- (N) Whitt-Glover, M., P.E. Hogan, **D.P. Heil**. The effect of an 8-week church-based program on maintenance of physical activity levels among sedentary African Americans. Poster presentation at the International Society for Behavioral Nutrition and Physical Activity (Boston, MA).
- 2005 (N) Manning, T.F., **D.P. Heil**, C.A. Juergens. Accuracy of activity monitors for monitoring moderate-vigorous free-living physical activity. ACSM's Walking Conference (Indianapolis, IN).

• Regional Conference Presentations (Original Research, Refereed but non-published) - These are mostly graduate (G) and undergraduate (UG) presentations at regional ACSM conferences.

NOTE: Abstracts marked with the symbol ‡ are presentations for which the student won an award at the NWACSM Conference. Abstracts in this section are NOT repeated elsewhere within the CV.

- 2010 (UG) Davila, E.M., L.C. Thomas, & **D.P. Heil**. Peak power output as a predictor of change in maximal oxygen consumption in male cyclists. Poster presentation at ACSM NW Conference (Portland, OR).
- ‡ (G) Taylor, K.T., S.J. Willis, & **D.P. Heil**. Test-retest reliability of vertical jump performance in competitive cross country skiers. Poster presentation at ACSM NW Conference (Portland, OR).
- ‡ (G) Willis, S.J., B. Bakken, B.J. Conder, K.M. Croxford, E. Davila, J.A. Portmann, K.T. Taylor, & **D.P. Heil**. Vertical jump test performance as a correlate of sprint and distance cross-country skiing performance. Slide presentation at ACSM NW Conference (Portland, OR).
- (G) Croxford, K.M., J.G. Seifert, **D.P. Heil**, S. Willis. Energy expenditure in professional ski patrollers during patient transport - A pilot study. Poster presentation at ACSM NW Conference (Portland, OR).
- 2009 ‡ (G) Bakken, B., K.A. Borgen, S.J. Willis, **D.P. Heil**. The influence of lower-body compression tights on markers of economy during steady-state running. Poster presentation at NWACSM Conference (Seattle, WA).
- ‡ (G) Howe, S.M., **D.P. Heil**. The influence of bout interruptions on predicted physical activity during treadmill walking and running. Slide presentation at NWACSM Conference (Seattle, WA).
- ‡ (G) Willis, S.J., B. Bakken, **D.P. Heil**. Correlations of upper body power with classic and skate cross country skiing performance. Slide presentation at NWACSM Conference (Seattle, WA).
- 2008 ‡ (G) Howe, S.M., **D.P. Heil**. The influence of bout interruptions on activity energy expenditure during overground walking and running. 1) Slide presentation at NWACSM Conference (Seattle, WA); 2) Poster presentation at MSU Student Research Fail (April, 2008).
- ‡ (G) Dock, M., R. Pickels, and **D.P. Heil**. Influence of pedometer tile angle on step counting validity during controlled treadmill walking trials. 1) Slide presentation at NWACSM Conference (Seattle, WA); 2) Poster presentation at MSU Student Research Fail (April, 2008).
- ‡ (G) Jacobson, E.A., R. Pickels, **D.P. Heil**. Effect of ski pole stiffness on upper body power output in cross-country skiers. 1) Poster presentation at annual NWACSM Conference (Seattle, WA); 2) Poster presentation at MSU Student Research Fail (April, 2008).
- (G) Pickels, R., M. Dock, **D.P. Heil**. Bicycle geometry as a determinant of sagittal-view kinematics while time-trial cycling. 1) Poster presentation at the 2008 SICI (Serotta International Cycling Institute) Conference in Denver, CO; 2) Poster presentation at 2008 NWACSM Conference (Seattle, WA); 3) Poster presentation at MSU Student Research Fail (April, 2008).

- 2007 (G) Camenisch, K., T.J. Bailly, **D.P. Heil**. The relationship between flexibility and ski-striding economy in cross-country skiers. Poster presentation at annual NWACSM Conference (Seattle, WA).
- (G) Pickels, R.J., **D.P. Heil**, J.M. Manning. Using GPS to predict energy expenditure during an ultramarathon race. Poster presentation at annual NWACSM Conference (Seattle, WA).
- (G) Webster, M., **D.P. Heil**. Reliably measuring habitual free-living physical activity with a wrist-worn accelerometer. Poster presentation at annual NWACSM Conference (Seattle, WA).
- ‡ (UG) Bailly, T.J., R.S. Estacion, K. Camenisch, **D.P. Heil**. XHR heart rate monitor validation at submaximal and maximal exercise intensities. Slide presentation at annual NWACSM Conference (Seattle, WA).
- 2006 (G) Webster, M., **D.P. Heil**. Comparing measures of free-living physical activity using three activity monitors. Poster presentation at annual NWACSM Conference (Corvallis, OR).
- (UG) Flamand, E.R., L.J. Young, **D.P. Heil**. Effect of attachment angle on step count accuracy of electronic pedometers. Poster presentation at annual NWACSM Conference (Corvallis, OR).
- 2005 ‡ (G) Manning, T.F., **D.P. Heil**. Accuracy of WAAS-Enabled GPS Monitors to Determine Speed while walking and running. Slide presentation at annual NWACSM Conference (Moscow, ID).
- (G) Alsobrook, N.G., J.L. Lore, **D.P. Heil**. Reliability for two measures of upper body power output in cross country skiers. Poster presentation at annual NWACSM Conference (Moscow, ID).
- 2003 (G) Davis, C.M., **D.P. Heil** (2003). Prediction of climbing-specific $\dot{V}O_{2PEAK}$ using a motorized climbing treadmill protocol. Poster presentation at annual NWACSM Conference (Missoula, MT).
- (UG) Koebensky, S.G., K.R. Monahan, **D.P. Heil**, D.L. King, S.B. Conant, M.P. Miles. Sex differences do not influence loss of muscle size and function in response to unloading. Poster presentation at annual NWACSM Conference (Missoula, MT).
- 2002 (G) Monahan, K.R., **D.P. Heil**, D.L. King, O.L. Murphy, M.P. Miles. Inter-subject variability and the impact of muscle unloading on muscle function. Poster presentation at annual NWACSM Conference (Spokane, WA).
- 1995 (G) **Heil, D.P.**, E.P. Debold, and D.L. Hendelman. A questionnaire-based comparison of level and uphill running performance as a function of body mass. Slide presentation at annual NEACSM Conference (Boxborough, MA).
- 1994 (G) **Heil, D.P.**, P.S. Freedson, and C.E. Matthews. A generalized model for predicting free-living energy expenditure. Slide presentation at annual NEACSM Conference (Boxborough, MA).
- **Sponsored Undergraduate Research Projects (original research)**
- 2010 (R) Davila, E.M., L.C. Thomas, & **D.P. Heil**. Peak power output as a predictor of change in maximal oxygen consumption in male cyclists (Portland, OR).
- 2007 (R) Bailly, T., R. Estacion, **D.P. Heil**. XHR heart rate validation during submaximal and maximal treadmill exercise.
- 2006 Wiatr, M., E., Flamond, **D.P. Heil**. Validation of an energy expenditure prediction equation for climbing on an indoor climbing treadmill.
- (R) Flamond, E., L. Young, **D.P. Heil**. Effect of attachment angle on step count accuracy of electronic pedometers.
- 2001 (NR) Stadlander, A., **D.P. Heil**, E. Munding, A. Tesoro. Predicting energy expenditure during simulated rock climbing. Sponsored by MSU-USP. Poster presentation at NWACSM Conference (Spokane, WA; Feb. 2002) and National ACSM Conference (St. Louis, MO: June 2002).
- Morrison, G., **D.P. Heil**. Validation of the Stages of Change Model for exercise and physical activity in Crow Indian Adolescents. Sponsored by MSU-AIRO.

- 2000 (S) McDowell, M.G., C.E. Costakis, **D.P. Heil**. Functional fitness testing of community-residing older adults in Montana. Poster presentation at MSU-USP Conference (Spring 2000).
- (NRS) Bower, J.A., **D.P. Heil**, R.W. Staley, C. Hardy. Influence of hip placement of CSA accelerometer output during overground walking. Poster presentation at NWACSM Conference (Boise, ID; March 2000), National ACSM Conference (Indianapolis, IN; June 2000), and MSU-USP Conference (Bozeman, MT; April 2000).
- (NRS) Staley, R.W., **D.P. Heil**, J.A. Bower, C. Hardy. Influence of hip placement on Tritrac accelerometer output during overground walking. Poster presentation at NWACSM Conference (Boise, ID; March 2000), National ACSM Conference (Indianapolis, IN; June 2000), and MSU-USP Conference (Bozeman, MT; April 2000).

MEDIA HIGHLIGHTS OF RESEARCH & LAB ACTIVITIES
(Unsolicited and non-refereed; Tracking began in 2002)

- 2010 · *New Equipment in MSU's Movement Science / Human Performance Lab Helps Skiers*. Anne Cantrell, MSU News Service, November 22, 2010. Posted on-line:
<http://www.montana.edu/cpa/news/nwview.php?article=9158>
- *Slick Science - MSU Human Performance Science Research has Practical Applications for Recreational Skiers*. Anne Cantrell, MSU Mountains and Minds, Fall 2010, 30-35.
- *Pedometer Mechanisms - What Makes Your Pedometer Tick?* On-line article posted January 23, 2010:
<http://walking.about.com/od/pedometer1/a/pedometertech.htm>
- 2009 · *Times are Changing - Can Technology Make You a Better Runner?*
 Runner's World Magazine (July 2009).
- *Zoot Sports CompressRX tights Shown to Increase Running Economy*.
 On-line report on Zoot Sports website highlighting the recent results from a pilot study in our lab using their brand of compression tights (January 2009).
- *Zoot Sports CompressRX Tights Shown to Increase Running Economy by Montana State University*.
 Published on Xtri.com, this is a similar article to that reported on the Zoot Sports website (February 2009).
- 2008 · *Double Blind - Placebo Trial at MSU: Acid Zapper Effective at Controlling Athletic Acid Buildup*.
 Summary article of research recently completed at MSU with local elite Noric skier.
- 2007 · *Tech Report, with Lennard Zinn: The science behind the sport - Part II*.
 On-line report by Lennard Zinn at velonews.com (January 2007).
- *Attack of the Eggheads* - Bicycling.com report by Joe Lindsey (January 2007).
- 2006 · *How Long Will Your Pedometers Last?*
 New-Lifestyles' E-Newsletter, Steps to a Healthier You (July/August 2006).
- *The Math of Muscle - An Interview With Dan Heil*.
 By Faith Brynie, Odyssey - Adventures in Science (May 2006).
- 2005 · *Hip-riding pedometers are popular, but are they accurate?* By Carol Flaherty, MSU News Service, Lewistown News-Argus, MT (July 2005).
- *Not all pedometers are alike, MSU researcher determines*. By Carol Flaherty, MSU News Service, Havre Daily News, MT (June 2005).
- *Mathematical model predicts time in Tour de France*. Written by Dan Henkel, ACSM National Conference release (May 2005).

- *Hip-Riding Pedometers are Popular, but how accurate are they?* MSU News Service, written by Carol Flaherty (May 2005). Also reported in the Wolf Point, MT, Herald News.
 - Radio interview with Dave Rye on the topic of pedometer accuracy - Montana News (May 2005).
 - *Top Physiologist Predicts Armstrong Could Smash Hour Record.* Cycle Sport Magazine, pg 36 (February 2005).
 - *MSU Professor Predicts Record Setting Performance.* MSU News Service and the ASMSU Exponent, written by Carol Flaherty (February 2005).
 - *Armstrong: World-Record Smashing Hour Test?* Reported in the Pro Cycling News at *dailypeloton.com* (February 2005).
 - *Heil Predicts Armstrong Can Claim Hour Record.* Reported at *bike.com* (February 2005).
 - *Professor Predicts Lance Armstrong Could Smash One-Hour Record.* Reported at *newswise.com* (February 2005).
 - *Armstrong Can Beat Hour Record.* Reported at *cyclingpost.com* (February 2005).
 - Radio interview with Dave Rye on the topic of predicting the 1-HR record for Lance Armstrong - Montana News (January 2005).
 - *Armstrong and the 1-Hour Record.* Written by Calos Arriba for *El Pais* (Italian cycling journal) (January 2005).
- 2004 · *Winning by a Thumb - New Poles.* Written by Jean Aurther and Evelyn Boswell for *Skitrax* (Feb/March, pg. 24).
- 2003 · *Ski researcher relies on high-ranking athletes in area.* Written by Evelyn Boswell for *MSU University News* (12/1/03 MSU web posting).
- *Research relies on high-ranking athletes in area.* Written by MSU News Service and published in the High Country Independent Press on Nov. 27, 2003 (Gallatin County, MT).
 - *Influence of ski pole grip systems on upper body power output in cross-country skiers.* Posted on *Frozenbullet.com* (August 2003).
 - *Research Summary: Influence of ski pole grip systems on upper body power output in cross-country skiers.* Posted on *xcskiworld.com* in February, 2003.
 - *Rock climber researches motorized wall.* Written by MSU News Service and published on-line at MSU Homepage (Dec. 29, 2003).
 - *Device offers insight into what fuels Hot Shots.* Written by Douglas Page and published in *Fire Chief* magazine (Feb. 1, 2003).
 - *Lowering Obesity.* Written by MSU Research Office and published in Research Roundup section of the *Bozeman Daily Chronicle* (Feb. 24, 2003).
 - *Training will help reduce the toll time takes on all of us.* Written by Maury Wiegand and published in the *Bozeman Daily Chronicle* (March 2003).
- 2002 · *Iron Fighters: Studies show Hot Shot firefighters burn calories like professional athletes.* Written by Amanda Onion for *ABCNews.com* (Sept 2002).

- *Firefighters burn calories like triathletes.* Written by Larry O'Hanlon for Discovery News (Aug 2002).
- *Wildland firefighters burn calories like climbers, soldiers.* Written by Annette Tritity-Stevens for the *Bozeman Daily Chronicle* (Oct 14, 2002).
- *Study sheds light on energy needs of wildland fire crews.* Published in November, 2002, in *The Forestry Source*.
- *Health Steps.* Written by the MSU Research Office and published in Research Roundup section of the *Bozeman Daily Chronicle* (Dec 23, 2002).

NOTE: Tracking of Media Highlight information began in 2002.

GRADUATE ADVISING OF THESES/PROJECTS

NOTE: Graduate students for whom I have served as Committee Chair are indicated by [Chair]

Active Theses/Projects

- [Chair] Bakkan, Bjorn. Thesis Title: "*Influence of Lower Body Compression Clothing on Markers of Running Economy During Submaximal Treadmill Running*".
- [Chair] Katlyn Taylor. Thesis Title: "*Stability Reliability of Habitual Physical Activity with the Actical Activity Monitor in a Youth population.*"
- [Chair] Eddie Davila. Project Title: "*A Comparison of Bilateral Wrist-Worn Accelerometers on Measures of Free-Living Physical Activity in Adolescents.*"
- Brian Conder. Thesis Title: "*Dehydration of Experienced Rock Climbers During Rock Climbing*".
- Kristen Croxford. Thesis Title: "*The Effect of Exercising in the Cold on Markers of Fluid Balance in Women*".
- Jennifer Portman. Thesis Title: TBD

Inactive Theses/Projects

- [Chair] Manning, Tommy. Thesis Title: "*The Use of GPS to Predict Energy Expenditure for Outdoor Running*" (began in 2004).

Completed Theses/Projects

- 2010 [Chair] Willis, Sarah. Thesis Title: "*Determinants of Skate Sprint Cross-Country Skiing Performance for Junior and Collegiate Skiers*".
- 2009 Frederickson, Sara. Project Title: "*Serum creatine responses to eccentric exercise and macronutrient intake*".
Gelfer, Gita. Thesis Title: "*Dietary Assessment of docosahexaenoic Acid (DHA) Intake in Pregnant Women of Southwest Montana*".
- 2008 [Chair] Dock, Mellisa. Thesis Title: "*Influence of Pedometer Attachment Angle on Step Counting Validity During Controlled Treadmill Walking Trials*".
[Chair] Howe, Stephanie. Thesis Title: "*The Influence of Bout Interruptions on Measured and Predicted Activity Energy Expenditure During Overground Walking and Running*".
[Chair] Jacobson, Erik. Thesis Title: "*Effect of Ski Pole Stiffness on Upper Body Power Output in Cross-Country Skiers*".
[Chair] Pickels, Rob. Project Title: "*Bicycle Geometry as a Determinate of Sagittal-View Kinematics and Frontal Area While Cycling*".
[Chair] Kaushik, Gaurav. Project Title: "*Influence of Pedometer Tilt Angle on Step Counting Validity During Controlled Walking Trials*".
- 2007 [Chair] Camenisch, Karin. Thesis Title: "*Flexibility as a Determinant of Rollerskiing Economy in Cross-Country Skiers*".
[Chair] McKenzie, James. Thesis Title: "*The Use of GPS to Predict Energy Expenditure for Outdoor Walking*".

- [Chair]** Webster, Michael. Thesis Title: *Reliably Measuring Habitual Free-Living Physical Activity with the Actical Activity Monitor.*
- Killian, Megan. Thesis Title: *The Effect of Downhill Running on Impact Shock and Asymmetry.*
- O'Keefe, Kathryn. Thesis Title: *Joint Moment Estimation From Electromyography of Patients With Osteoarthritis.*
- 2005 **[Chair]** Alsobrook, Nathan. Thesis Title: *Role of Upper Body Power in Classical Cross-Country Skiing Performance.*
- Brown, Tyler. Thesis Title: *The Effects of Acute Muscular Fatigue on the Functional Ability of the Knee Joint.*
- Roylance, Jorah. Project Title: *Medicine Ball Training for the Javelin Thrower.*
- 2004 **[Chair]** Klippel, Nathan. Thesis Title: *Optimizing Body Position for Level Time-Trial Cycling.*
- [Chair]** Conant, Steve. Project Title: *IL-6, CRP and CK Response to a 32.2 Kilometer Trail Race in Veteran and Novice Runners.*
- 2003 **[Chair]** Davis, Colin. Thesis Title: *A Comparison of Training Methods for Enhancing Climbing Performance.*
- Erickson, Mindi. Thesis Title: *Vertical Jump Training: The KOR Trainer vs Conventional Training.*
- 2002 **[Chair]** Higginson, Brian (2002). Thesis Title: *Effects of Exercise Intensity on Shooting Performance in Elite Level Summer Biathletes.*
- [Chair]** Keller, Chris (2002). Thesis Title: *Validity and Reliability of the Rockport Fitness Walking Test Using Submaximal Walking Speeds.*
- [Chair]** McCafferty, Jamie (2002). Thesis Title: *Genu Valgum: Can Observable Changes Occur with an Individualized Exercise Protocol in Collegiate Women?*
- Hogan, Shelly (2002). Thesis Title: *Whole Plasma Oxidation in Women: Influence of Age, Seasonal Variation, and Infection.*
- Stanley, Laura (2002). Thesis Title: *Whole Body Vibrations on the Low Back Using a Suspension Versus Non-Suspension Seat Post During Off-Road Cycling.*
- 2001 **[Chair]** Mattingly, Adam (2001). Project Title: *Comparison of Two Years of Injury Data Concerning The Montana State University-Bozeman Football Team.*
- [Chair]** Murphy, Owen (2001). Thesis Title: *Validity of a Stationary Cycling Protocol for Tracking Changes in Uphill Cycling Time-Trial Performance.*

PROFESSIONAL SERVICE & OUTREACH ACTIVITIES

· National / International -Level Service/Outreach:

- 2010 · External doctoral committee member and defense examiner (June). Mid-Sweden University (Ostersund).
- Chair: Slide presentation section titled *Biomechanics of Cross Country Skiing*. 5th International Congress on Science and Skiing, St Christoph am Arlberg, Austria.
- Co-Chair: Poster presentation session titled *Cross-Country Skiing*. 5th International Congress on Science and Skiing, St Christoph am Arlberg, Austria.
- *AAHPERD Research Consortium Abstract Reviewer*. Total of 6 abstracts reviewed within the Physical Activity Epidemiology section for the 2010 conference.
- Manuscript Reviewer, original research, *International Journal of Sports Medicine*.
- 2009 · Chair, ACSM Winter Sports Interest Group. Assist with annual business meeting at National ACSM conference and the organization of sessions of interest to the group (e.g. Thematic poster session, special symposia, guest speakers).
- *ACSM Topic Representative* in the area of *Fitness Assessment and Training* (sub-topic leader for *Endurance Training*). This is a committee within the organizational structure of the National ACSM for annual conferences.

- Co-Chair, ACSM Thematic Poster Session for Winter Sport Interest Group. Annual ACSM Meeting (Seattle, WA).

- Manuscript Reviewer, original research, *Medicine and Science in Sports and Exercise*.
- Manuscript Reviewer, original research, *European Journal of Applied Physiology*.
- Manuscript Reviewer, original research, *Journal of Applied Biomechanics*.
- Manuscript Reviewer, original research, *Scandinavian Journal of Medicine & Science in Sports*.
- Manuscript Reviewer, original research, *Research Quarterly for Exercise and Sport*.

2008 · Chair, ACSM Winter Sports Interest Group. Assist with annual business meeting at National ACSM conference and the organization of sessions of interest to the group (e.g. Thematic poster session, special symposia, guest speakers).

- *ACSM Topic Representative* in the area of *Fitness Assessment and Training* (sub-topic leader for *Endurance Training*). This is a committee within the organizational structure of the National ACSM for annual conferences.

- Chair, ACSM Thematic Poster Session for Winter Sport Interest Group. Annual ACSM Meeting (Indianapolis, IN).

- Invited Grant Reviewer, original research, for M.J. Murdock Charitable Trust.

- Manuscript Reviewer, original research, *Medicine and Science in Sports and Exercise*.
- Manuscript Reviewer, original research, *Journal of Sports Science & Medicine*.
- Manuscript Reviewer, original research, *European Journal of Applied Physiology*.
- Manuscript reviewer, original research, *Research Quarterly for Exercise and Sport*.

2007 · Chair, ACSM Winter Sports Interest Group. Assist with annual business meeting at National ACSM conference and the organization of sessions of interest to the group (e.g. Thematic poster session, special symposia, guest speakers).

- *ACSM Topic Representative* in the area of *Fitness Assessment and Training* (sub-topic leader for *Endurance Training*). This is a committee within the organizational structure of the National ACSM for annual conferences.

- Invited Grant Reviewer, original research, for M.J. Murdock Charitable Trust.

- Manuscript Reviewer, original research, *Medicine and Science in Sports and Exercise*.
- Manuscript Reviewer, original research, *Journal of Sports Science & Medicine*.
- Manuscript Reviewer, original research, *European Journal of Applied Physiology*.

2006 · Invited Chair and Presenter for symposium in the area of *Fitness Assessment and Training* titled “*The Science of Cycling: Transforming Research into Practical Applications for Athletes and Coaches*”. Presented at the 2006 National ACSM Conference (Denver, CO).

- Co-Chair, ACSM Winter Sports Interest Group. Assist with annual business meeting at National ACSM conference and the organization of sessions of interest to the group (e.g. Thematic poster session, special symposia, guest speakers).

- *ACSM Topic Representative* in the area of *Fitness Assessment and Training* (sub-topic leader for *Endurance Training*). This is a committee within the organizational structure of the National ACSM for annual conferences.

- Invited Grant Reviewer, original research, for M.J. Murdock Charitable Trust.

- Manuscript Reviewer, original research, *Medicine and Science in Sports and Exercise*.

- Manuscript Reviewer, original research, *International Journal of Sports Physiology and Performance*.
- 2005
- Elected as Co-Chair of the ACSM Winter Sports Interest Group. Assist with annual business meeting at National ACSM conference and the organization of sessions of interest to the group (e.g. Thematic poster session, special symposia, guest speakers).
 - *ACSM Topic Representative* in the area of *Fitness Assessment and Training* (sub-topic leader for *Endurance Training*). This is a committee within the organizational structure of the National ACSM for annual conferences. Primary responsibility is reviewing abstracts submitted for 2006 conference.
 - AAHPERD Research Consortium Credentials Committee - Appointed to represent the areas of LRPAF and NASPE. Primary responsibility is reviewing applications for Fellowship status to the Research Consortium.
 - Manuscript Reviewer, original research, *Medicine and Science in Sports and Exercise*.
 - Manuscript Reviewer, original research, *European Journal of Applied Physiology*.
 - Dissertation Manuscript Reviewer, Flinders University, Adelaide, South Australia.
- 2004
- Invited Chair: Slide session titled "Activity Monitor Calibration" at the NIH funded conference *Objective Monitoring of Physical Activity: Closing the Gaps in the Science of Accelerometry*.
 - Invited Chair: Free communications/slide session titled B-46 "Prediction of VO_{2MAX} " at 2004 National ACSM Conference (Indianapolis, IN).
 - *ACSM Topic Representative* in the area of *Fitness Assessment and Training* (sub-topic leader for *Endurance Training*). This is a committee within the organizational structure of the National ACSM for annual conferences. Primary responsibility is reviewing abstracts submitted for 2005 conference.
 - AAHPERD Research Consortium original research abstract reviewer for 2005 annual conference.
 - Grant proposal reviewer, original research, AAHPERD Research Consortium.
 - Reviewer, Draft manual for the American Cross Country Skiers (AXCS) for promoting XC ski classes.
 - Manuscript reviewer, original research, *Medicine and Science in Sports and Exercise*.
 - Manuscript reviewer, original research, *American Journal of Health Promotion*.
 - Manuscript reviewer, original research, *Journal of Applied Ergonomics*.
 - Manuscript reviewer, original research, *European Journal of Applied Physiology*.
- 2003
- *ACSM Topic Representative* in the area of *Fitness Assessment and Training* (sub-topic leader for *Endurance Training*). This is a committee within the organizational structure of the National ACSM for annual conferences. Primary responsibility is reviewing abstracts submitted for 2004 conference.
 - Served as an external reviewer of research for promotion and tenure of faculty member of a NW Univ.
 - Manuscript reviewer, original research, *American Journal of Health Promotion*.
 - Manuscript reviewer, original research, *International Journal of Sports Medicine*.
 - Manuscript reviewer, original research, *Medicine and Science in Sports and Exercise*.
 - Manuscript reviewer, original research, *Research Quarterly for Exercise and Sport*.
- 2002
- Grant proposal reviewer, original research, Research Consortium of AAHPERD grant program.
 - Invited Chair: Free communications/slide session titled F-38 "Fitness" at National ACSM Conference (St. Louis, MO).
 - Manuscript reviewer, original research, *CHEST*.
 - Manuscript reviewer, original research, *American Journal of Health Promotion*.
 - Manuscript reviewer, original research, *International Journal of Sports Medicine*.

· Manuscript reviewer, original research, *Medicine and Science in Sports and Exercise*.

2001· Manuscript reviewer, original research, *CHEST*.

· Manuscript reviewer, original research, *American Journal of Health Promotion*.

· Manuscript reviewer, original research, *Medicine and Science in Sport and Exercise*.

· **State/Regional-Level Service/Outreach:**

2012· *Past-President*, Northwest Chapter of the ACSM.

2011· *President*, Northwest Chapter of the ACSM.

· MSU Faculty Ambassador to the ACSM NW.

· 2011 ACSM NW Conference abstract reviewer.

2010· *President-Elect*, Northwest Chapter of the ACSM.

· MSU Faculty Ambassador to the ACSM NW.

· 2010 ACSM NW Conference abstract reviewer.

2009· MSU Faculty Ambassador to the NWACSM.

· 2009 ACSM NW Conference abstract reviewer.

· 2009 ACSM NW Annual Conference organizing board member.

2008· MSU Faculty Ambassador to the NWACSM.

· 2009 ACSM NW Conference abstract reviewer.

· 2009 ACSM NW Annual Conference organizing board member.

2007· Conference Director and Organizer of the 2007 ACSM NW Conference (Spring 2007).

· MSU Faculty Ambassador to the NWACSM.

· 2008 ACSM NW Conference abstract reviewer.

2006· Chair/Organizer of the 2007 NWACSM Conference (Spring & Fall 2006).

· 2007 NWACSM Conference abstract reviewer.

· MSU Faculty Ambassador to the NWACSM.

· Director of Testing services provided for raffle to benefit the Himalayan Rescue Association.

2005· *Past-President*, Northwest Chapter of the ACSM.

· 2006 NWACSM Conference abstract reviewer.

2004· *President*, Northwest Chapter of the ACSM.

· 2005 NWACSM Conference abstract reviewer.

· Invited manuscript reviewer, original research, *Intermountain Journal of Science (IJS)*.

2003· *President-Elect* Northwest Chapter of the ACSM.

· 2004 NWACSM Conference abstract reviewer.

· Undergraduate Poster Presentation award committee member - Annual NWACSM meeting (Missoula, MT).

· Invited talk to Bozeman's BSF and BSWD athletic groups: *Weight Training for Improving Cross-Country Ski Performance in Women*.

2002· Original research abstract reviewer for 2002 Northwest ACSM Conference.

· Invited talk with Alice Wong (Bozeman Deaconess Hospital) to Bozeman's BSF: *Some Facts About Amenorrhea and Osteoporosis in Young Athletes*.

2001· Student poster and slide presentation judge for 2002 Northwest ACSM Conference.

· Organizer of "Physical Activity Session" for the Pathways to Health Conference held at Montana State University campus.

AWARDS & HONORS

Awards/Honors in Research

- 2009 MSU Faculty Sabbatical awarded for Fall 2009.
- 2008 Outstanding Researcher Award - Dept of Health & Human Development, MSU-Bozeman.
- 2005 ACSM Abstract presentation titled "*A Mathematical Model of the 2004 Tour de France l'Alpe-d'Huez Time-Trial Winning Performance*" was selected by ACSM Abstract Review Committee as one of the top 15 abstracts of the conference (approximately 2,478 were presented) to be highlighted to conference attendees and the Press.
- 2001 Elected to Fellow status by the national organization of the American College of Sports Medicine (ACSM).
- 2001 Best Professional Poster Presentation - Pathways to Health Conference, Montana State University campus, Bozeman.
- 1998 Elected to Fellow status in the Research Consortium, an organization within the national American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD).
- 1995 · Outstanding Doctoral Student of the Year Award, New England American College of Sports Medicine (NEACSM).
 - Runner-up, Student Oral Presentation Award (for original research), 1995 NEACSM Conference.
 - Nominated for University of Massachusetts Graduate School Fellowship by Dept. of Exercise Science faculty.
- 1994 Runner-up, Student Oral Presentation Award (for original research), 1994 NEACSM Conference.

Awards/Honors in Teaching

- 2009 Nominated for *President's Excellence in Teaching Award*.
- 2007 · "*Influential Educator*" Award (MSU - Bozeman).
 - "*Influential Educator*" Award from a 2nd student in the same year (MSU - Bozeman).
- 2006 "*Influential Educator*" Award (MSU - Bozeman).
- 2005 "*Influential Educator*" Award (MSU - Bozeman).
- 2003 MSU Mortar Board invited lecturer - *The Last Lecture Series*.
- 2001 · MSU Mortar Board Professor of the Month (January 2001).
 - "*Influential Educator*" Award (MSU - Bozeman).
- 2000 · MSU Alumni - Chamber of Commerce Award for Excellence in Teaching (MSU - Bozeman).
 - "*Influential Educator*" Award (MSU - Bozeman).

Other Awards/Honors

- 2007 Outstanding Service Award - Presented by NWACSM Board for "*his outstanding work researching, planning, and overall directing of the NWACSM annual meeting in Seattle*".
- 2005 Honorary Sponsor Award - Given by the Bridger Ski Foundation (BSF) for working with junior and OJ Nordic skiers with laboratory testing and training.
- 1989 Phi Kappa Phi National Honor Society.
- 1988 Jesse Hanson Scholarship (School of Science, Oregon State University).
- 1987 Jesse Hanson Scholarship (School of Science, Oregon State University).
- 1986 Jesse Hanson Scholarship (School of Science, Oregon State University).

PROFESSIONAL AFFILIATIONS

- 1991 Present American College of Sports Medicine (ACSM).
- 1991-Present American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD)
- 1991-Present Research Consortium of AAHPERD.
- 1998-Present Northwest ACSM.