

**DANIEL PAUL HEIL, Ph.D., FACSM**  
**CURRICULUM VITAE**



**BUSINESS ADDRESS**

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**CURRENT POSITION**

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- **Associate Professor, Exercise Physiology** (9/03-Present)
  - Dept. of Health and Human Development, Montana State University, Bozeman, MT.
  - (9/99-5/03) Assistant Professor, Exercise Physiology, Montana State University.

**EDUCATION**

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- **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**

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### **• 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**

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

· *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 ft<sup>2</sup> Human Performance Laboratory.

### **• The Heart Group Cardiac Rehabilitation Program Volunteer.** Evansville, IN (*2/97-5/97; 2/98-5/98*)

· Served as volunteer 2-4 hours per week during "Phase 2" (monitored) and "Phase 3" (unmonitored) cardiovascular training sessions for post-trauma patients.

• **Laboratory Director.** Dept. of Exercise Science, University of Massachusetts (6/93-5/96)

· Responsibilities included the coordination of *Human Performance Lab* activities (research and teaching) as well as overall maintenance of laboratory instrumentation.

• **Graduate Research Assistant.** Dept. of Exercise Science, University of Massachusetts (9/92-5/96)

· Directed and assisted in a variety of grant funded research projects. Several of these projects are summarized below:

1. *Spring 1995:* Directed a project funded by NordicTrack to develop a generalized fitness test using their most popular stationary skier. This involved  $\dot{V}O_{2PEAK}$  and submaximal testing of 200 subjects 20-79 years of age in coordination with the Cooper Institute for Research (Dallas, TX).
2. *Spring 1994:* Directed an NIS funded study to validate a physical activity monitor (Actillum) in conjunction with the validation of several more frequently used activity monitors (TriTrac, CSA).
3. *Spring 1993:* Directed a project funded by Step-Rebock to develop a generalized fitness test for the Rebock Step. This involved  $\dot{V}O_{2PEAK}$  and submaximal testing of 440 subjects between 20 and 79 years of age in coordination with another laboratory in Worcester, MA.
4. *Summer 1992:* Assisted a project funded by M&M-Mars Co. The study was designed to determine whether the consumption of a candy bar would be detrimental to performing a cycling test to exhaustion when compared to consuming nothing and a placebo.

• **Graduate Teaching Assistant.**

· Dept. of Exercise Science, University of Massachusetts.

- 1) Graduate laboratory course entitled *Advanced Exercise Physiology: Concepts in Measurement and Instrumentation* (Fall semester, 1995).
- 2) Undergraduate General Education course entitled *Human Performance and Nutrition* (Laboratory component only; Fall semester, 1992).

· Dept. of Exercise and Sport Science, Oregon State University (10/89-6/91).

- 1) Graduate laboratory course entitled *Respiratory Dynamics*.
- 2) Physical activity courses: *Swimming I & II, Bicycling I, Stationary Cycling for Fitness, Weight Training I and II, Faculty/Staff Weight Training, and Wollyball*.

## 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.**

### • Summary of Publications (as of May 2008):

Published Manuscripts (Original Research, Peer-Reviewed, Refereed)	20 articles
Articles for Popular Literature & Professional Organizations (Non-Refereed)	24 articles
Lab Manuals - Created for my own courses.	5 manuals

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

#### Published Manuscripts

- 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.
- Maliszewski, A.F., **D. Heil**, P.S. Freedson, and P. Clarkson. Candy Bar ingestion 30 minutes before exercise does not impair exercise performance. *Medicine and Exercise in Nutrition and Health* 4:40-47.

#### Manuscripts In Press

- 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*
- (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*

#### Manuscripts In Review

- Heil, D.P.**, E.A. Jacobson, S.M. Howe. Influence of a Nutrition Supplement on Physiological and Performance Variables in Trained Nordic Skiers.
- Camenisch, K, **D.P. Heil**. Flexibility as a determinant of rollerskiing economy in cross-country skiers. *European Journal of Applied Physiology*

#### Manuscripts in Preparation

- (N) **Heil, D.P.**, T.F. Manning, J.M. McKenzie. Pedometer longevity - How long will a pedometer maintain step counting accuracy?
- (NR) **Heil, D.P.**, E. Munding, A. Statlander, and A. Tesoro. Prediction of energy expenditure during simulated rock climbing.
- (N) Murphy, O.F., **D.P. Heil**, D. King. Validity of a cycling protocol for tracking changes in uphill time-trial performance.
- 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.

#### • Other Publications (Non-Refereed for Popular Literature and professional organizations)

- 2008 **Heil, D.P.** Endurance Training Metrics. *Master Skier*, Pre-Season (in press).
- 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.

• **Laboratory Manuals** (*published for my own courses*)

**Heil, D.P.** (2007). *Lab Manual for HDPE 465* (9<sup>th</sup> edition). Dept. of Health and Human Development, Montana State University, Bozeman, MT.

**Heil, D.P.** (2007). *Lab Manual for HDPE 322* (5<sup>th</sup> edition). Dept. of Health and Human Development, Montana State University, Bozeman, MT.

**Heil, D.P.** (1997). *Laboratory Manual for Physiology of Exercise I - PED 481*. Dept. of Physical Education, University of Southern Indiana, Evansville, IN.

**Heil, D.P.** (1995). *Advanced Exercise Physiology Lab Manual: Concepts in Measurement and Instrumentation*. Dept. of Exercise Science, University of Massachusetts, Amherst, MA.

Maksud, M., Claremont, A.D., and **D. Heil** (1990). *Respiratory Dynamics Laboratory Manual*. Dept. of Exercise Science, Oregon State University, Corvallis, OR.

## 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.**

### • Summary of Conference Presentations (as of May 2008):

<b>National and International Conference Published Abstracts (Original Research - Refereed)</b>	<b>76</b>
· 66 Presentations at National ACSM Conferences.	
· 22 <u>First author presentations</u> at National ACSM conference, National AAHPERD conference, and the IOC World Congress on Sport Sciences conference.	
<b>Student presentations, Invited Presentations, and Non-Published Abstracts</b>	<b>39</b>
· 17 Regional presentations by graduate and undergraduate students.	
· 22 Invited presentations, symposia, and non-published abstract presentations.	
<b>Total Presentations</b>	<b>115</b>

### • 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.**

- 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. 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.
- (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.
- 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. Svolos, 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. Poster presentation at the annual APS meeting.
- 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 VO<sub>2</sub> 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 VO<sub>2</sub>max 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) Mundinger, 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.
- 1999 (N) **Heil, D.P.**, M.J. Bauer, J.S. Gordon, A.R. Mattingly, J.J. Nessland, J.E. Rorabaugh, T.C. Schonberg (1999). Scaling the energetic demands of overground walking relative to body size. *Med Sci Sport Exerc* 31(5):S154.
- (NR) Rorabaugh, J.E., **Heil, D.P.**, M.J. Bauer, J.S. Gordon, A.R. Mattingly, J.J. Nessland, T.C. Schonberg (1999). Accuracy of the CSA accelerometer for classifying METs during overground walking. *Med Sci Sport Exerc* 31(5):S143.
- (NR) Gordon, J.E., **Heil, D.P.**, M.J. Bauer, A.R. Mattingly, J.J. Nessland, J.E. Rorabaugh, T.C. Schonberg (1999). Energy expenditure prediction accuracy of the CSA accelerometer for overground walking. *Med Sci Sport Exerc* 31(5):S143.
- (N) Mattingly, A.R., **Heil, D.P.**, M.J. Bauer, J.S. Gordon, J.J. Nessland, J.E. Rorabaugh, T.C. Schonberg (1999). Body mass scaling of distance running performance in collegiate runners. *Med Sci Sport Exerc* 31(5):S104.
- 1998 (N) **Heil, D.P.** The theoretical importance of body size on the one hour cycling record at altitude. *Med Sci Sport Exerc* 30(5):S111.
- (N) **Heil, D.P.** Body mass scaling of submaximal oxygen uptake during graded treadmill bicycling. *Res Q Exerc Sport* 69(1):A-25.
- 1997 (N) **Heil, D.P.** and E.P. Debold. Body mass scaling of frontal area in cyclists. *Med Sci Sport Exerc* 29(5):S198.
- (N) Debold, E.P., **D.P. Heil**, P.S. Freedson. Examining the effect of body mass on uphill cycling performance using allometric scaling. *Med Sci Sport Exerc* 29(5):S220.
- (N) **Heil, D.P.** Body mass scaling of oxygen uptake and power output at peak and ventilatory threshold in competitive cyclists. *Res Q Exerc Sport* 68(1):A-22.
- 1996 (N) **Heil, D.P.**, P.S. Freedson, and R.W. Thompson. Validity and reliability of the NASA Physical Activity Scale in 40 to 80 year old adults. *Res Q Exerc Sport* 67(1):A-60.
- (N) **Heil, D.P.** and G.E. Caldwell. Theoretical hip and knee extensor torques as a function of preferred hip angle and crank angle in cyclists. *Med Sci Sport Exerc* 28(5):S47.
- (N) Debold, E.P., **D. Heil**, D. Hendelman, P.S. Freedson. Prediction of uphill cycling time trial performance. *Med Sci Sport Exerc* 28(5):S156.
- (N) Freedson, P.S., **D.P. Heil**, and R.W. Thompson. Estimation of  $\dot{V}O_{2PEAK}$  from a 1-mile simulated

cross-country ski test. *Med Sci Sport Exerc* 28(5):S183.

- 1995 (N) **Heil, D.P.**, and C.E. Matthews. Modelling the proportion of agreement ( $P_0$ ) for the classification of aerobic fitness. *Med Sci Sport Exerc* 27(5):S77.  
(N) Matthews, C.E., **D.P. Heil**, and P.S. Freedson. Classification of aerobic fitness using non-exercise based predictors. *Med Sci Sport Exerc* 27(5):S135.  
(N) **Heil, D.P.** Reliability of a non-exercise  $\dot{V}O_{2PEAK}$  regression model to classify fitness levels. *Res Q Exerc Sport* 66(1):A-48.
- 1994 (N) **Heil, D.P.**, T.R. Derrick, and S. Whittlesey. Seat and torso position optimization in trained cyclists during steady-rate ergometer cycling. *Med Sci Sport Exerc* 26(5):S63.  
(N) **Heil, D.P.**, P.S. Freedson, L.E. Alquist, J. Price, and J.M. Rippe. Criterion-referenced evidence for the predictive validity of a non-exercise based  $\dot{V}O_{2MAX}$  prediction model. *Res Q Exerc Sport* 65(1):A-57.  
(N) Freedson, P.S., A.F. Maliszewski, **D.P. Heil**, L.E. Ahlquist, J.M. Price, S.R. Damitz, J.R. Rippe. Prediction of aerobic capacity from a three-minute step test. *Med Sci Sport Exerc* 26(5):S121.  
(N) Rippe, J.M., P.S. Freedson, **D. Heil**, G. Kline. A gender specific prediction of  $\dot{V}O_{2MAX}$  from a 10 minute walk test. *Cir Res* (4, Part 2):I-161.
- 1993 (N) Maliszewski, A.F., **Heil, D.**, Freedson, P.S., and Clarkson, P. Candy bar ingestion 30 minutes before exercise does not impair exercise performance. *Med Sci Sport Exerc* 25(5):S191.
- 1992 (N) **Heil, D.**, Wilcox, A., and C. Quinn. The effect of seat-tube angle variation on cardiorespiratory responses during submaximal bicycling. *Med Sci Sport Exerc* 24(5): S103.
- 1991 (N) Wilcox, A., C. Quinn, **D. Heil**, and M. Waibler. The relationship between carbonated beverage consumption and arterial oxygen saturation during maximal exercise. *Med Sci Sport Exerc* 23(4):S78.

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

- 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).
- 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).
- 1998 **Heil, D.P.** The Future Utility of  $\dot{V}O_{2MAX}$  Regression Models. Part of mini-symposium titled  *$\dot{V}O_{2MAX}$  Estimation From Exercise and Non-Exercise Regression Models*. 1998 National ACSM Conference (Orlando, FL).
- 1994 **Heil, D.P.** Exercise Testing in Children. Part of the Exercise Physiology Academy Symposium entitled *Current Issues in Pediatric Exercise Physiology*. 1994 National AAHPERD Conference (Denver, CO).

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

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**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.**

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- 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”*.
- 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 2<sup>nd</sup> 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 2<sup>nd</sup> 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).
- 1998 (R) **Heil, D.P.** (1998). A generalized allometric model of endurance cycling performance. Poster presentation at annual NWACSM Conference (Seattle, WA).

• **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.*

- 2008 ‡ (G) Howe, S.M., **D.P. Heil**. The influence of bout interruptions on activity energy expenditure during overground walking and running. Poster presentation at NWACSM Conference (Seattle, WA).  
‡ (G) Dock, M., R. Pickels, and **D.P. Heil**. Influence of pedometer tile angle on step counting validity during controlled treadmill walking trials. Poster presentation at NWACSM Conference (Seattle, WA).  
‡ (G) Jacobson, E.A., R. Pickels, **D.P. Heil**. Effect of ski pole stiffness on upper body power output in cross-country skiers. Poster presentation at annual NWACSM Conference (Seattle, WA).  
(G) Pickels, R., M. Dock, **D.P. Heil**. Bicycle geometry as a determinant of sagittal-view kinematics while time-trial cycling. Poster presentation at the 2008 SICI (Serotta International Cycling Institute) Conference in Denver, CO. Also presented at the 2008 NWACSM Conference (Seattle, WA).
- 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. Poster 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)**

- 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) Stadtlander, 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).
- 1998 (S) Hight, G.A. and **D.P. Heil** (1998). Body mass as a determinant of endurance running performance. Slide presentation at Midwest Undergraduate Research Conference (Butler University, IN).  
(S) Pigman, J.S. and **D.P. Heil** (1998). The day-to-day reliability of steady-state heart rate. Slide presentation at Midwest Undergraduate Research Conference (Butler University, IN).  
(S) Jenkins, S.B. and **D.P. Heil** (1998). Steady-state drift in power output using the Monark cycle ergometer. Slide presentation at Midwest Undergraduate Research Conference (Butler University, IN).

#### •MEDIA HIGHLIGHTS OF RESEARCH & LAB ACTIVITIES

##### (Unsolicited and non-refereed; Tracking began in 2002)

- 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).

## **GRANT WRITING ACTIVITIES**

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### **• GRANT PROPOSALS IN REVIEW - Original Research**

Whitt-Glover, M.C. Evaluation of a community-wide initiative to promote activity breaks. Submitted to: Activity Living Research - 2008 Rapid Response Grants. **DP Heil** subcontracted \$5,000 to analyze activity monitor data resulting from the study.

### **• FUNDED GRANTS - Original Research**

2009 Whitt-Glover, M et al. A Faith-Based Intervention to Increase Physical Activity Among Blacks. RO1 to NIH for 3.5 million dollars over 5 years approved in October 2008. **D.P. Heil** is co-PI in charge of physical activity monitor data collection and processing for \$57,753 over 5 years.

Bennett, G.G. et al. Community Based Obesity Prevention Among Black Women. Subcontract to **D.P. Heil** for \$10,000 over 5 years for activity monitor data analysis through the Dana-Farber Cancer Institute, Inc. (Boston, MA). R01 application to the National Cancer Institute (NCI/NIH/DPHHS) accepted for \$3,695,513 over 5 yrs.

2008 **Heil, D.P.** Influence of a Nutrition Supplement on Measures of Anaerobic Upper Body Power in Trained Nordic Skiers. \$15,468 from TAMER Laboratories (Shoreline, WA).

**Heil, D.P.** Activity Monitor Calibration in Obese Women. \$2,500 travel grant provided by the Mini Mitter Co. (Bend, OR).

- 2006 **Heil, D.P.** Validation of the Actical-Step counting algorithm. \$3,800 provided by the Mini Mitter Co (Bend, OR).  
**Heil, D.P.** \$3,600 subject compensation and monitor servicing for Actical free-living reliability study. Funding provided by the Mini Mitter Co (Bend, OR).
- 2005 **Heil, D.P., B. Ruby, S. Montain.** Dependence of the Physiological Strain Index (PSI) on Metabolic Rate During an Ironman Triathlon. Funding for \$11,700 from Gatorade (\$5,500) and a Department of HHD Faculty Development Grant (\$6,200).  
**Heil, D.P.** Collection of Heat Strain Data Using the VitalSense Monitor - A Pilot Study. Funded by the Mini Mitter Co. (Bend, OR) for \$500.  
**Heil, D.P.** Use of Activity Monitors to Identify Moderate and Vigorous Intensity Activities. Funded by New Lifestyles, Inc., Kansas City, MO, for \$9,260.  
**Heil, D.P.** Pedometer Longevity Project - Part II. Funded by New Lifestyles, Inc., Kansas City, MO, for \$6,700.
- 2002 **Heil, D.P.** Establishing the Long-Term Validity of Pedometers in Habitual Exercisers. Funded by New Lifestyles, Inc., Kansas City, MO, for \$20,652.50.  
Lynch, W.C., **D.P. Heil**, M. Havens, J.J. Borkowski. Athletics and eating problems in Native and Caucasian Youth. Funded by the National Institutes of Mental Health (NIMH) for \$140,000.  
**Heil, D.P.** Developing an Energy Expenditure Prediction Algorithm for the Actiwatch in Children and adults. Funded by the Mini Mitter Co., Bend, OR, for \$11,275.  
**Heil, D.P.** *Developing an Energy Expenditure Prediction Algorithm for Wildland Firefighters.* Contracted service with the U.S. Forest Service (USFS) for \$3,000.
- 2001 **Heil, D.P., C. Campbell, M. Miles.** Preventing obesity by improving the health of Montana's Native American children. Three-year subcontracted from the Centers for Disease Control and Prevention (CDC) and through Montana's Dept. of Health and Human Services (DHHS). *Funding totaled \$136,734 over 3 yrs. This project was eventually redefined and the contract renegotiated as a yearly contract (\$50,000 for AY0203).*  
Miles, M.P., **D.P. Heil.** Resistance training and atrophy: A new model to study the arm. One-year seed grant submitted to the Montana Space Grant Consortium. *Funded for \$57,000.*  
Ruby, B. and S. Gaskill. 2001 USFS Field Investigation Proposal. **D.P. Heil** funded for \$1,503 by subcontract from the U.S. Forest Service (USFS) through the University of Montana.
- 2000 **Heil, D.P.** Green Building Pilot Project: Utility of a field-based light meter and heart rate variability monitor. *Funded for \$9,500* by subcontract through the National Institutes for Science and Technology (NIST).  
**Heil, D.P.** Estimating energy expenditure in Montana's wildland firefighters using the CSA accelerometer. \$1,500 equipment loan by Computer Science and Applications, Inc. (CSA: Shalimar, FL).
- 1999 **Heil, D.P.** Laboratory and field validation of activity monitors for the prediction and classification of physical activity patterns. \$10,000 equipment loan by the National Center for Chronic Disease Prevention and Health Promotion at the Centers for Disease Control (CDC, Atlanta, GA).
- 1998 **Heil, D.P.** Validation of the CSA accelerometer as a tool for classifying energy expenditure in adults. *Funded for \$5,000* by the AAHPERD Research Grant Program Committee in 1999.
- 1997 **Heil, D.P.** A revised model of the power test for use by USA Cycling's Youth Talent Identification Program. *Funded for \$1,750* by USA Cycling and the United States Olympic Committee.
- 1993 **Heil, D.P., Derrick, T.R., and S. Whittlesey.** Cardiorespiratory and kinetic analysis of trunk and seat-tube angle variation during steady-state cycling. *Funded for \$2,200* by the Cycling Research Association.

• FUNDED GRANTS/CONTRACTS/CONSULTING - Other Internal/External Sources of Funding

- 2008 **Heil, D.P.** MSL Equipment Request. Internal funding from MSU Computer/Equipment Fee allocations. Two separate proposals were accepted: 1) \$16,000 for a new hydrostatic tank and 2) \$7,950 for three new treadmills.
- 2007 **Heil, D.P.** MSL Equipment Request. Internal funding from MSU Computer/Equipment Fee allocations for \$3,420.00.  
**Heil, D.P.** Evaluations of Cycling Position Optimization - A proposal to the Serotta International Cycling Institute (SICI) for cycling equipment (\$800 for seat posts and saddles) needed for position optimization testing using custom cycling ergometer.  
**Heil, D.P.** Subcontracted activity monitor data analysis from Gary Bennet (Dana-Farber Cancer Institute, Inc., Boston, MA) for evaluating high risk adults in the Boston area (\$2,000).  
**Heil, D.P.** \$500 subcontract from David Rowe (East Carolina University, SC) to participate in the "Healthy Steps" pilot data collection. Our lab became one of three labs to participate in this data collection.  
Yancy, T., Whitt-Glover, M. Impact of 10-Minute "Energy Breaks" on Changes in Free-Living Physical Activity. Transition Supplement grant from the Robert Wood Johnson Foundation. \$50,000 total with \$4,000 subcontracted to D.P. Heil for physical activity data analyses.  
Li, L., **D.P. Heil.** Pilot Data Activity Monitor Validation in Adults With Peripheral Neuropathy. An internal grant request to the Dept of Kinesiology at LSU - Baton Rouge. \$2500 in funding covered travel expenses for Heil, as well as minor supplies and subject compensation.
- 2006 **Heil, D.P.** Estimating free-living energy expenditure in overweight African-American. HHD IDC Mini-grant proposal funded for \$1,640.  
**Heil, D.P.** Subcontracted activity monitor data analysis from Gary Bennet (Dana-Farber Cancer Institute, Inc., Boston, MA) for evaluating high risk adults in the Boston area (\$1,200).  
**Heil, D.P.** Portable Metabolic System equipment request. Internal funding from MSU Computer/Equipment Fee allocations for \$39,800.
- 2005 **Heil, D.P.** Subcontracted activity monitor data analysis from Melicia Whitt-Glover (Wake Forest University Health Sciences Medical Center, NC) for church-based physical activity intervention study (\$1,500).  
**Heil, D.P.** College of EHHD Mini Grant. \$3,000 for Summer of 2005.  
**Heil, D.P.** Physical Activity Monitors for Capstone Experience Course. Internal funding from MSU Computer/Equipment Fee allocations for \$18,300.  
**Heil, D.P., M. Hahn.** Movement Science Lab Renovation Request. Approved for \$7,100.
- 2004 **Heil, D.P.** Fitness Testing for Bozeman City Firefighters.  
· April 2004 - Bozeman City Firefighters \$6,900.00  
**Heil, D.P.** Self-Optimization of Time-Trial Positioning in Hawaii Ironman Triathletes. Internal faculty development grant from the MSU College of EHHD for \$6,000.
- 2003 **Heil, D.P.** Consulting work for Trekanalysis, Inc., Bend, OR. Work involved reviewing some of their technical documentation as well as performing a literature review (\$1,500).  
**Heil, D.P.** MSU Student Equipment Fee requests for new computers and exercise testing equipment.  
*Funding totaled \$25,500.*  
**Heil, D.P.** USFS Wildland Firefighter Data Analysis. Subcontract with Brent Ruby at UofM (USFS was funding source) for \$1,000.
- 2002 **Heil, D.P.** USFS Wildland Firefighter Testing. Contract with USFS for \$3,000 in conjunction with field research performed by Brent Ruby at UofM-Missoula.  
**Heil, D.P.** MSU Student Equipment Fee request for replacement metabolic measurement system.  
*Funding totaled \$23,750.*  
**Heil, D.P.** Fitness Testing for Bozeman City Firefighters.  
· Dec. 2002 - Bozeman City Firefighters \$5,550
- 2001 **Heil, D.P.** \$3,800 awarded through MSU's BEST Proposal program for 3-credit release to analyze pilot data and write a grant proposal.  
**Heil, D.P.** (2001). *Exercise Science and Nutrition Lecture Series.* Funding to bring in Steve Gaskill, Assistant Prof at UofM, to give a presentation titled "The Art and Science of Testing Elite Athletes - Lessons From Cross Country Skiing". Co-funded by the Dept. of HHD and the

MONTS Invited Speaker program. *Funding totaled \$500.00.*

**Heil, D.P.** Fitness Testing for Bozeman and Livingston City Firefighters.

- Jan. 2001 - Bozeman City Firefighters \$5,900
- Jan. 2001 - Livingston City Firefighters \$2,430
- Dec. 2001 - Bozeman City Firefighters \$5,600

Stadtlander, A., **D.P. Heil.** Prediction of energy expenditure during simulated rock climbing. MSU Undergraduate Scholars Program (USP) funding for supplies. *Funding totaled \$520.*

Munding, E., **D.P. Heil.** Travel grant through USP program to present at National ACSM Conference. *Funding totaled \$600.*

**Heil, D.P.** MSU Student Equipment Fee request for pedometers and electronic activity monitors. *Funding totaled \$10,500.*

2000 **Heil, D.P.** Travel grant from Computer Science and Applications, Inc. (Shalimar, FL) to fund co-investigator's presentation of ambulatory light monitoring study at National ACSM Conference in Baltimore, MD (June 2000). *Funding totaled ~\$750.00.*

**Heil, D.P.** *Exercise Science and Nutrition Lecture Series.* Funding to bring in Brent Ruby, Assistant Prof at UofM, to give a presentation titled "Young Men and Women and Fire: Safety, Policy, and Current Research". Co-funded by the Dept. of HHD and the MONTS Invited Speaker program. *Funding totaled \$473.*

**Heil, D.P.** MSU Student Equipment Fee request for seven Monark cycle ergometers. *Funding totaled \$11,905.*

1999 **Heil, D.P.** MSU Student Equipment Fee request for Collins spirometer and RV measurement system. *Funding Totaled \$21,000.*

1998 **Heil, D.P.** Travel Grant for Student Participation in the 10th Annual Midwest Undergraduate Research Conference. *Funding Totaled \$152.90.*

1996 **Heil, D.P.** Graduate Student Travel Grant (1996). A request was submitted to the University of Massachusetts Graduate Council to partially cover the expenses for traveling to the National ACSM Conference. *Funding totaled \$300.*

**Heil, D.P.** Graduate Student Travel Grant. A request was submitted to the University of Massachusetts Graduate Council to partially cover the expenses for traveling to the National AAHPERD Conference. *Funding totaled \$300.*

#### • GRANT PROPOSALS NOT FUNDED - Original Research

2007 Whitt-Glover, M. et al. Increasing physical activity levels in African American women. **D.P. Heil** is written in as Co-PI for \$55,638 through the Wake Forest University Health Sciences. Application sent to the National Cancer Institute (NCI/NIH/DPHHS) for \$750,000 over 5 yrs. Not funded after 3 reviews.

2006 **Heil, D.P.** The development of subject-specific calibration algorithms for electronic activity monitors. Submitted to the National Cancer Institute (NCI/NIH/DPHHS) for \$257,544 over 2 yrs.

Lang, W. et al. Analysis of accelerometry data. Subcontract to **D.P. Heil** for \$19,184.00 through the Wake Forest University Health Sciences from the National Cancer Institute (NCI/NIH/DPHHS) for \$250,000 over 2 yrs.

Hyman, L.E. et al. Youth opportunities in health professions and science. National Center for Research Resources Science Education Partnership Award (\$1,249,982 over 5 yrs).

**D.P. Heil** subcontracted to create one or more physiology teaching modules

2004 **Heil, D.P.** Measurement of heat stress and water turnover during the 2004 Hawaiian Ironman triathlon. One-year proposal submitted to Nike, Inc. (Beaverton, OR) for \$52,000.

2000 **Heil, D.P.** Development and Validation of an Algorithm for Processing Motion Sensor Data Collected Under Free-Living Conditions. One-year grant submitted to the AAHPERD Research Consortium for \$15,000.

- Heil, D.P.** Deriving an algorithm for processing and interpreting physical activity monitor data collected under free-living conditions. One-year seed grant submitted to NSF-MONTS for \$20,000.
- Miles, M.P., **D.P. Heil**, and C. Campbell. The influence of Actisyn™ on circulating hormones after an exhaustive resistance exercise. Pre-proposal submitted to SportPharma, Inc., for \$40,931.
- Armstrong, D., et al. (2000). The Interactive Effects of Calcium Supplementation and Weight Bearing Exercise on Maximizing Bone Mass in Young Men and Women. Proposal submitted to the U.S. Army for >\$1,000,000 over 2.5 years included a subcontract to **D.P. Heil** for \$48,245 to coordinate and interpret the physical activity monitoring component of data collection.
- 1999 Miles, M., **D.P. Heil**. Muscle genes, hypertrophy and self-concept. An NIH subcontract for \$344,811 that was part of a proposed 12-site study over four for a total of \$4,361,118.
- Heil, D.P.**, D. King. The influence of floor surface hardness on physiological, biomechanical, and psychophysical responses to manual work performed during prolonged standing. NIST subcontract via the *Green Building Human Interface Group* for \$71,980.
- Heil, D.P.**, W. Lynch. Impact of the Green Building on physiological stress in undergraduate organic chemistry students. NIST subcontract via the *Green Building Human Interface Group* for \$336,980.
- Heil, D.P.**, M. Miles. Impact of the Green Building on seasonal variations in circadian rhythm. NIST subcontract via the *Green Building Human Interface Group* for \$428,155.
- Heil, D.P.**, P. Butterfield. Respiratory and neurobehavioral effects associated with moving from traditional to environmentally-sound chemistry laboratories. NIST subcontract via the *Green Building Human Interface Group* for \$496,943.
- Dunnagan, T.A., C. Costakis, S. Yates, **D.P. Heil**. Senior based exercise adoption intervention. Proposal submitted to the National Institute of Health under the Pilot Research Grant Program - \$50,000.
- 1998 **Heil, D.P.** Laboratory and field validation of activity monitors for the prediction and classification of physical activity patterns. Proposal submitted to the American Heart Association for \$79,680.
- Heil, D.P.**, W.C. Lynch, J.J. Borkowski. Physical activity as a risk factor for eating disorders in Caucasian and Native American adolescent females. Proposal submitted to the National Science Foundation (MONTS) program for \$25,000.
- Heil, D.P.** Simultaneous validation of two physical activity monitors for the assessment of free-living energy expenditure. Proposal submitted to the National Science Foundation (MONTS) program for \$25,000.
- Heil, D.P.** Development of an on-site test battery for USA Cycling's Youth Talent Identification Program. Submitted to USA Cycling and the United States Olympic Committee.
- 1993 **Heil, D.P.** The effect of chronic dynamic endurance training on hip angle optimization during semi-recumbent cycling. Submitted to the Life Fitness Institute Scientific Advisory Board for \$3,602.
- Heil, D.P.** Enhancing middle distance running performance with a water running training program. Submitted to the United States Olympic Committee for \$13,685.
- 1993 Freedson, P.S. and **D.P. Heil**. Instrumentation and laboratory improvement program. Submitted to the National Science Foundation for \$109,809 (no funding, but favorable review).
- 1992 Freedson, P.S., Clarkson, P.M., Rife, F., and **D.P. Heil**. Instrumentation and laboratory improvement program. Submitted to the National Science Foundation for \$114,129.

## **GRADUATE ADVISING OF THESES/PROJECTS**

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

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### Active Theses/Projects

**[Chair]** Willis, Sasah. Thesis Title: TBD

**[Chair]** Bakkan, Bjorn. Thesis Title: TBD

**[Chair]** Kaushik, Gaurav. Project Title: TBD

**[Chair]** Manning, Tommy. Thesis Title: "The Use of GPS to Predict Energy Expenditure for Outdoor Running".

Frederickson, Sara. Thesis Title: TBD

- Filipowicz, Rebecca. Thesis Title: "An Assessment of DHA Status in Pregnant Women With and Without Gestational Diabetes".
- Gelfer, Gita. Thesis Title: "Dietary Assessment of docosahexaenoic Acid (DHA) Status in Healthy Pregnant Women and Their Babies".
- [Graduate Representative] Kaeding, Lynn: Dissertation Title: TBD

#### Completed Theses/Projects

- 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*.
- 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*.
- 2000 Sharp, Carolyn (2000). Thesis Title: *A Biomechanical Analysis of the Single Toe Loop and the Single Loop Jump of Novice Figure Skaters*.
- 1999 **[Co-Chair]** Regley, Colleen (Spring 1999). Thesis Title: *Digestibility Characteristics of Barley Lines From the USDA Barley World Core Collection in Rats*.
- [Chair]** Hunt, Ray (1999). Project Title: *Factors Influencing the Intake of Calcium Rich Foods Among Adolescents*.
- [Chair]** Meier, Mary (1999). Project Title: *Professional Project in Cardio-Pulmonary Rehabilitation*.

## **PROFESSIONAL SERVICE & OUTREACH ACTIVITIES**

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### **· National-Level Service/Outreach:**

- 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.  
· Chair, ACSM Thematic Poster Session for Winter Sport Interest Group. Annual ACSM Meeting (Seattle, WA).
- 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).  
· 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*.  
· Invited Grant Reviewer, original research, for M.J. Murdock Charitable Trust.
- 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.  
· 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*.  
· Invited Grant Reviewer, original research, for M.J. Murdock Charitable Trust.
- 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.  
· Manuscript Reviewer, original research, *Medicine and Science in Sports and Exercise*.  
· Manuscript Reviewer, original research, *International Journal of Sports Physiology and Performance*.  
· Invited Grant Reviewer, original research, for M.J. Murdock Charitable Trust.
- 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.
  - 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*.
  - Reviewer, Draft manual for the American Cross Country Skiers (AXCS) for promoting XC ski classes.
- 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.
- 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*.
  - Served as an external reviewer of research for promotion and tenure of faculty member of a NW Univ.
- 2002 · Grant proposal reviewer, original research, Research Consortium of AAHPERD grant program.
- 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*.
  - Invited Chair: Free communications/slide session titled F-38 “Fitness” at National ACSM Conference (St. Louis, MO).
- 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*.
- 2000 · Manuscript reviewer, original research, 2001 national AAHPERD conference abstracts.
- Manuscript reviewer, original research: *Journal of Applied Physiology*.
  - Manuscript reviewer, original research: *Research Quarterly for Exercise and Sport*.
  - Manuscript reviewer, published text, Source: Doody’s Review Service (on-line). Review of *ACSM’s Guidelines for Exercise Testing and Prescription* (6<sup>th</sup> edition).
  - Manuscript reviewer, original research, *American Journal of Health Promotion*.
  - Invited Chair: Free communications/slide session titled F-38 “Cycling Performance” at National ACSM Conference (Indianapolis, IN).
- 1997 · Manuscript reviewer, original research: *International Journal of Sports Nutrition*.
- **State/Regional-Level Service/Outreach:**
- 2008 · MSU Faculty Ambassador to the NWACSM.
- 2009 NWACSM Conference abstract reviewer.
- 2007 · Conference Director and Organizer of the 2007 NWACSM Conference (Spring 2007).
- MSU Faculty Ambassador to the NWACSM.
  - 2008 NWACSM 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 ACSM.
- 2006 NWACSM Conference abstract reviewer.
- 2004 · *President*, Northwest Chapter of ACSM.
- 2005 NWACSM Conference abstract reviewer.
  - Invited manuscript reviewer, original research, *Intermountain Journal of Science (IJS)*.
- 2003 · *President-Elect* of Northwest Chapter of 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.
- 2000 · Member of CVD Grant Advisory Panel for proposal(s) submitted by the State of Montana to the Centers for Disease Control.
- 1999 · Invited member of the American Heart Association's Gallatin Division Board of Directors.
- Co-Director of the Annual AHA Jump Rope for Heart activity held in Shroyer Gym at Montana State University. Fund raising for this event totaled >\$10,000.
  - Co-Director of the Annual AHA Hoops for Heart activity held at Montana State University.
- 1998 · Invited member of the American Heart Association's Gallatin Division Board of Directors.
- Co-Director of the Annual AHA Jump Rope for Heart activity held in Shroyer Gym at Montana State University. Fund raising for this event totaled >\$12,000.
- 1997 · Advisory Board member for the *Kentuckian Health and Fitness Magazine* (regional magazine dedicated to wellness, nutrition, recreational athletics, and sports medicine promotion to the general populace).

Ongoing Service Projects:

- 1999-Present:: Invited member of the **Cardiovascular Disease Coalition** task force for the state of Montana. Involves active participation in quarterly meetings in Helena, MT, to discuss and advise on health-related policies for the state on Montana, as well as guidance with grant writing opportunities.
- 2000 - Present: **Director of Testing Services** provided by MSU's Movement Science Laboratory. We currently have contracts with several regional city fire departments to administer a battery of laboratory tests to city fire fighters for the purpose of evaluating and tracking various fitness parameters. Testing services are also provided (free of charge) to the Bridger Ski Foundation (BSF) junior cross-country ski team.

**· University-Level Service/Outreach:**

- 2009 · Member, Montana State University Human Subjects Committee.
- Faculty Advisor for MSU Triathlon Club.
- 2008 · Member, Montana State University Human Subjects Committee.
- Faculty Advisor for MSU Triathlon Club.
- 2007 · Member, Montana State University Human Subjects Committee.

- Faculty Advisor for MSU Triathlon Club.
- 2006 · Member, Montana State University Human Subjects Committee.
- Faculty Advisor for MSU Triathlon Club.
- 2005 · Member, Montana State University Human Subjects Committee.
- Faculty Advisor for MSU Triathlon Club.
- Graduate School Representative, Doctoral Committee for Scott Laffoon, Chemistry and Biochemistry.
- 2004 · Member, Montana State University Human Subjects Committee.
- 2003 · Member, Montana State University Human Subjects Committee.
- Faculty Advisor for MSU Mortar Board (senior honorary club).
- 2002 · Member, Montana State University Human Subjects Committee.
- Faculty Advisor for MSU Mortar Board (senior honorary club).
- Internal Reviewer of Teaching materials for non-HHD faculty member.
- Graduate School Representative, Doctoral Committee for Cheryl Neilson, Dept of Education.
- 2001 · Member, Montana State University Human Subjects Committee.
- Faculty Advisor for MSU Mortar Board (senior honorary club).
- 2000 · Member, Montana State University Human Subjects Committee.
- Faculty Advisor for MSU Mortar Board (senior honorary club).
- Lecturer, MSU-UDOC High School Summer Program.
- Proposal reviewer, MSU Undergraduate Scholars Program.
- 1999 · Member, Montana State University Human Subjects Committee.
- 1998 · Member, Montana State University Human Subjects Committee.

· ***Department/College-Level Service/Outreach:***

- 2008 · Chair, HHD Equipment/Computer Committee.
- Chair, Health & Human Performance (formally Movement Science) Curriculum Committee.
- Chair, EHHD P&T Review Committee.
- Member, HHD Research Committee.
- Member, HHD Undergraduate Committee.
- Member, Exercise Science faculty search committee.
- Faculty Advisor for MSU-HHD Exercise Science Club.
- 2007 · Chair, HHD Equipment/Computer Committee.
- Chair, Movement Science Curriculum Committee.
- Member, HHD P&T Review Committee.
- Member, HHD Undergraduate Committee.
- Member, Exercise Science faculty search committee.
- Faculty Advisor for MSU-HHD Exercise Science Club.
- 2006 · Chair, HHD Equipment/Computer Committee.
- Chair, Movement Science Curriculum Committee.
- Member, HHD P&T Document Review Committee.
- Member, HHD Mentoring Committee.
- Faculty Advisor for MSU-HHD Exercise Science Club.
- 2005 · Chair, HHD Equipment/Computer Committee.
- Chair, Movement Science Curriculum Committee.
- Member, College Budget Committee.
- RP&T Internal Teaching Reviewer.
- Member, Dept. of HHD Workload Evaluation Committee.
- Faculty Advisor for MSU-HHD Exercise Science Club.
- 2004 · Chair, HHD Equipment/Computer Committee.
- Chair, Movement Science Curriculum Committee.
- Member, College of EHHD P&T Committee.
- Member, College Budget Committee.
- Member, Dept. of HHD Workload Evaluation Committee.
- Faculty Advisor for MSU-HHD Exercise Science Club.
- 2003 · Chair, Biomechanics Search Committee.
- Chair, HHD Equipment/Computer Committee.
- Chair, Movement Science Curriculum Committee.
- Member, HHD P&T Document Review Committee.
- Faculty Advisor for MSU-HHD Exercise Science Club.
- 2002 · Chair, HHD Equipment/Computer Committee.

- Member, HHD P&T Document Review Committee.
- Chair, Movement Science Curriculum Committee.
- Faculty Advisor for MSU-HHD Exercise Science Club.
- 2001 · Chair, HHD Equipment/Computer Committee.
- Member, HHD P&T Document Review Committee.
- Faculty Advisor for MSU-HHD Exercise Science Club.
- 2000 · Chair, HHD Equipment/Computer Committee.
- Member, HHD P&T Document Review Committee.
- Faculty Advisor for MSU-HHD Exercise Science Club.
- 1999 · Chair, Nutrition/Exercise Search Committee.
- Member, HHD Faculty Utilization Committee.
- Member, Nutrition Faculty Search Committee.
- Member, HHD Equipment/Computer Committee.
- Faculty Advisor for MSU-HHD Exercise Science Club.

## **AWARDS/HONORS**

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### **· Awards/Honors in Research**

- 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).
- 1995 Runner-up, Student Oral Presentation Award (for original research), 1995 NEACSM Conference.
- 1995 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**

- 2007 "*Influential Educator*" Award (MSU - Bozeman).
- 2007 "*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).
- 2001 "*Influential Educator*" Award (MSU - Bozeman).
- 2000 MSU Alumni - Chamber of Commerce Award for Excellence in Teaching (MSU - Bozeman).
- 2000 "*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**

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- *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.
- Past Affiliations: American Society of Exercise Physiologists (ASEP) (1998-2000); International Society for the Advancement of Kinanthropometry (ISAK) (1998-2000); Montana AAHPERD (1998-1999); Midwest ACSM (1996-1998); New England ACSM (1992-1996); Northwest ACSM (1991); Cycling Research Association (1989-1992).

## **PROFESSIONAL CONFERENCES ATTENDED**

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### Annual Conferences

- 1992-Present National ACSM Annual Conference.
- 1999-Present Northwest Regional ACSM Annual Conference.
- 1994-2000 National AAHPERD Annual Conference.
- 2007-2008 The Science of Cycling Symposium and Expo (2007 - Boulder, CO; 2008 - Denver, CO).
- 1991-1998 ACSM regional chapter meetings: Northwest ACSM (1991), New England ACSM (1992-1996), Midwest ACSM (1997-1998).

### Other Conferences

- 2007 HPEC 2007 Conference (Health & Physical Education Council of Alberta; Edmonton, Canada)
- 2006 Physiology and Pharmacology of Temperature Regulation (Phoenix, AZ).
- 2004 Objective Monitoring of Physical Activity (University of North Carolina at Chapel Hill, NC).
- 2001 Pathways to Health: A Montana Conference on Nutrition and Fitness (Bozeman, MT).
- 2000 Montana Association of Cardiovascular and Pulmonary Rehabilitation (MACVPR) annual conference.
- 1999 Conference on Measurement of Physical Activity - Part II of a conference series held at the Cooper Institute (Dallas, TX).
- 1998 Montana state chapter of AAHPERD Annual Conference.