



February 28-29, 2020  
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# ACSM Annual Meeting

Boise 2020 Theme: "In the World of Science there is Constant Flux,  
50 years of Medicine & Science in Sports and Exercise"

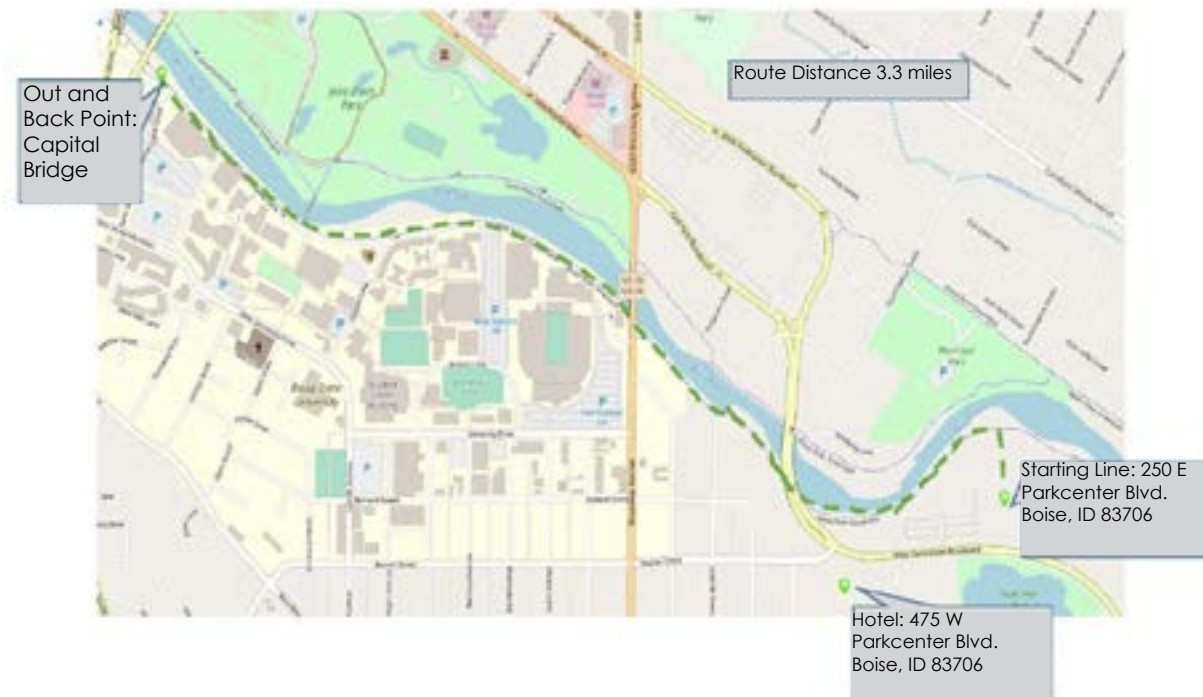
- Bruno Balke, MSSE Editor 1969

As conference directors, we want to welcome you to The American College of Sports Medicine Northwest Chapter annual meeting held at Boise State University. We are excited about the speaker line up for this meeting and hope you take the time to listen, and engage in questions with these renowned experts. This year, weather permitting, we will be having our inaugural fun run at the Boise Green Belt. The annual meeting will also be hosting a graduate fair from programs within the region. Please take the time to plan out your schedule accordingly and make sure to visit with any of our record number of sponsors. We look forward to seeing you in Boise..

Eli Lankford PhD FACSM and Stephanie Hall PhD

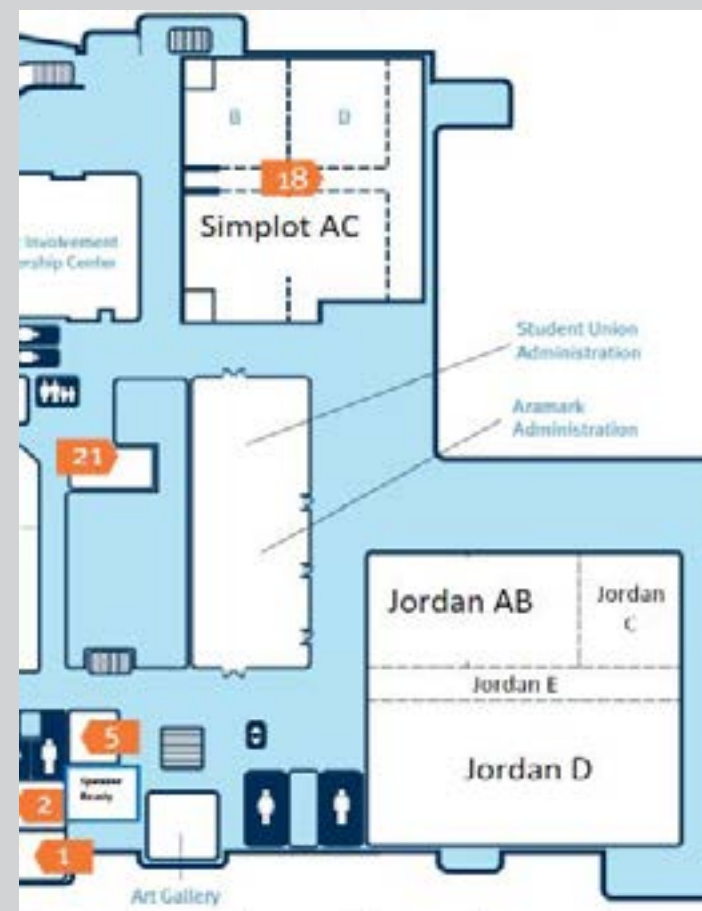
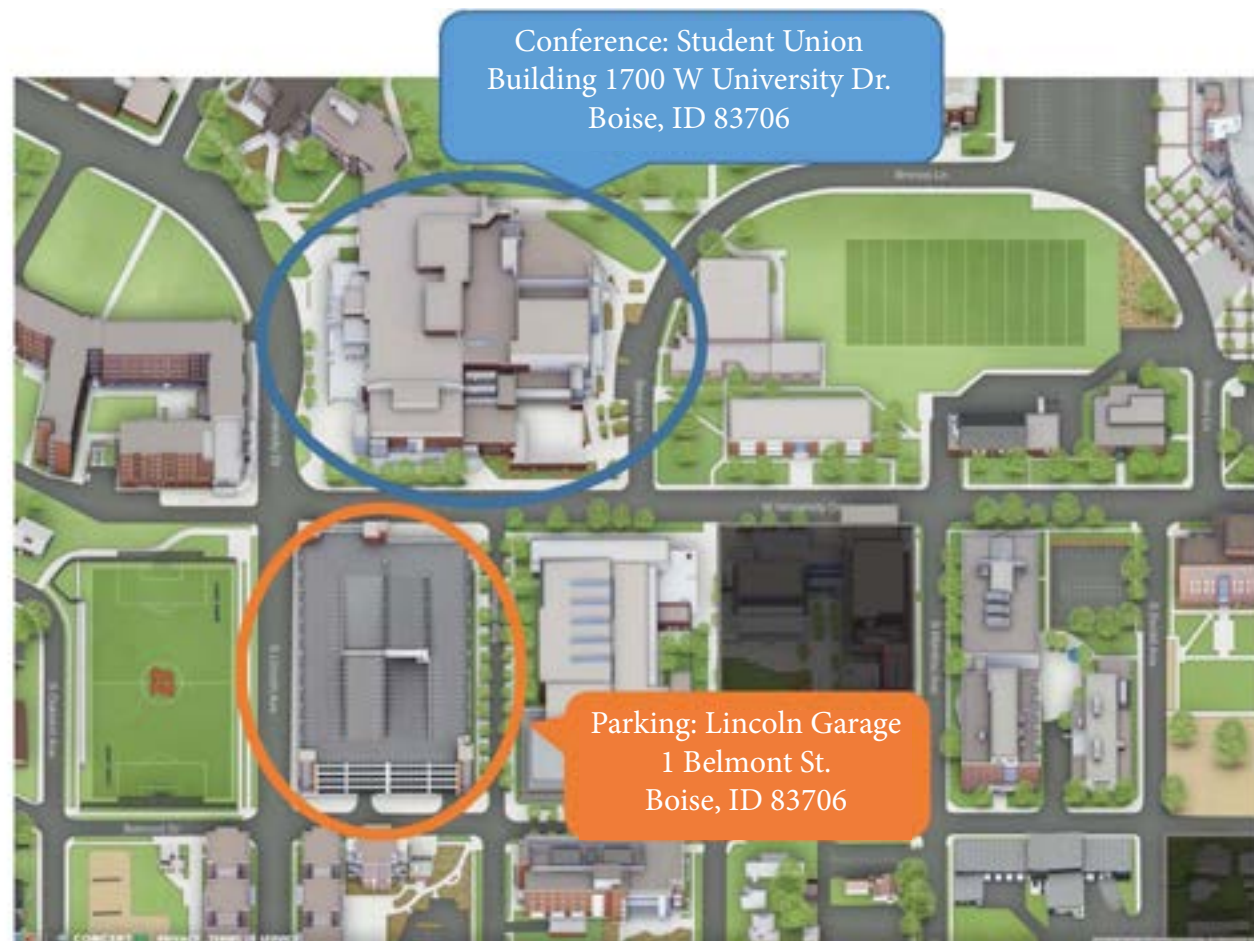


Join us for the ACSMNW fun run Saturday Feb 29th.  
Meet at 6:45am, event starts at 7:00am



## ACSM Northwest Mission Statement-

It is the mission of the Northwest Chapter of the American College of Sports Medicine to provide educational opportunities for professional development in exercise science and sports medicine and to be a resource for the general public regarding sports medicine and health and fitness issues.



Conference room layout

Don't forget to vote at the lection for your ACSMNW executive board members!

# ACSMNW Boise 2020 Schedule

Friday February 28, 2020				
Time	Jordan AB	Jordan C	Jordan D	Simplot AC
8:30-10:00am	Student Knowledge Bowl			
10:00-10:15am			Opening Remarks	
10:15 - 11:00am			Keynote: <b>Scott Powers</b> , Mechanisms of Exercise Preconditioning	
11:15-12:00pm		Undergraduate Thematic Session	<b>Jack Berryman</b> , 50 Years of MSSE: History, Content, and Impact, 1969-2019	Doctoral Student Presentations
12:00-2:00pm	Lunch and Games			
2:00-2:45pm		Graduate Student Thematic Session	<b>Ashley Smunder</b> , Therapeutic Effects of Exercise to Diminish Chemotherapy-Induced Muscle Toxicity	Master's Student Presentations
3:00-3:45pm			<b>Chris Minson</b> , Building Resilience through Environmental Stress	<b>James Navalta</b> , Wearing our Hearts on our Sleeve: The Truth about Smart Devices
4:00-4:45pm			<b>Thad Wilson</b> , Hypohidrosis: Mechanisms and Consequences of Reduced Revaporative Cooling	<b>Shugi Zhang</b> , The Neuromuscular Control of Balance: From Healthy Older Adults to Patients with Neurological Diseases
5:00-7:30pm	Social and Poster Session			

Saturday February 29, 2020			
Time	Jordan AB	Jordan C	Jordan D
7:00-8:00am	Fun Run (Boise Greenbelt)		
9:00-9:45am	Symposium: <b>Ryan Mizner</b> , How Biomechanics Can Shape Clinical Interpretations of ACL Reconstruction Outcome Including Case-Based Examples	Undergraduate Thematic Session	<b>Trevor Bennion</b> , Exercise Science Entrepreneurship in the Digital Landscape
10:00-10:45am	Symposium: <b>Tyler Brown</b> , An Integrated Experimental and Computational Approach to Determine Joint-level Neuro-mechanics from Whole-body Musculoskeletal Adaption.	Undergraduate Thematic Session	<b>Ben Bickham</b> , Insulin vs. Ketones: The Battle for Brown Fat
11:00-11:45am	Symposium: <b>Brett Homstad</b> , Fix the Stick: Practical Applications to Correct and Improve Deficient Squat and Lunge Movement Patterns	<b>Traci Parry</b> , Mechanisms of Exercise Oncology: Shaping the Face of Cancer Care	<b>Laura Mehofer</b> , The Pelvic Floor: Why it has a Core Role in Movement and Stability
12:00-1:00pm	Lunch		
1:00-1:45pm			<b>Jami Marseilles</b> , Challenged Athlete Foundation Ambassador
2:00-2:45pm	Symposium: <b>Matt Laye</b> , Physical Activity Timing Effects on Postprandial Glucose Levels	Hands On: <b>Shawn Simonson</b> , Using the Laterally Resisted Split Squat to Improve Change of Direction and Lateral Stability	<b>Lain Hunter</b> , Put One Foot in Front of the Other and Don't Fall Down
3:00-3:45pm		Hands On: <b>Laura Mehofer</b> , Integrating All Aspects of the Core through Yoga and Body Weight Movements.	<b>Khalil Lee</b> , Bridging the Gap: Using Sports Science as a Tool in the Development of Adolescent Athletes
4:00-5:00pm			Business Meeting, Awards and Closing

# Speakers



Above all else, **Jami Marseilles** is a survivor. She survived the terrifying and painful ordeal of being stranded for 11 excruciating days in sub-zero temperatures, which ultimately led to the loss of both of her legs below the knee. With an indomitable spirit, Jami learned to not only walk on prosthetics, but to run, using specialized “cheetah legs.” She won awards on the U.S. Paralympics Team in sprints, but later found a strong passion for long distance running. During both running careers, Jami has been an ambassador for Ossur and The Challenged Athletes Foundation. Through these partnerships, Jami has become a mentor and a role model for people with various disabilities.

Most recently, Jami has inspired the world by becoming the first and only bilateral amputee to complete the Boston Marathon. When Jami crossed that finish line, she proved once again that her will, and her drive to succeed, could overcome any adversity she faces. In addition to being

an athlete, Jami is a classroom teacher to young students. She provides them with the perfect example of what perseverance and tenacity can achieve. She has written a book about her experiences called “Up and Running: The Jami Goldman Story” and inspires both abled and disabled individuals to take advantage of the chances they are given in life. She has used fitness to transform her life and influence others in incredible ways.

For almost 30 years Jami has used fitness to guide all her life decisions. Her current situation continues to support how and why fitness will help heal any illness. Jami was diagnosed with stage 1 Breast Cancer in October 2016 and stage 4 Metastatic Breast Cancer in May 2017. These 2 diagnoses presented challenging medical decisions that Jami has faced. From this change of life’s path, Jami has chosen to provide HOPE for other amputees and cancer survivors’ through her charity, Warriors With Hope.



**Scott K. Powers** Ph.D., is a physiologist who specializes in investigating the effects of muscular exercise and inactivity on both cardiac and skeletal muscle. Specifically, Powers’ research has focused upon exercise mediated changes in cardiac and skeletal muscle antioxidant systems and the role that these changes play in providing protection against ischemia-reperfusion injury. The current focus of the Powers’ laboratory is to investigate the mechanisms responsible for respiratory muscle weakness in patients subjected to prolonged periods of mechanical ventilation. Powers’ laboratory research has been funded by extramural grants from the National Institutes of Health, Florida Biomedical Research Program, American Heart Association-

Florida, and American Lung Association-Florida. In addition to conducting research, Powers is an enthusiastic teacher, having earned three University of Florida teaching awards. Moreover, he has co-authored four textbooks that are used in college exercise physiology courses. In addition to teaching awards, Powers has received several academic honors including being elected President of the Southeastern chapter of the American College of Sports Medicine (1986) and Vice-President of the American College of Sports Medicine (1997-99). Furthermore, Powers was selected as the Southeastern American College of Sports Medicine Scholar in 1995 and he has earned a Career Enhancement Award from the American Physiological Society. He has served on grant review study sections for the National Institutes of Health, American Heart Association-Florida, and NASA. Powers also serves on numerous editorial boards for scholarly journals and is currently a senior editor for the Journal of Physiology.

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**Laura Mehofer** PT, DPT, ATC, RYT-200. Laura has a diverse training background that has shaped her approach to analyzing human movement and rehabilitation. Her training began as she earned her Bachelor's of Science in Athletic Training from Simpson College in Indianola Iowa in 2008. She then attended Mayo Clinic School of Health Sciences in Rochester MN, where she earned her Doctorate of Physical Therapy in 2012. She was immediately offered a position working for Mayo Clinic, where she focused exclusively on individuals with pelvic floor dysfunction.

Laura has always been very motivated in looking for different ways to engage with this population through her career. This led her to pursue two yoga certifications: Restorative Yoga Level 1 Teacher, and 200-Hour Registered Yoga Teacher and most recently, she has expanded her practice online to provide information for both patients and providers via Laura Mehofer LLC: online blog, YouTube, and Instagram. The explanatory posts and videos provide detailed instruction and sample modifications for all types of patients. All of Laura's work endeavors to demystify the pelvic floor with a well-educated, holistic approach to decrease fear of movement, and make a healthy movement lifestyle accessible to all.

Working within a large institution, Laura has had many research and teaching opportunities, and is at home working within a multidisciplinary team. She has a rich practice that consists of a high volume of complex patients. She has consistent experience maintaining focus on successfully servicing a diverse range of patients, including; high-level gymnasts, Olympic lifting and CrossFit athletes, competitive runners, football players, and yoga instructors, all with their own unique pelvic floor concerns.



**Ashley Smuder**, PhD is an Assistant Professor in the Department of Applied Physiology and Kinesiology at the University of Florida. Dr. Smuder received her PhD in Exercise Physiology from the University of Florida where she also completed her post-doctoral training studying skeletal muscle physiology. Work in her laboratory is focused on understanding the molecular signaling pathways that promote cardiac and skeletal muscle dysfunction following disease or periods of prolonged inactivity. Her current research is focused on determining the mechanisms by which physical activity can preserve cardiorespiratory muscle function following exposure to chemotherapy.

**Iain Hunter** PhD is a professor of biomechanics at Brigham Young University. He has been studying the mechanics of running related to performance since 1997. He works with USA Track and Field as their lead biomechanics expert for the steeplechase. His running experience includes racing the 800m for BYU and extending his range of racing to the marathon. His first marathon was in 2007. In his second marathon, he became the oldest winner ever of the St George Marathon. His other accomplishments in the St George Marathon there include setting age group records 4 times. His family are all runners with two of them now running for BYU.



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**Dr. Zhang** is an assistant professor affiliated with Biomedical Engineering program and Department of Kinesiology. Dr. Zhang received a Ph.D. in Kinesiology specializing in Biomechanics from Louisiana State University. Her research focuses on the complex control system underlying human balance and how this system adapts to impairments accompanied with human aging and neurological diseases. She particularly works with elderly individuals and patients with Neuropathy, Parkinson, and Multiple Sclerosis. Her research lines would contribute to the predictive model to screen patients by using machine learning algorithms with balance and gait control patterns.



**Benjamin Bikman** earned his Ph.D. in Bioenergetics and was a postdoctoral fellow with the Duke-National University of Singapore in metabolic disorders. Currently, his professional focus as a scientist and associate professor (Brigham Young University) is to better understand the role of elevated insulin in regulating obesity and diabetes, including the relevance of ketones in mitochondrial function.



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**Jack W. Berryman**, Ph.D., FACSM and FNAK, is professor emeritus of the history of medicine in the Department of Bioethics and Humanities and adjunct professor emeritus in the Department of Orthopaedics and Sports Medicine in the School of Medicine at the University of Washington. He served as editor of the Journal of Sport History (JSH) from 1977 to 1984 and was special issue editor for “Sport, Exercise, and American Medicine” in JSH in 1987. With Roberta J. Park, he published Sport and Exercise Science: Essays in the History of Sports Medicine in 1992. He became the official historian for the American College of Sports Medicine (ACSM) in 1994 and published Out of Many, One: A History of the American College of Sports Medicine the following year. Dr. Berryman was invited to present the D.B. Dill Historical Lecture at the ACSM national meeting in 1994 and 2004. His recent efforts to honor and preserve the careers of past and present ACSM leaders is available in the 10 volume DVD series, ACSM's Distinguished Leaders in Sports Medicine and Exercise Science, published by Healthy Learning. Dr. Berryman received ACSM's Citation Award in 2017. He is also an avid fly fisher and prolific freelance writer with more than 300 articles in the fishing literature. His book, Fly-Fishing Pioneers & Legends of the Northwest, won the best book award for the Outdoor Writers Association of America in 2007.

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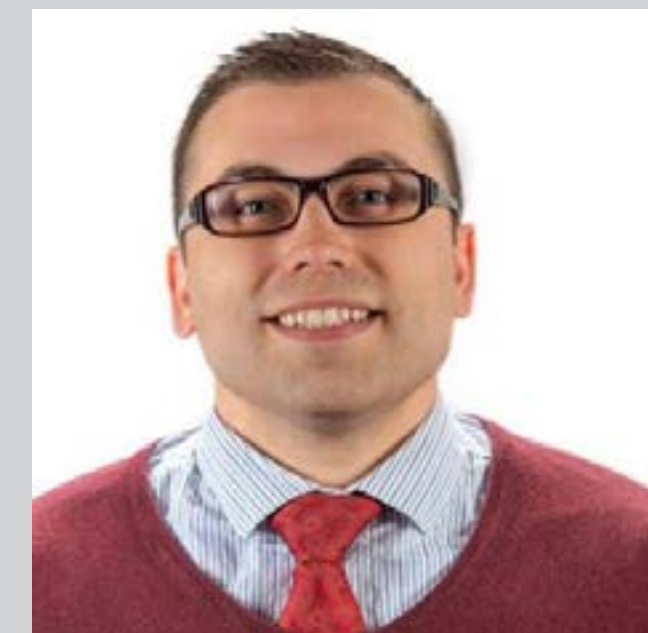
**Dr. Traci Parry** is an Assistant Professor of Kinesiology at the University of North Carolina, Greensboro and is Co-Director of the Exercise Oncology and Cardioprotection Laboratory. She earned her Ph.D. in Exercise Physiology from the University of Northern Colorado and was a postdoctoral research fellow at the University of North Carolina at Chapel Hill's Medical School prior to joining UNCG. As a clinical exercise physiologist, Dr. Parry's research aims to understand the underlying physiological and metabolic mechanisms of muscle wasting in chronic disease (cancer and cardiovascular disease) and how exercise prior to ("pre-habilitation") and during (rehabilitation) chronic disease supports traditional treatment (pharmacological intervention). The ultimate goal is to determine how prescriptive exercise alters physiological parameters and metabolic biomarkers to reduce fatigue and improve quality of life.

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**Trevor Bennion** D.H.Sc. is a published scientist and photographer. He teaches graduate courses in exercise science and sports nutrition for A.T. Still University, and is the owner of Fitness & Physiology - an online platform for digital coaching and

educational resources for exercise science. He hosts the podcast HIITCAST, with the popular on "bro-science" where he and his guests discuss and debunk common trends in health and fitness. He is the current president of the Rocky Mountain Chapter of the ACSM, and also on the editorial board for the ACSM's Health and Fitness Journal. Dr. Bennion lives in Colorado, but is a native San Diegan. He enjoys constantly catching his breath as his sea-level genetics always feel shy of acclimating to mile-high living.



**Christopher Minson** PhD is the Kenneth and Kenda Singer Professor of Human Physiology. Dr. Minson's research focuses on topics related to integrative cardiovascular physiology in humans. Current studies are investigating issues related to improvement of cardiovascular and metabolic function using chronic heat therapy, and understanding the relationships between the endocrine, autonomic, and cardiovascular systems in women in health and disease. He is also involved in projects related to cardiovascular aging, biomarkers of aging and risk of cardiovascular and metabolic diseases, and finding novel ways to improve thermal comfort and safety in work environments. He has published over 100 original research papers, served on NIH study sections, editorial boards of numerous top physiology journals, and has been consistently funded by NIH and the American Heart Association. He has received numerous awards for his research and mentoring.

**James Navalta** joined the Department of Kinesiology and Nutrition Sciences during fall 2012 and teaches anatomical kinesiology and applied exercise physiology within the undergraduate program, and evaluation of physical work capacity and advanced exercise physiology within the graduate program. Navalta's research focuses on the immune response to exercise (lymphocyte apoptotic and migratory responses), physiological responses to outdoor exercise (hiking and trail running), and the validity of wearable technology. Navalta earned his bachelor's in physical education and biology from Brigham Young University – Hawaii, his master's in kinesiology from the University of Nevada, Las Vegas, and his Ph.D. in exercise physiology from Purdue University. His previous teaching experience was at Southern Arkansas University and Western Kentucky University. He is the co-founder and an executive editor of the International Journal of Exercise Science.



**Dr. Shawn Simonson** is a Professor and the Director of the Human Performance Laboratory in the Department of Kinesiology at Boise State University. He also serves as a Faculty Associate in the Center for Teaching and Learning. Professional certifications include the Exercise Physiologist – Certified (EP-C) from the American College of Sports Medicine (ACSM), Certified Strength and Conditioning Specialist (CSCS) from the National Strength and Conditioning Association (NSCA), POGIL Facilitator from The POGIL Project, and TBL Trainer-Consultant from the Team-Based Learning Collaborative (TBLC). He teaches at both the undergraduate and graduate levels as well as laboratory and performance oriented courses. Simonson conducts research in exercise (novel conditioning programs) and environmental physiology as well as in the scholarship of teaching and learning. He provides workshops in a variety of active learning strategies and pedagogies.



Thad Wilson PhD is a Professor of Physiology and the Physiology Lead for the Biomedical Sciences division of the Marian University College of Osteopathic Medicine. His research interests are in 1) Eccrine sweat gland and skin blood flow disorders, 2) Interactions of the thermal environment on medical conditions and worker health/safety, 3) Simulation and lifespan issues in medical physiology education, and 4) Modeling regional skin barriers and transdermal molecule movement. He is currently funded by the NIH – National Institute of Arthritis and Musculoskeletal and Skin Diseases to investigate the "Role of the Sympathetic Nervous System in Rosacea". Thad has co-authored over 80 peer-reviewed articles primarily in environmental physiology (Google Scholar H-index of 35), as well as a physiology textbook (Lippincott's Illustrated Reviews: Physiology). This textbook is now in its 2nd edition and has been translated into 7 languages. His teaching interests are focused around helping medical students help themselves learn physiology. He has received medical teaching awards from Drexel University College of Medicine, Ohio University Heritage College of Medicine, and Marian University College of Osteopathic Medicine. In 2017, Thad was awarded the national Northrup Educator of the Year from the Student Osteopathic Medical Association Foundation. He is a former Associate Editor of Medicine & Science in Sport and Exercise and currently sits on the editorial boards of Medicine & Science in Sport and Exercise, Journal of Applied Physiology, and the Journal of Thermal Biology.



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**Khalil Lee** PhD is a Senior Scientist at the GSSI Satellite Lab at IMG Academy in Bradenton, FL, where he previously served as a research intern during the summer of 2012. His responsibilities include athlete performance testing and serving as the liaison within the GSSI/IMG Academy partnership. Khalil earned his BS and MS degrees in Sport and Fitness Management from Troy University, where he played two years as a defensive back on the Troy Trojans football team. In 2014, he received his PhD from Auburn University in Kinesiology with a concentration in Exercise Physiology. While at Auburn, he conducted research in the areas of thermophysiology and the impacts of apparel on thermoregulation under the direction of Dr. David Pascoe. Prior to arriving at GSSI, Khalil served as an adjunct professor in the School of Kinesiology at Auburn, and he remains passionate about educating and translating the science of exercise and performance to a variety of audiences. Khalil enjoys spending time with his wife, cross training, cooking, and traveling.

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UNDERGRADUATE THEMATIC SESSION I  
FRIDAY, FEBRUARY 28th 11:15 AM – 12:00 PM, JORDAN C

COMPARING HEART RATE AND TIRE PRESSURE AS PREDICTORS OF PERFORMANCE IN WHEELCHAIR BASKETBALL SPRINT TESTS  
N.T. Adams, B.L. O'Malley, S.R. Crompton, C.P. Katica.  
Pacific Lutheran University, Tacoma, WA

THE EFFECTS OF GRUNTING ON VERTICAL JUMP IN RECREATIONAL BASKETBALL PLAYERS  
K. Bryson, C. Peach, W. Wigen, S. Cool, W.M. Silvers  
Whitworth University, Spokane, WA

EFFECTS OF FRESH PINEAPPLE JUICE ON DELAYED ONSET MUSCLE SORENESS RECOVERY IN LOWER EXTREMITY MUSCLES  
L. Haley, H. Pfundt, J. Tonkinson, S. Weiler, W.M. Silvers  
Whitworth University, Spokane, WA

TEMPORAL DECEPTION AND TREADMILL RUNNING: PHYSIOLOGICAL AND PSYCHOLOGICAL VARIABLES AFFECTING CONSISTENCY OF A ONE-MILE RUN  
A. Hickey, M. Fisher, B. Halligan, B. Bang, D. Thorp  
Gonzaga University, Spokane, WA

EFFECTS OF NASAL ONLY AND APNEA BREATHING ON PERFORMANCE IN TRAINED CYCLISTS  
J. Murphey, A. Lafrenz  
Concordia University, Portland, OR

UNDERGRADUATE THEMATIC SESSION II  
SATURDAY, FEBRUARY 29th 9:00 – 9:45 AM, JORDAN C

EFFECTS OF AN AGILITY STEPPING PROGRAM ON FALLING EFFICACY IN OLDER ADULTS  
T. Crawford, S. Johnston, N. Halfman, R. Ellington, C. Papadopoulos  
Pacific Lutheran University, Tacoma, WA

IMPACT OF VIDEO-TRAINER ON MOOD AND MOTIVATION  
L. Klepacz, B. Ashbaker, L. Taysom, T. Pincock, B. Whiting, T. Argyle, B. States, D. Lankford, FACSM  
Brigham Young University - Idaho, Rexburg, ID

CORRELATION BETWEEN BLOOD LACTATE ACCUMULATION AND PERCEIVED EXERTION IN CANCER PATIENTS DURING PROGRESSIVE EXERCISE TESTING  
N. McCarty<sup>2</sup>, N. Harman<sup>1</sup>, A. Ramani<sup>1</sup>, R. Hayward<sup>1</sup>  
<sup>1</sup>University of Northern Colorado, Greeley, CO; <sup>2</sup>University of Puget Sound, Tacoma, WA

PERCEPTIONS OF LONELINESS, SOCIAL ISOLATION, AND PHYSICAL ACTIVITY BEHAVIOR DURING PREGNANCY  
A.C. Panebianco<sup>1</sup>, A.A.B. Cruz<sup>1</sup>, T. Reiss<sup>1</sup>, F.R. Williams<sup>2</sup>, C.P. Connolly<sup>1</sup>  
<sup>1</sup>Washington State University, Pullman, WA; <sup>2</sup>Washington State University, Richland, WA

COMPARING CARDIOVASCULAR RISK FACTORS BETWEEN FIRST- AND FOURTH-YEAR UNDERGRADUATE STUDENTS AT GONZAGA UNIVERSITY  
T. Tye, T. Ruesch, E. Harting, A. Ferrer, P.L. Crosswhite  
Gonzaga University, Spokane WA

UNDERGRADUATE THEMATIC SESSION III  
SATURDAY, FEBRUARY 29th 10:00-10:45 AM, JORDAN C

EFFECT OF HIGH INTENSITY INTERVAL TRAINING ON MAXIMAL FATTY ACID OXIDATION VERSUS STEADY STATE EXERCISE  
K. Beisel, E. Donahue, A. Kalafatis, K. Christison, C.L. Dumke, FACSM  
University of Montana, Missoula, MT

CHARACTERIZATION OF TEMPERATURE AND RELATIVE HUMIDITY RESPONSES IN AN ENVIRONMENTAL CHAMBER  
J.P. Leeds, K.E. Coffman  
University of Puget Sound, Tacoma, WA

EFFECT OF PASSIVE VS. ACTIVE RECOVERY STRATEGIES ON HIGH-INTENSITY INTERVAL EXERCISE  
J.K. Lindsey, K.B. Bower, P.A. Haglund, H.J. Penner, A.L. Stuart, K.A. Witzke, FACSM  
Oregon State University - Cascades, Bend, OR

THE ACUTE EFFECTS OF EXERCISE ON BODY COMPOSITION MEASUREMENTS USING THE BOD POD  
J. Martin, L. Jessie III, C. Flanagan, A. Richard-Bassett, M. Lockard  
Willamette University, Salem, OR

THE INFLUENCE OF PASSIVE HIP EXTENSION ON RUNNING BIOMECHANICS  
J. Stoewer<sup>1</sup>, E. Foch<sup>2</sup>, M.B Pohl<sup>1</sup>  
<sup>1</sup>University of Puget Sound, Tacoma, WA; <sup>2</sup>Central Washington University, Ellensburg, WA

GRADUATE THEMATIC PRESENTATIONS  
FRIDAY, FEBRUARY 28th 2:00-2:45 pm, JORDAN C

METABOLIC AND CARDIOVASCULAR ALTERATIONS DURING CRITICAL TRAINING IN WILDLAND FIREFIGHTERS  
S.C. Gurney, K.S. Christison, C.M. Williamson-Reisdorph, K.G.S. Tiemessen, J.A. Sol, T.S. Quindry, M.W. Bundle, C.G. Palmer, J.C. Quindry, FACSM, C.L. Dumke, FACSM  
University of Montana, Missoula, MT

ACUTE EFFECTS OF 3 HOURS OF UNINTERRUPTED SITTING ON HEMODYNAMICS IN MIDDLE-AGED AND OLDER ADULTS  
M.C. Nelson, M.P. Casanova, J.R. Ball, R.D. Midence, C.A. Vella, FACSM  
University of Idaho, Moscow, ID

PREVALENCE AND ASSOCIATIONS BETWEEN TESTOSTERONE DEFICIENCY AND BONE MINERAL DENSITY IN MALE COLLEGIATE ATHLETES  
C.M. Skiles, J. Bailey, K. Brown, A.F. Brown  
University of Idaho, Moscow, ID

EFFECTS OF ENVIRONMENTAL CONDITIONS ON SELF-SELECTED WORK AND PHYSIOLOGICAL STRAIN DURING WILDLAND FIRE-FIGHTING  
J.A. Sol<sup>1,2</sup>, M.R. West<sup>1</sup>, J.W. Domitrovich<sup>1</sup>, B.C. Ruby, FACSM<sup>2</sup>  
<sup>1</sup>USDA Forest Service – National Technology and Development Program, Missoula, MT, <sup>2</sup>University of Montana, Missoula, MT

SEASONAL CHANGES IN CARDIOVASCULAR FUNCTION, RISK FACTORS, AND OXIDATIVE STRESS OF WILDLAND FIREFIGHTERS  
C.M. Williamson-Reisdorph, K.S. Christison, S.C. Gurney, K.G.S. Tiemessen, J.A. Sol, T.S. Quindry, C.G. Palmer, M.W. Bundle, C.L. Dumke, FACSM, J.C. Quindry, FACSM  
University of Montana, Missoula, MT

MASTERS STUDENT ORAL PRESENTATIONS  
FRIDAY, FEBRUARY 28th 2:00-2:45 pm, SIMPLOT AC

MUSCLE SORENESS AND DAMAGE DURING WILDLAND FIREFIGHTER CRITICAL TRAINING  
K. Christison, S. Gurney, C. Williamson-Reisdorph, T. Quindry, J. Sol, K. Tiemessen, C. Palmer, M. Bundle, J. Quindry, FACSM, C. Dumke, FACSM  
University of Montana, Missoula, MT

MEASURES OF COMPETENCY OVER SIX-WEEKS OF TRAINING: DOES IT PAY TO COMMIT TO HIIT?  
E.R. Dunston, A.J. Coelho, K. Taylor  
Eastern Washington University, Cheney, WA

FLUID DELIVERY SCHEDULE AND COMPOSITION: FLUID BALANCE, PHYSIOLOGIC STRAIN, AND SUBSTRATE USE IN THE HEAT  
A.M. Rosales, W.S. Hailes, A.N. Marks, P.S. Dodds, B.C. Ruby, FACSM.  
University of Montana, Missoula, MT

PRE-SEASON CHARACTERISTICS OF DIVISION I CROSS-COUNTRY RUNNERS AND ASSOCIATION WITH PERFORMANCE: A PILOT STUDY  
K. Sanchez, C. Brewer  
Eastern Washington University, Cheney, WA

DOCTORAL STUDENT ORAL PRESENTATIONS  
FRIDAY, FEBRUARY 28TH 11:15 AM – 12:00 PM, SIMPLOT AC

SEX DIFFERENCES IN THE HEMODYNAMIC RESPONSE TO ACUTE PASSIVE HEAT EXPOSURE  
E.A. Larson<sup>1</sup>, B.R. Ely<sup>1</sup>, M.A. Francisco<sup>1</sup>, V.E. Brunt<sup>1,2</sup>, S.M. Harris<sup>1</sup>, J.R. Halliwill, FACSM<sup>1</sup>, C.T. Minson, FACSM<sup>1</sup>  
<sup>1</sup>University of Oregon, Eugene, OR; <sup>2</sup>University of Colorado Boulder, Boulder, CO

RELATIONSHIP BETWEEN FUNCTIONAL HOP PERFORMANCE AND QUADRICEPS RATE OF TORQUE DEVELOPMENT IN ACL RECON-STRUCTED FEMALES

C.M.S. Mulligan<sup>1</sup>, Y.L. Huang<sup>2</sup>, S.T. Johnson<sup>1</sup>, M.F. Norcross<sup>1</sup>

<sup>1</sup>Oregon State University, Corvallis, Oregon; <sup>2</sup>University of Wisconsin-Eau Claire, Eau Claire, WI

RISING FROM A SUPINE POSITION AFFECTS PHYSICAL FUNCTION IN OLDER ADULTS

E. Murphy<sup>1</sup>, Y. An<sup>1</sup>, S-R. Lee<sup>1</sup>, R. Wood<sup>2</sup>

<sup>1</sup>New Mexico State University, Las Cruces, NM, <sup>2</sup>Boise State University, Boise, ID

DIVISION 1 FOOTBALL PLAYERS AND METABOLIC SYNDROME RISK FACTORS: A THREE YEAR OBSERVATIONAL STUDY

A. Vahk<sup>1</sup>, W.E.S. Repovich, FACSM<sup>1</sup>, G.J. Babcock<sup>1</sup>, J. Peterson, FACSM<sup>2</sup>

<sup>1</sup>Eastern Washington University, Cheney, WA; <sup>2</sup>Linfield College, McMinnville, OR

FREE COMMUNICATION POSTER PRESENTATIONS

FRIDAY, FEBRUARY 28th 5:00-7:30 PM, JORDAN AB, JORDAN C

UNDERGRADUATE PRESENTATIONS

EFFECTS OF A 16-WEEK PILATES MAT TRAINING INTERVENTION ON DANCE EXERCISES & BODY COMPOSITION

H. Bideganeta, S. Brooks, M.J. Meenan, A.F. Brown

University of Idaho, Moscow, ID

THE EFFECTIVENESS OF THE COMBINATION OF COMPRESSION AND ELEVATION ON RECOVERY AFTER A WINGATE TEST

L. Brinton, L. Covell, C. Stepniewski, J. McKenzie

Gonzaga University, Spokane, WA

ACUTE EFFECTS OF EXERCISE: IMMEDIATE DEPRESSION AND SUBSEQUENT ELEVATION OF INTRAOCULAR PRESSURE

A. Casayuran, S. Henry, R. Bulson, M. Czerwinski, L. Bassik

Pacific University, Forest Grove, OR

OPTIMAL KNEE ANGLE FOR MAXIMUM VERTICAL JUMP HEIGHT

C. Christensen, D. Everton, K. Rencher, J. Ryan, B. Lee, W.M. Denning

Brigham Young University - Idaho, Rexburg, ID

THE EFFECT OF A DIETARY STRESS SUPPLEMENT ON PHYSIOLOGICAL & PSYCHOLOGICAL MEASURES IN COLLEGIATE STUDENTS

C. Contreras, S.J. Brooks, C. Richardson, A.F. Brown

University of Idaho, Moscow, ID

THE EFFECT OF VISUAL FLOW ON CYCLING IN A VIRTUAL ENVIRONMENT

S. Darvish<sup>1</sup>, M. McNulty<sup>1</sup>, J. Pon<sup>1</sup>, H. Tallarida<sup>1</sup>, J. Moody<sup>2</sup>, S. Conant<sup>1</sup>, D.B. Thorp<sup>1</sup>

<sup>1</sup>Gonzaga University, Spokane, WA; <sup>2</sup>XENOFI, LLC, Sheridan, WY

EFFECTS OF PEPPERMINT AND LAVENDER OIL ON MOOD AND PERCEIVED EXERTION DURING EXERCISE

K. Dennis, E. Anderson, E. Kahler, W.M. Silvers

Whitworth University, Spokane, WA

DETERIORATION OF LIPID METABOLISM DESPITE FITNESS IMPROVEMENTS IN WILDLAND FIREFIGHTERS

P.S. Dodds<sup>1</sup>, A.M. Rosales<sup>1</sup>, W.S. Hailes<sup>1</sup>, J.A. Sol<sup>1</sup>, R.H. Coker<sup>2</sup>, FACSM, J.C. Quindry<sup>1</sup>, FACSM, B.C. Ruby<sup>1</sup>, FACSM

<sup>1</sup>University of Montana, Missoula, MT; <sup>2</sup>University of Alaska Fairbanks, Fairbanks, AK

COLLEGIATE ATHLETES NUTRIENT CONSUMPTION AND UTILIZATION OF THE ATHLETICS FUELING CENTER

M. Downen, S. Brooks, A.F. Brown

University of Idaho, Moscow, ID

RELATIONSHIPS BETWEEN MATERNAL HEALTH, PRE-PREGNANCY BEHAVIOR, AND PHYSICAL ACTIVITY DURING PREGNANCY

K.A. Early<sup>1</sup>, A.A.B. Cruz<sup>1</sup>, T. Reiss<sup>1</sup>, F.R. Williams<sup>2</sup>, C.P. Connolly<sup>1</sup>

<sup>1</sup>Washington State University, Pullman, WA; <sup>2</sup>Washington State University, Richland, WA

MUSCULAR STRENGTH IN A MODEL OF ALZHEIMER'S DISEASE AND THE EFFECT OF TREADMILL TRAINING

K. Edwards, S. Hall

Boise State University, Boise, ID

EFFECT OF DIFFERENT ANKLE SUPPORT METHODS ON RUNNING GROUND REACTION FORCES BETWEEN GENDERS

D. Everton, C. Kelley, R. Wilcox, A. Lutz, K. Hall, L. Bailey, W.M. Denning

Brigham Young University - Idaho, Rexburg, ID

EFFECT OF EXERCISE ON MEMORY IN A MODEL OF ALZHEIMER'S DISEASE, TgF344-AD

L. French, S. Hall

Boise State University, Boise, ID

THE EFFECTS OF FUNCTIONAL RESISTANCE TRAINING ON PREGNANCY-RELATED PHYSICAL DISCOMFORTS AND QUALITY OF LIFE

A. Frichtl, R. Joiner, G. Stolte, C.P. Connolly

Washington State University, Pullman, WA

EFFECTS OF FLAVANOL-RICH CACAO ON MUSCLE SORENESS AND RECOVERY

E. Gomez, S. Nahulu, C. Yoshimura, W.M. Silvers

Whitworth University, Spokane, WA

CHANGES TO OVERALL FITNESS IN RESPONSE TO VARYING RATIOS OF CARDIOVASCULAR AND RESISTANCE TRAINING

J. Gruber, M. DeVogelaere, K. Flann

University of Portland, Portland, OR

EFFECT OF GLUTE TARGETING WARM-UP ON MUSCLE ACTIVATION AND KNEE KINEMATICS DURING WEIGHTED BILATERAL SQUAT

M.S. Hunt, K.R. Delaney, G.E. Garza, L.E. Bourgeois, R.S. McCulloch

Gonzaga University, Spokane, WA

CARDIOMETABOLIC ASSESSMENT OF FIREFIGHTERS FROM THE GRANDE RONDE RAPPPELLERS WILDLAND FIREFIGHTING CREW

J. Jacobs, K. Uhlenkott, M. Slater, M. Akers, K. Pfaffenbach

Eastern Oregon University, La Grande, OR

THE EFFECTIVENESS OF AN AGILITY DRILL PROGRAM ON BALANCE IN OLDER ADULTS

S. Johnston, T. Crawford, N. Halfman, R. Ellington, C. Papadopoulos

Pacific Lutheran University, Tacoma, WA

MAXIMAL FAT OXIDATION DURING STEADY STATE EXERCISE

A. Kalafatis, K. Beisel, E. Donahue, K. Christison, C.L. Dumke, FACSM

University of Montana, Missoula, MT

PROPRIOCEPTIVE ACUITY IN THE ABSENCE OF SENSORY FEEDBACK USING AN ISCHEMIC NERVE BLOCK

K. Lee, L. Ettinger

Willamette University, Salem, OR

GROUND REACTION FORCES AND TEMPORAL CHARACTERISTICS DEFINE CUTTING PERFORMANCE

L.N. Lee, M. Welinski, B. McBroom, B. Mufarreh, A.D. Gidley

Gonzaga University, Spokane, WA

EFFECTS OF BODY MASS AND CHAIR HEIGHT ON MUSCLE ACTIVATION AND BALANCE DURING SIT TO STAND

P. Mack, A. Gutierrez, G. Weiler, N. Denny, R.S. McCulloch

Gonzaga University, Spokane, WA

SHORT TERM EFFECTS OF TRANSCUTANEOUS ELECTRICAL STIMULATION OF THE QUADRICEPS ON RECOVERY FROM EXHAUSTIVE EXERCISE

M. Malone, H. Price, M. Townsley, C. Starkey, J. McKenzie

Gonzaga University, Spokane, WA

THE EFFECTS OF "PHYSICAL BEMER VASCULAR THERAPY" ON WORK PERFORMED DURING REPEATED WINGATE TESTS

G. McEwen, C.M. Fehr

Lewis-Clark State College, Lewiston, ID

EFFECTS OF BETA-ALANINE ON ANAEROBIC PERFORMANCE

B. McGonigle, J. Arnold, M. Lockard

Willamette University, Salem, OR

DELIVERY AND ASSESSMENT OF A BI-WEEKLY WELLNESS LETTER TO UMATILLA MORROW COUNTY HEAD START

K. McMurtrey, J. Taylor, S. Carpenter, K. Pfaffenbach

Eastern Oregon University, La Grande, OR

EXAMINING THE EFFECTS OF THORACIC LUNG VOLUME MANIPULATION ON BODY COMPOSITION BY AIR DISPLACEMENT PLETHYSMOGRAPHY

M. Murillo, M. Grogan, K. Son, M. Lockard

Willamette University, Salem, OR

#### EXPRESSION OF CHROMATIN-REMODELING ENZYMES IN A HIGH-FAT DIET MOUSE MODEL

J. O'Connell, T. Allen, M. Carlos, K. Nisbet, P.L. Crosswhite  
Gonzaga University, Spokane, WA

#### ANKLE AND FOOT ANGLES AT FOOT STRIKE BECOME MORE PLANTAR FLEXED AS RUNNING SPEED INCREASES

J.R. O'Neil, A.M. Palant, M.A. Nakamura, J.F. Willburn, A.D. Gidley  
Gonzaga University, Spokane, WA

#### THE EFFECTS OF POSTURE ON BODY FAT COMPOSITION RESULTS

G. Perle-Jones, E. Logsdon, K. Hopkins, A. Kuhn, M. Lockard  
Willamette University, Salem, OR

#### EFFECTS OF PEPPERMINT OIL INHALATION ON VERTICAL JUMP PERFORMANCE IN NCAA DIVISION III SWIMMERS

K. Rambo, E. Boles, E. Brent, W.M. Silvers  
Whitworth University, Spokane, WA

#### EFFECT OF EXERCISE ON MOTOR COORDINATION IN A MODEL OF ALZHEIMER'S DISEASE

S. Stranger, S. Hall  
Boise State University, Boise, ID

#### EFFECTS OF CAFFEINE CONSUMPTION ON REACTION TIME IN UNDERGRADUATE STUDENTS AT WHITWORTH

E. Surratt, A. Nordling, D. Han, W.M. Silvers  
Whitworth University, Spokane, WA

#### THE EFFECTS OF BODY COMPOSITION, FUEL MIX, AND TRAINING TYPE, ON RESTING METABOLIC RATE

J. Weishaar, C. Olsen, C. Robinson, C.M. Fehr, M. Austin, M. Rives  
Lewis-Clark State College, Lewiston, ID

#### REDEFINING STEADY-STATE PARAMETERS USING RESPIRATORY AND CARDIOVASCULAR VARIABLES

Y. Wu, C. Markowski, T. Woods, C. Boyce, K. Sieler, A. Venturi, A. Nicholson, D. Terry, C. Johnson, D.E. Lankford, FACSM  
Brigham Young University - Idaho, Rexburg, ID

#### GRADUATE STUDENT PRESENTATIONS

#### EFFECT OF STATIC HIP FLEXOR STRETCHING ON STANDING PELVIC TILT AND LUMBAR LORDOSIS

S. Baker, S. Lopez, B. Adams, J. McNeal  
Eastern Washington University, Cheney, WA

#### PROTOCOL FOR TESTING BEETROOT JUICE ON ANAEROBIC POWER AND PERFORMANCE

G. Greisman, J. Kloubec, K. Morrow, C. Harris, A. Kazaks  
Bastyr University, Kenmore, WA

#### MUSCLE PROTEIN METABOLISM EFFECTS OF ACUTE DIETARY INGESTION OF CHEDDAR CHEESE

N.M.M.P. de Hart1, Z.S. Mahmassani1, P.T. Reidy1, A.I. McKenzie1, J.J. Petrocelli1, L.S. Ward2, J.A. Maschek1, M.J. Bridge1, M.J. Drummond1  
1University of Utah, Salt Lake City, UT; 2Glanbia Nutritionals, Twin Falls, ID

#### THE IMPACT OF TEMPERATURE ON CRITICAL POWER DETERMINED BY A THREE MINUTE ALL-OUT TEST

B.W. Kaiser1, K.K. Kruse2, B.M. Gibson1, K.J. Santisteban1, E.A. Larson1, B.W. Wilkins1, A.M. Jones, FACSM3, J.R. Halliwill, FACSM1, C.T. Minson, FACSM1  
1University of Oregon, Eugene, OR; 2Harvard University, Cambridge, MA; 3University of Exeter, Exeter, UK

#### STEPS TOWARDS EXERCISE IS MEDICINE ON CAMPUS: A POINT OF DECISION SIGNAGE STUDY

S. McFarland, L. New, P. Borah, T. Reiss, C.P. Connolly  
Washington State University, Pullman, WA

#### ALTERATIONS IN COLLEGIATE FEMALE SOCCER ATHLETE EXPLOSIVENESS FOLLOWING OFFSEASON TRAINING

J. Wilkins, T. Brown  
Boise State University, Boise, ID

#### DOCTORAL STUDENT PRESENTATIONS

#### THE EFFECT OF PRE-CONDITIONING RESISTANCE EXERCISES ON VENTILATORY THRESHOLD AND VO2MAX: A PILOT STUDY

C.J. Alfiero, S.J. Brooks, C. Skiles, J. Bailey, A.F. Brown  
University of Idaho, Moscow, ID

#### WILDLAND FIREFIGHTERS' BODY COMPOSITION, MACRONUTRIENT AND MICRONUTRIENT INTAKE PRE AND POST WILDFIRE SEASON

S. Brooks1, J. Bailey1, A.J. Roe1, C. Richardson1, B. Ruby2, A.F. Brown1  
1University of Idaho, Moscow, ID; 2University of Montana, Missoula, MT

#### METFORMIN-LEUCINE TREATMENT FOLLOWING DISUSE INCREASES MUSCLE SATELLITE CELLS AND REDUCES FIBROSIS IN AGED MICE

J.J. Petrocelli, Z.S. Mahmassani, J.A. Montgomery, P.T. Reidy, D.K. Fix, A.I. McKenzie, N.M. de Hart, M.J. Drummond  
University of Utah, Salt Lake City, UT

#### FEMALE'S POSTURAL STABILITY FOLLOWING A SIX WEEK OFF-SEASON TRAINING CYCLE IN DIVISION I COLLEGIATE SOCCER

J.H. Wang, T.N. Brown  
Boise State University, Boise, ID

#### PROFESSIONAL PRESENTATIONS

#### GENDER DIFFERENCES IN BODY MASS SCALING OF METABOLIC RATE DURING SUBMAXIMAL STEADY-STATE MOTORIZED TREADMILL CLIMBING

D.P. Heil, FACSM  
Montana State University, Bozeman, MT

#### METFORMIN INGESTION PARTIALLY RESTORES AGE-RELATED IMPAIRMENT OF MYOGENIC POTENTIAL FROM MYOBLASTS ISOLATED FROM HUMAN DONORS

Z.S. Mahmassani, J.J. Petrocelli, A.I. McKenzie, N.M. de Hart, P.T. Reidy, M.J. Drummond  
University of Utah, Salt Lake City, UT

#### ELECTROLYTE BALANCE AND HYDRATION STATUS DURING WILDLAND FIRE SUPPRESSION

A. Marks1, A. Rosalez1, P. Dodds1, J. Sol2, J. Domitrovich2, B.C. Ruby, FACSM1  
1University of Montana, Missoula, MT; 2United States Forest Service, Missoula, MT

#### THE ENERGY COST OF SUCCESSIVE MATCH PLAY EVENTS FOR THE SINGAPOREAN MEN'S WALKING FOOTBALL TEAM

D.D.A. Salle1, R.U. Newton1, D.P. Heil, FACSM2  
1Edith Cowan University, Perth, Australia; 2 Montana State University, Bozeman, MT

#### THE EFFECTS OF PLYOMETRIC TRAINING ON MUSCLE ACTIVATION CHARACTERISTICS IN POST-PUBESCENT ADOLESCENT FEMALES

J. Savage1, J. Seegmiller1, C. McGowan1, R. Baker1, J. McNeal2, J. May1  
1University of Idaho, Moscow, ID; 2Eastern Washington University, Cheney, WA

#### PRESIDENTS CUP POSTER SESSION

FRIDAY, FEBRUARY 28TH 5:00-7:30 PM, JORDAN AB, JORDAN C

#### THE EFFECT OF PRE-CONDITIONING RESISTANCE EXERCISES ON VENTILATORY THRESHOLD AND VO2MAX: A PILOT STUDY

C.J. Alfiero, S.J. Brooks, C. Skiles, J. Bailey, A.F. Brown  
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1University of Utah, Salt Lake City, UT; 2Glanbia Nutritionals, Twin Falls, ID

#### MEASURES OF COMPETENCY OVER SIX-WEEKS OF TRAINING: DOES IT PAY TO COMMIT TO HIIT?

E.R. Dunston, A.J. Coelho, K. Taylor  
Eastern Washington University, Cheney, WA

#### PROTOCOL FOR TESTING BEETROOT JUICE ON ANAEROBIC POWER AND PERFORMANCE

G. Greisman, J. Kloubec, K. Morrow, C. Harris, A. Kazaks  
Bastyr University, Kenmore, WA

METABOLIC AND CARDIOVASCULAR ALTERATIONS DURING CRITICAL TRAINING IN WILDLAND FIREFIGHTERS

S.C. Gurney, K.S. Christison, C.M. Williamson-Reisdorph, K.G.S. Tiemessen, J.A. Sol, T.S. Quindry, M.W. Bundle, C.G. Palmer, J.C. Quindry, FACSM, C.L. Dumke, FACSM

University of Montana, Missoula, MT

THE IMPACT OF TEMPERATURE ON CRITICAL POWER DETERMINED BY A THREE MINUTE ALL-OUT TEST

B.W. Kaiser<sup>1</sup>, K.K. Kruse<sup>2</sup>, B.M. Gibson<sup>1</sup>, K.J. Santisteban<sup>1</sup>, E.A. Larson<sup>1</sup>, B.W. Wilkins<sup>1</sup>, A.M. Jones, FACSM<sup>3</sup>, J.R. Halliwill, FACSM<sup>1</sup>, C.T. Minson, FACSM<sup>1</sup>

<sup>1</sup>University of Oregon, Eugene, OR; <sup>2</sup>Harvard University, Cambridge, MA; <sup>3</sup>University of Exeter, Exeter, UK

SEX DIFFERENCES IN THE HEMODYNAMIC RESPONSE TO ACUTE PASSIVE HEAT EXPOSURE

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<sup>1</sup>University of Oregon, Eugene, OR; <sup>2</sup>University of Colorado Boulder, Boulder, CO

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<sup>1</sup>Oregon State University, Corvallis, Oregon; <sup>2</sup>University of Wisconsin-Eau Claire, Eau Claire, Wi

RISING FROM A SUPINE POSITION AFFECTS PHYSICAL FUNCTION IN OLDER ADULTS

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<sup>1</sup>New Mexico State University, Las Cruces, NM, <sup>2</sup>Boise State University, Boise, ID

ACUTE EFFECTS OF 3 HOURS OF UNINTERRUPTED SITTING ON HEMODYNAMICS IN MIDDLE-AGED AND OLDER ADULTS

M.C. Nelson, M.P. Casanova, J.R. Ball, R.D. Midence, C.A. Vella, FACSM

University of Idaho, Moscow, ID

METFORMIN-LEUCINE TREATMENT FOLLOWING DISUSE INCREASES MUSCLE SATELLITE CELLS AND REDUCES FIBROSIS IN AGED MICE

J.J. Petrocelli, Z.S. Mahmassani, J.A. Montgomery, P.T. Reidy, D.K. Fix, A.I. McKenzie, N.M. de Hart, M.J. Drummond

University of Utah, Salt Lake City, UT

FLUID DELIVERY SCHEDULE AND COMPOSITION: FLUID BALANCE, PHYSIOLOGIC STRAIN, AND SUBSTRATE USE IN THE HEAT

A.M. Rosales, W.S. Hailes, A.N. Marks, P.S. Dodds, B.C. Ruby, FACSM.

University of Montana, Missoula, MT

PRE-SEASON CHARACTERISTICS OF DIVISION I CROSS-COUNTRY RUNNERS AND ASSOCIATION WITH PERFORMANCE: A PILOT STUDY

K. Sanchez, C. Brewer

Eastern Washington University, Cheney, WA

PREVALENCE AND ASSOCIATIONS BETWEEN TESTOSTERONE DEFICIENCY AND BONE MINERAL DENSITY IN MALE COLLEGIATE ATHLETES

C.M. Skiles, J. Bailey, K. Brown, A.F. Brown

University of Idaho, Moscow, ID

DIVISION I FOOTBALL PLAYERS AND METABOLIC SYNDROME RISK FACTORS: A THREE YEAR OBSERVATIONAL STUDY

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