

ENVIRONMENTAL PHYSIOLOGY RELATED SESSIONS

Wednesday, May 28, 2008

7:30 am - 12:30 pm Free Communication/Poster A-22. Altitude and Hypoxia: Adaptations and Evaluation Hall B

9:30 am - 11:00 am 1262/1 **Acute Neuroendocrine Response to Hyperbaric Stress in Experienced Male Divers Versus Non-Divers**

Tom M. McLellan, Dave J. Eaton, Shawn G. Rhind. *DRDC Toronto, Toronto, ON, Canada.* (Sponsor: Ira Jacobs, FACSM)

Email: tom.mclellan@drdc-rddc.gc.ca

9:30 am - 11:00 am 1263/2 **Lowlander Time-Trial Performance At 4300m Is Not Improved Following Normobaric Intermittent Hypoxic Exposure Conditioning**

Stephen Muza, Charles Fulco, Beth Beidleman, Juli Jones, Janet Staab, Sarah Elliott, Eric Lammi, Allen Cymerman. *US Army Research Institute of Environmental Medicine, Natick, MA.*

Email: stephen.muza@us.army.mil

9:30 am - 11:00 am 1264/3 **Hemoglobin-Based Oxygen Carrier and Altitude Performance in the Rat Model**

Robert W. Gotshall, FACSM¹, Karyn L. Hamilton, FACSM¹, Ben Foreman², Molly White³, Robert A. Jacobs¹, Martha C. Tissot van Patot, FACSM², David C. Irwin². ¹*Colorado State University, Fort Collins, CO.* ²*University of Colorado Denver Health Sciences Center, Denver, CO.* ³*University of Colorado Denver Health Sciences Center, Denver, CO.*

Email: gotshall@cchs.colostate.edu

9:30 am - 11:00 am 1265/4 **Cycling Economy Following a 3-wk Natural Altitude Training Camp (~2700) in Nationally Competitive Cyclists**

David T. Martin¹, Marc Quod¹, Laura A. Garvican¹, Naroa Etxebarria¹, Brian Stephens¹, Franco M. Impellizzeri², Ermanno Rampinini², Aldo Sassi², Christopher J. Gore, FACSM¹. ¹*Australian Institute of Sport, Belconnen, ACT, Australia.* ²*Mapei Sports Research Centre, Castellanza, Italy.*

Email: david.martin@ausport.gov.au

9:30 am - 11:00 am 1266/5 **Effects Of Repetitive Training At Low Altitude On Erythropoiesis In Elite 400m And 800m Runners**

Falko Frese¹, Edgar Eisenkolb², Walter F. Schmidt³, Peter Bärtsch¹, Birgit Friedmann¹. ¹*University of Heidelberg, Heidelberg, Germany.* ²*Olympic Training Center, Hannover, Germany.* ³*University of Bayreuth, Bayreuth, Germany.* (Sponsor: Benjamin D. Levine, FACSM)

Email: falko.frese@med.uni-heidelberg.de

9:30 am - 11:00 am 1267/6 **Erythropoietin Production at Moderate Altitude in Elite Endurance Athletes is Not Mediated by Peripheral Chemoresponsiveness**

Robert F. Chapman¹, P. Alexander Derchak¹, Joel M. Stager, FACSM¹, James Stray-Gundersen, FACSM², Benjamin D. Levine, FACSM³. ¹*Indiana University, Bloomington, IN.* ²*University of Utah, Salt Lake City, UT.* ³*Institute for Exercise and Environmental Medicine, Presbyterian Hospital of Dallas and the University of Texas Southwestern Medical Center, Dallas, TX.*

Email: rfchapma@indiana.edu

9:30 am - 11:00 am 1268/7 **The Effect Of Hypobaria On Ventilation And Vo2max During Maximal Running**

Takeshi Ogawa, Naoto Fujii, Yasuhiro Kurimoto, Yasushi Honda, Takeshi Nishiyasu. *Institute of Health and Sports Science in University of Tsukuba, Tsukuba, Japan.* (Sponsor: Christopher T. Minson, FACSM)

Email: ogawa@lbnp.taiiku.tsukuba.ac.jp

9:30 am - 11:00 am 1269/8 **Intermittent Hypoxic Exposure Reduces Acute Mountain Sickness Upon Subsequent Rapid Ascent to High Altitude**

Ken Kambis¹, Julie Barnes¹, Michio Yasukawa², Reina Chamberlain¹, Tiffanie Tsui¹, Trevor Stanley¹, Ashley Artese¹, Alastair Connell¹. ¹*The College of William & Mary, Williamsburg, VA.* ²*Senshu University, Kanagawa, Japan.*

Email: kwkamb@wm.edu

9:30 am - 11:00 am 1270/9 **Intermittent Hypoxic Exposure Improves Mean Reaction Time (MRT) Upon Rapid Ascent to High Altitude**

Julie Barnes¹, Reina Chamberlain¹, Trevor Stanley¹, Tiffanie Tsui¹, Ashley Artese¹, Christina Padilla¹, Michio Yasukawa², Alastair Connell¹, Ken Kambis¹. ¹*The College of William & Mary, Williamsburg, VA.* ²*Senshu University, Kanagawa, Japan.*
Email: jcbarn@wm.edu

9:30 am - 11:00 am 1271/10 **Cerebral and Skeletal Oxygenation Changes During Rest and Exercise in Response to Acute Hypoxic Exposure.**

Howard T. Hurst, Stephen Atkins. *University of Central Lancashire, Preston, United Kingdom.*
Email: hthurst@uclan.ac.uk

9:30 am - 11:00 am 1272/11 **Hematological Indicators And Neurological Abnormalities In Professional And Amateur Mountain Climbers After Altitude Exposure**

Lizeth Diaz Ledesma¹, Nicolas Fayed², Jorge H. Dávila Acosta², Fernando F. Hadad Arrascue³. ¹*St. Barnabas Hospital, Bronx, NY.* ²*Clinica Quirón, Zaragoza, Spain.* ³*Universidad Privada San Martin de Porres, Lima, Peru.*

9:30 am - 11:00 am 1273/12 **Living For Six Days At 2200 M Improves Prolonged Time-Trial Performance Of Sea-Level Residents Exposed To 4300 M.**

Charles S. Fulco¹, Stephen R. Muza¹, Beth Beidleman¹, Juli Jones¹, Eric Lammi¹, Kenneth Kambis¹, Brandon K. Doan², Michael D. Brothers², Michael F. Zupan³, Allen Cymerman¹. ¹*US Army Research Institute of Environmental Medicine, Natick, MA.* ²*US Air Force Academy, Colorado Springs, CO.* ³*Air Force Research Laboratory, Brooks City Base, TX.*

9:30 am - 11:00 am 1274/13 **Rapidity Of Sensing Metabolic Disturbances During Exercise**

Blair D. Johnson¹, Trent Joseph², Glenn Wright², Rebecca A. Battista², Christopher Dodge², Alecia Ballweg², Jos J. deKoning, FACSM³, Carl Foster, FACSM². ¹*Indiana University, Bloomington, IN.* ²*University of Wisconsin-La Crosse, La Crosse, WI.* ³*VU University-Amsterdam, Amsterdam, The Netherlands.*
Email: bj33@indiana.edu

7:30 am - 12:30 pm Free Communication/Poster A-26. Heat Stress and Fluid Balance: Focus on Youth Hall B

9:30 am - 11:00 am 1332/71 **Relationships Among Urinary Hydration Markers and Thirst Sensation in Exercising Youth**

Susan W. Yeargin¹, Daniel A. Judelson², Douglas J. Casa, FACSM³, Brendon P. McDermott³, Nora R. Decher³, Matthew S. Ganio³, Michelle Levreault⁴. ¹*Indiana State University, Terre Haute, IN.* ²*California State University, Fullerton, Fullerton, CA.* ³*University of Connecticut, Storrs, CT.* ⁴*University of Rhode Island, Kingston, RI.*
Email: syeargin@indstate.edu

9:30 am - 11:00 am 1333/72 **Voluntary Drinking, Body Hydration and Aerobic Performance of Adolescent Male Athletes Running in the Heat**

Boguslaw Wilk, FACSM, Brian W. Timmons. *McMaster University, Hamilton, ON, Canada.*
Email: wilkb@mcmaster.ca

9:30 am - 11:00 am 1334/73 **Sweat Rates in Circumpubertal Children Versus Adults Matched by Fitness**

Mary Beth Brown, Mindy Millard-Stafford, FACSM, Michael R. Casner. *Georgia Institute of Technology, Atlanta, GA.*

9:30 am - 11:00 am 1335/74 **Hydration Status of Children and Adolescents Attending Summer Sports Camp**

Jessica M. Holt, Hollie K. Parson, Kiran Chauhan, Boguslaw Wilk, FACSM, Brian W. Timmons. *McMaster University, Hamilton, ON, Canada.*

9:30 am - 11:00 am 1336/75 **Critical Environmental Heat Stress Limits for Exercising Heat-Acclimated Lean and Obese Boys**

Kelly A. Dougherty, Mosuk Chow, W. Larry Kenney, FACSM. *Pennsylvania State University, University Park, PA.*
Email: KAD931@psu.edu

9:30 am - 11:00 am 1337/76 **Thermoregulation during Submaximal Exercise in the Heat**

Serina J. McEntire¹, Kathleen M. Osterman², David N. Herndon¹, Oscar E. Suman, FACSM¹. ¹*Shriners Hospital for Children/University of Texas Medical Branch, Galveston, TX.* ²*University of Texas Medical Branch, Galveston, TX.*
Email: sjmcenti@utmb.edu

9:30 am - 11:00 am 1338/77 **Practices Influencing Heat Stress/Injury Risk During Summer High School Football Training in South Texas**

Christopher M. Hearon, Alberto Ruiz, Zachary J. Taylor, Nestor W. Sherman, FACSM. *Texas A&M University-Kingsville, Kingsville, TX.*

7:30 am - 12:30 pm Free Communication/Poster A-27. Heat Stress and Fluid Balance: Hydration Status and Sodium Balance Hall B

9:30 am - 11:00 am 1339/78 **Physiological Responses To Glycerol Ingestion And Hyperhydration**

Steve Burns. *University of Central Missouri, Warrensburg, MO.*
Email: sburns@ucmo.edu

9:30 am - 11:00 am 1340/79 **The Effect of Hypohydration on Anaerobic Exercise Performance**

Christopher Stembri, Catherine Gabaree Boulant, Robert Thorne. *Capital University, Columbus, OH.*
Email: cstembri@capital.edu

9:30 am - 11:00 am 1341/80 **Intermittent Cycle Sprints Following Heat Exposure with Fluid Replacement and Heat Exposure to 3% Dehydration**

Justin A. Kraft¹, James M. Green, FACSM², Phillip A. Bishop², Mark T. Richardson², Yasmin H. Neggers², James D. Leeper². ¹*Missouri Western State University, St. Joseph, MO.* ²*University of Alabama, Tuscaloosa, AL.*
Email: jkraft@missouriwestern.edu

9:30 am - 11:00 am 1342/81 **Impact of Bolus versus Metered Fluid Consumption on Urine Specific Gravity and Urine Color**

Eric J. Jones¹, Phil A. Bishop², James M. Green, FACSM², Mark T. Richardson². ¹*Stephen F. Austin State University, Nacogdoches, TX.* ²*University of Alabama, Tuscaloosa, AL.*
Email: jonesej@sfasu.edu

9:30 am - 11:00 am 1343/82 **The Effect Of Hypohydration On Hyperthermic Hyperpnea And Cutaneous Vasodilation During Exercise**

Naoto Fujii¹, Yasushi Honda¹, Keiji Hayashi¹, Takeshi Ogawa¹, Narihiko Kondo², Takeshi Nishiyasu¹. ¹*Institute of Health and Sports Science, University of Tsukuba, Tsukuba, Japan.* ²*Faculty of Human Development, Kobe University, Kobe, Japan.* (Sponsor: Christopher T. Minson, FACSM)

9:30 am - 11:00 am 1344/83 **Urine Specific Gravity Patterns In EMS Flight Workers**

Dixie Stanforth, Peggy Smith, Philip Stanforth. *UT Austin, Austin, TX.* (Sponsor: Ed Coyle, FACSM)
Email: d.stanforth@mail.utexas.edu

9:30 am - 11:00 am 1345/84 **Variability Of Morning Urine Specific Gravity (Usg) Measurements And Effects Of Fluid Intake On Mid-afternoon Usg**

Heather M. Logan, Lawrence L. Spriet, FACSM. *University of Guelph, Guelph, ON, Canada.*
Email: hlogan@uoguelph.ca

9:30 am - 11:00 am 1346/85 **The Effect of Hyperhydration on CV Function and Core Temperature on Treadmill Exercise in Personal Protective Equipment.**

David Hostler, Michael Gallagher, Jr, Jennifer R. Seitz, Fredric L. Goss, FACSM, Steven E. Reis, William E. Northington, Joe Suyama. *University of Pittsburgh, Pittsburgh, PA.*
Email: hostlerdp@upmc.edu

9:30 am - 11:00 am 1347/86 **Appearance of Deuterium Oxide in Sweat During Cycling at 29°C**

Jennifer F. Klau¹, Matthew S. Ganio¹, Elaine C. Lee¹, Susan W. Yeargin², Brendon P. McDermott¹, Jaci L. VanHeest¹, Carl M. Maresh, FACSM¹, Lawrence E. Armstrong, FACSM¹. ¹*University of Connecticut, Storrs, CT.* ²*Indiana State University, Terre Haute, IN.*

Email: jennifer.klau@uconn.edu

9:30 am - 11:00 am 1348/87 **Fluid Balance And Thermoregulation In Female Soccer Players**

Rachael Gardiner¹, Nicholas Gant¹, Ajmol Ali², Andrew Foskett². ¹University of Auckland, Auckland, New Zealand.
²Massey University, Auckland, New Zealand. (Sponsor: Brian Wilson, FACSM)
Email: n.gant@auckland.ac.nz

9:30 am - 11:00 am 1349/88 **Validation of a Modified Environmental Symptoms Questionnaire for Exercise in the Heat.**

Linda M. Yamamoto¹, Douglas J. Casa, FACSM¹, Rebecca L. Stearns¹, Susan W. Yeargin², Brendon P. McDermott¹, Rebecca M. Lopez¹, Matthew S. Ganio¹, Kevin D. Ballard¹, Stephanie M. Mazerolle¹, Erin E. Quann¹, Brittanie M. Volk¹, Lawrence E. Armstrong, FACSM¹, Carl M. Maresh, FACSM¹. ¹University of Connecticut, Storrs, CT.
²Indiana State University, Terre Haut, IN.

9:30 am - 11:00 am 1350/89 **Change in Body Weight is an Accurate and Reliable Predictor of Change in Body Water**

Lindsay B. Baker, James A. Lang, W. Larry Kenney, FACSM. Pennsylvania State University, University Park, PA.
Email: Lindsay.Baker@Gatorade.com

9:30 am - 10:20 am Clinical Lecture A-11. Looking Back and Thinking Ahead - Outcomes from Three Hot 2007 Marathons Wabash 1

40 Presenter

William O. Roberts, FACSM. University of Minnesota, St Paul, MN.

41 Presenter

George Chiampas. Resurrection Medical Center, Chicago, IL.

42 Presenter

Craig C. Young, FACSM. Medical College of Wisconsin, Milwaukee, WI.

9:30 am - 11:30 am Free Communication/Slide A-15. Medical 124

9:45 am - 10:00 am 531 **Airway Hyperresponsiveness (AHR) and Markers of Inflammation or Remodelling in Swimmers and Winter athletes.**

Valérie BOUGAULT, PhD, Julie TURMEL, MSc, Julie ST LAURENT, MSc, Louis-Philippe BOULET, MD, FRCPC. Hôpital Laval, QUEBEC, QC, Canada.
Email: valerie.bougault@crhl.ulaval.ca

10:30 am - 10:45 am 534 **Comparison Of The Safety And Efficacy Of Three Cooling Methods In Hyperthermic Subjects.**

Stephan Rudzki¹, Wade H. Sinclair², Anthony S. Leicht³, Mark J. Patterson⁴, Alison L. Fogarty⁴, Susan Winter⁵.
¹Australian Army, Canberra, Australia. ²James Cook University, Townsville, Australia. ³James Cook University, Townsville, Australia. ⁴Defence Science & Technology Organisation, Melbourne, Australia. ⁵Australian Army, Townsville, Australia.
Email: stephan.rudzki@defence.gov.au

10:40 am - 11:30 am Tutorial Lecture A-33. Exploring the Links between Exertional Heat Illness and Malignant Hyperthermia Wabash 1

46 Presenter

Francis G. O'Connor, FACSM. Uniformed services University, Bethesda, MD.

47 Presenter

Sheila M. Muldoon. Uniformed Services University of the Health Sciences, Bethesda, MD.

1:00 pm - 1:50 pm Gisolfi Tutorial Lecture B-10. Thermoregulation and Aging: A Few New Wrinkles 120

100 Presenter

W. Larry Kenney, FACSM. *Pennsylvania State University, University Park, PA.*

1:00 pm - 6:00 pm Free Communication/Poster B-24. Cold Stress: Responses and Interventions Hall B

2:00 pm - 3:30 pm 1496/43 **Immunological Responses to Cold-Water Immersion in Males**

Rob Demes, Greg Farnell, Katherine Pierce, Edward J. Ryan, Matthew V. Bliss, Tiffany Collinsworth, Jacob E. Barkley, Ellen L. Glickman, FACSM. *Kent State University, Kent, OH.*

2:00 pm - 3:30 pm 1497/44 **Effects of Sodium Chloride Ingestion on Blood Pressure, Core Temperature, and Oxygen Consumption in Normotensive Men**

Chul-Ho Kim¹, Edward J. Ryan¹, Robert P. Blankfield², Matthew V. Bliss¹, David Bellar¹, Katherine Pierce¹, Tiffany Collinsworth¹, Jacob E. Barkley¹, Lauren Dix¹, Matt Muller¹, Ellen L. Glickman, FACSM¹. ¹*Kent State University, Kent, OH.* ²*Department of Family Medicine, Case Western Reserve University School of Medicine, Cleveland, OH.*

2:00 pm - 3:30 pm 1498/45 **Effect of Fitness-Level on Blood Coagulation Markers After Cold Exposure in Healthy Males**

Leigh K. Murray¹, Ellen L. Glickman, FACSM², Rob Demes², Judi Juvancic-Heltzel², Katie Pierce², Greg Farnell³, Tiffany Collinsworth². ¹*Walsh University, North Canton, OH.* ²*Kent State University, Kent, OH.* ³*University of Central Oklahoma, Edmond, OK.*

Email: lmurray@walsh.edu

2:00 pm - 3:30 pm 1499/46 **Effect of Body Composition on Thermal Sensation During Immersion in 18, 22 and 26°C water**

Ellen L. Glickman, FACSM, Greg Farnell, Rob Demes, Katherine Pierce, Tiffany Collinsworth, Jacob E. Barkley. *Kent State University, Kent, OH.*

Email: eglickma@kent.edu

2:00 pm - 3:30 pm 1500/47 **Effects of Body Composition on Thermoregulatory Responses During Cold Water Immersion in Healthy Males**

Greg Farnell¹, Katherine Pierce², Rob Demes², Tiffany Collinsworth², Edward J. Ryan², David Bellar², Matthew V. Bliss², Jacob E. Barkley², Gary H. Kamimori, FACSM³, Ellen L. Glickman, FACSM². ¹*University of Central Oklahoma, Edmond, OK.* ²*Kent State University, Kent, OH.* ³*Walter Reed Army Institute of Research, Silver Springs, MD.*

2:00 pm - 3:30 pm 1501/48 **Effect of Body Composition on Epinephrine and Norepinephrine Levels During Immersion in 18, 22 and 26°C Water**

Katherine Pierce¹, Greg Farnell¹, Rob Demes¹, Edward J. Ryan¹, Tiffany Collinsworth¹, David Bellar¹, Matthew V. Bliss¹, Jacob E. Barkley¹, Gary H. Kamimori, FACSM², Ellen L. Glickman, FACSM¹. ¹*Kent State University, Kent, OH.* ²*Walter Reed Army Institute of Research, Silver Springs, MD.*

2:00 pm - 3:30 pm 1502/49 **Core Cooling Rate and Individual Body Composition Characteristics during Resting and Exercise Cold Exposure**

John W. Castellani, FACSM¹, Danielle S. Day². ¹*USARIEM, Natick, MA.* ²*University of New England, Biddeford, ME.*

Email: john.castellani@us.army.mil

2:00 pm - 3:30 pm 1503/50 **Comparison of the Patterns of Cold-induced Vasodilation Response Between Runners and Swimmers**

Akihiro TAIMURA¹, Masaru MATSUNAMI², Masaki NAKAGAICHI¹, Masashi SUGAWARA¹. ¹*Nagasaki University, Nagasaki, Japan.* ²*Beppu Mizobe Gakuen College, Beppu, Japan.*

Email: taimura@nagasaki-u.ac.jp

2:00 pm - 3:30 pm 1504/51 **Risk Factors for Non-Freezing Cold Injury in British Army Infantry Recruit Training**

Rachel M. Izard, James L.J. Bilzon. *Headquarters Army Recruiting and Training Division, Wiltshire, United Kingdom.*

Email: soocmed-plans@artd.mod.uk

2:00 pm - 3:30 pm 1505/52 **The Influence of an Acute Dose of Aspirin on Cold-Induced Vasodilation**

Christopher C. Cheatham, Jealyn Foston. *Western Michigan University, Kalamazoo, MI.*

Email: chris.cheatham@wmich.edu

2:00 pm - 3:30 pm 1506/53 **Effect of Varying Osmolality on Vasoconstriction and Skin Temperature during Whole Body Cold Exposure**

Robert W. Kenefick, FACSM¹, Laura J. Palombo¹, Nathan A. Riel², Samuel N. Cheuvront, FACSM¹, John W. Castellani, FACSM¹. ¹*U.S. Army Research Institute of Environmental Medicine, Natick, MA.* ²*University of New Hampshire, Durham, NH.*

Email: Robert.Kenefick@us.army.mil

2:00 pm - 3:30 pm 1507/54 **Sublingual Administration of a Calcium Channel Blocker Lowers Core Temperature**

Edward J. Ryan¹, Robert P. Blankfield², Chul-Ho Kim¹, Matthew V. Bliss¹, David Bellar¹, Katherine Pierce¹, Tiffany Collinsworth¹, Jacob E. Barkley¹, Lauren Dix¹, Matt Muller¹, Ellen L. Glickman, FACSM¹. ¹*Kent State University, Kent, OH.* ²*Department of Family Medicine, Case Western Reserve University, Cleveland, OH.*

2:00 pm - 3:30 pm 1508/55 **Influence of Various Concentrations of Oxygen Breathing on Cold-induced Vasodilation in Human Finger**

Byeong Jo Kim, Dae Taek Lee, Myung Chun Lee. *Kookmin Univ., Seoul, Republic of Korea.*

Email: kbc3926@hanmail.net

1:00 pm - 6:00 pm Free Communication/Poster B-25. Injuries and Sports Medicine Hall B

3:30 pm - 5:00 pm 1521/68 **Incidence of Exertional Heat Illness among NCAA Athletes**

Robert A. Oppliger, FACSM¹, Julie Agel², Randall W. Dick, FACSM³, Jill D. Corlette³. ¹*Iowa Wrestling Research, Iowa City, IA.* ²*University of Minnesota, Minneapolis, MN.* ³*National Collegiate Athletic Association, Indianapolis, IN.*

Email: boboppliger@msn.com

1:00 pm - 6:00 pm Free Communication/Poster B-26. Military Physiology and Medicine: Assessment and Evaluation Hall B

2:00 pm - 3:30 pm 1533/80 **Physiological Effect of the RTX During Exercise in the Heat**

Jessie L. Hascall, Jay H. Heaney, Courtney L. Cowan, Paul W. Miller, James A. Hodgdon, FACSM. *Naval Health Research Center, San Diego, CA.* (Sponsor: James A. Hodgdon, FACSM)

1:00 pm - 6:00 pm Free Communication/Poster B-27. Muscle 2 Hall B

3:30 pm - 5:00 pm 1560/107 **Effects Of Hyperbaric Exposure With High Oxygen Concentration On The Soleus Muscle In Diabetic Rats**

Takashi Kitaura, FACSM¹, Akihiko Ishihara². ¹*Kanazawa University, Kanazawa-city, Kakuma-town, Japan.* ²*Kyoto University, Kyoto, Japan.*

Email: kitaura@ge.kanazawa-u.ac.jp

1:00 pm - 6:00 pm Free Communication/Poster B-31. Variables Influencing Perception of Effort Hall B

3:30 pm - 5:00 pm 1645/192 **Reliability of Perceptual Measures During and After Exercise in the Heat**

Matthew S. Ganio, Angela E. West, Douglas J. Casa, FACSM, Jennifer F. Klau, Linda M. Yamamoto, Carl M. Maresh, FACSM, Lawrence E. Armstrong, FACSM. *University of Connecticut, Storrs, CT.*

Email: matthew.ganio@uconn.edu

3:15 pm - 5:15 pm Symposium B-41. The Lactate Paradox at High Altitude Sagamore 2

137 Chair

L. Bruce Gladden, FACSM. *Auburn University, Auburn, AL.*

3:15 pm - 3:20 pm Introduction and Overview

L. Bruce Gladden, FACSM. *Auburn University, Auburn, AL.*

3:20 pm - 3:45 pm 138 Oxygen and the Increase in Lactate Concentration during Exercise
L. Bruce Gladden, FACSM. *Auburn University, Auburn, AL.*

3:45 pm - 4:10 pm 139 The Lactate Paradox
Peter D. Wagner. *University of California, San Diego, La Jolla, CA.*

4:10 pm - 4:35 pm 140 Deviations from the Lactate Paradox
Carsten Lundby. *Muscle Research Centre, Copenhagen, Denmark.*

4:35 pm - 5:00 pm 141 Catecholamines and the Lactate Response to High Altitude
Robert S. Mazzeo, FACSM. *University of Colorado, Boulder, CO.*

3:15 pm - 5:15 pm Thematic Poster B-55. Occupational Physiology and Medicine: The Science of Training and Performance in Physically Demanding Occupations 205

3:15 pm - 5:15 pm 1225/4 **Effect of On-scene Rehabilitation in Recovery from Firefighting Activity**
Denise L. Smith, FACSM, Steven Gutzmer, Gavin Horn. *University of Illinois, Champaign, IL.*
Email: dsmith@skidmore.edu

Thursday, May 29, 2008

7:30 am - 12:30 pm Free Communication/Poster C-28. Medical Hall B

8:00 am - 9:30 am 1758/111 **Acetazolamide Use In High Altitude Ultra-endurance Mountain Bike Race**
Morteza Khodaei¹, Peter D. Marshall², John C. Hill, FACSM². ¹*University of Colorado Health Science Center, Denver, CO.* ²*University of Colorado Health Science Center, Aurora, CO.*
Email: morteza.khodaei@UCHSC.edu

7:30 am - 12:30 pm Free Communication/Poster C-31. Neurobiology Hall B

9:00 am - 10:30 am 1786/139 **Effect of Increased Core Temperature on Cortical Excitability and Fatigue in Multiple Sclerosis Patients**
Andrea T. White, FACSM¹, Scott L. Davis², Jamie Vener³, Luke Wendt¹. ¹*University of Utah, Salt Lake City, UT.* ²*University of Texas Southwestern, Dallas, TX.* ³*Southern Oregon University, Ashland, OR.*
Email: andrea.white@health.utah.edu

7:30 am - 12:30 pm Free Communication/Poster C-33. Space Physiology and Microgravity Hall B

9:00 am - 10:30 am 1795/148 **Artificial Gravity Prevents Loss of Peak Oxygen Uptake During 21 Days of Bed Rest**
Alan D. Moore, Jr., FACSM¹, Stuart M.C. Lee¹, Cassie A. Wilson², Michael B. Stenger¹, Steven H. Platts³. ¹*Wyle Laboratories/NASA-JSC, Houston, TX.* ²*JES Tech/NASA-JSC, Houston, TX.* ³*NASA-JSC, Houston, TX.*
Email: alan.d.moore@nasa.gov

9:00 am - 10:30 am 1796/149 **Rowing and Resistance Training - Countermeasure to Anti-Gravity Muscle Strength and Endurance Deconditioning Following Bed Rest**
Phil Wyrick¹, Jeffrey L. Hastings², Felix Krainski¹, Eric Pacini³, Dean Palmer¹, Katja Heinicke³, Ronald G. Haller³, Benjamin D. Levine, FACSM³. ¹*IEEM, Presbyterian Hospital-Dallas, Dallas, TX.* ²*University of Texas Southwestern Medical Center, Dallas, TX.* ³*IEEM, Presbyterian Hospital & University of Texas Southwestern Medical Center, Dallas, TX.*
Email: PhilWyrick@TexasHealth.org

9:00 am - 10:30 am 1797/150 **Joint Angles at Heel Strike and Toe Off during Motorized and Non-Motorized Treadmill Locomotion**
Meghan E. Everett, John DeWitt, Stuart Lee, Mitzi Laughlin, Cassie Wilson, Jim Loehr. *NASA-JSC, Houston, TX.*
Email: meghan.e.everett@nasa.gov

9:00 am - 10:30 am 1798/151 **Bone Mineral Density Adaptations of the Hip and Spine to Training with the Advanced Resistive Exercise Device and with Free Weights in Ambulatory Subjects**
Stuart M. C. Lee¹, James A. Loehr¹, Kirk L. English², Jean Sibonga³, Mary Jane Maddocks¹, Scott A. Smith¹, R.

Donald Hagan, FACSM⁴. ¹Wyle Laboratories, Houston, TX. ²JES Tech, Houston, TX. ³Universities Space Research Associates, Houston, TX. ⁴NASA Johnson Space Center, Houston, TX.
Email: stuart.lee-1@nasa.gov

9:00 am - 10:30 am 1799/152 **Hemodynamic and Neurohumoral Responses to Simulated Weightlessness and KAATSU Blood Flow Restriction**
Toshiaki Nakajima¹, Haruko Iida¹, Miwa Kurano¹, Tomohiro Yasuda¹, Haruhito Takano¹, Toshihiro Morita¹, Kentaro Meguro¹, Yoshiaki Sato¹, Takashi Abe¹, Naokata Ishii¹, Hiroshi Ohshima², Hiroshi Ohshima². ¹University of Tokyo, Tokyo, Japan. ²Japan Aerospace Exploration Agency, Tsukuba, Japan.
Email: masamasa@pb4.so-net.ne.jp

9:00 am - 10:30 am 1800/153 **Evaluation of a Sensor Suite Designed for Monitoring Physiologic Function of Astronauts During Space Travel**
Aaron T. Rood¹, Kenneth E. Sparks², Ellen Glickman, FACSM³. ¹Orbital Research INC, Cleveland, OH. ²Cleveland State University, Cleveland, OH. ³Kent State University, Kent, OH.
Email: rood@orbitalresearch.com

7:30 am - 12:30 pm Free Communication/Poster C-34. Respiratory Hall B

9:00 am - 10:30 am 1814/167 **Relationships Between Airway Inflammation And Response To Methacoline Or Eucapnic Voluntary Hyperventilation In Athletes Training In Cold Air**
Julie Turmel, Bougault Valerie, Boulet Louis-Philippe. *Hôpital Laval, Quebec, QC, Canada.*
Email: julie.turmel@crhl.ulaval.ca

8:00 am - 9:15 am Free Communication/Slide C-16. Military Physiology and Medicine 105

8:00 am - 8:15 am 711 **Combating Heat Injury in Desert Wars**
Dean A. Stulz, Jason A. Rosales, William C. Sipe. *US Army, Fort Hood, TX.* (Sponsor: Mike Sawka, FACSM)
Email: dean.stulz@us.army.mil

1:00 pm - 2:30 pm Free Communication/Slide D-11. Altitude and Hypoxia 122

1:00 pm - 1:15 pm 733 **The Effect of Intermittent Simulated Altitude Exposure via Re-breathing on Cycling Performance**
Carmen J. Babcock, Timothy E. Kirby. *The Ohio State University, Columbus, OH.*
Email: babcock.11@osu.edu

1:15 pm - 1:30 pm 734 **Dynamic Cerebral Autoregulation Is Impaired In Acute Mountain Sickness; Focus On Redox Regulation of Systemic Nitric Oxide Bioavailability.**
Damian M. Bailey¹, Kevin Evans¹, Philip E. James², Jane McEneny³, Ian S. Young³, Philip N. Ainslie⁴. ¹University of Glamorgan, Pontypridd, United Kingdom. ²Wales Heart Research Institute, Cardiff, United Kingdom. ³Queen's University Belfast, Belfast, United Kingdom. ⁴University of Otago, Dunedin, New Zealand.
Email: dbailey1@glam.ac.uk

1:30 pm - 1:45 pm 735 **Chronic Hematological and Physiological Adaptations following 48 weeks of Moderate Altitude Residence**
Michael D. Brothers¹, Brandon K. Doan¹, Al L. Wile¹, James L. Weinstein², Michael F. Zupan³, Randall L. Wilber⁴, William C. Byrnes, FACSM⁵. ¹U.S. Air Force Academy Human Performance Laboratory, USAF Academy, CO. ²U.S. Air Force Academy 10 Medical Group, USAF Academy, CO. ³Air Force Research Laboratory, Brooks City Base, TX. ⁴U.S. Olympic Training Center, Colorado Springs, CO. ⁵University of Colorado, Boulder, CO.
Email: michael.brothers@colorado.edu

1:45 pm - 2:00 pm 736 **Cerebrovascular Responses To Incremental Exercise During Hypobaric Hypoxia: Effect Of Oxygenation On Maximal Performance**
Matthew C. Lorenz¹, Andrew W. Subudhi¹, Charles S. Fulco², Robert C. Roach, FACSM¹. ¹University of Colorado Altitude Research Center, Aurora and Colorado Springs, CO. ²United States Army Research Institute of Environmental Medicine, Natick, MA.
Email: mlorenz@uccs.edu

2:00 pm - 2:15 pm 737 **Effects of Staging at 2200 m on Eye-Hand Speed and Accuracy of Sea-Level Residents**

Exposed to 4300 m.

Michael F. Zupan¹, Brandon K. Doan², Michael D. Brothers², Michael Cavallo³, Miquel Fernandez³, Charles S. Fulco³. ¹*Air Force Research Laboratory, Brooks-City Base, TX.* ²*United States Air Force Academy, Colorado Springs, CO.* ³*United States Army Research Institute for Environmental Medicine, Natick, MA.*
Email: michael.zupan@us.af.mil

2:15 pm - 2:30 pm 738 The Time course of the Erythropoietic Response to Natural Altitude Training in Elite Endurance Cyclists

Laura A. Garvican¹, David T. Martin¹, Melissa A. Clark¹, Marc Quod¹, Brian Stephens¹, Nicole Prommer², Walter F. Schmidt, FACSM², Franco M. Impellizzeri³, Ermanno Rampinini³, Aldo Sassi³, Christopher J. Gore, FACSM¹.
¹*Australian Institute of Sport, Belconnen, ACT, Australia.* ²*University of Bayreuth, Bayreuth, Germany.* ³*Mapei Sports Research Centre, Castellanza, Italy.*
Email: laura.garvican@ausport.gov.au

1:00 pm - 3:00 pm Free Communication/Slide D-19. Sport Physiology/Human Performance 103

1:30 pm - 1:45 pm 800 Precooling and Running Economy

Molly Winke¹, J.W. Yates, FACSM². ¹*Skidmore College, Saratoga Springs, NY.* ²*University of Kentucky, Lexington, KY.*
Email: mwinke@skidmore.edu

1:00 pm - 6:00 pm Free Communication/Poster D-30. Heat Stress and Fluid Balance: Physiological and Biochemical Responses to Heat Strain Hall B

2:00 pm - 3:30 pm 1921/85 Serum S-100B Response to Moderate-Intensity Exercise-Heat Strain Before and After Acclimation

Brett R. Ely, Samuel N. Cheuvront, FACSM, Troy D. Chilver, Robery W. Kenefick, FACSM, Daniel A. Goodman, James P. McClung, Michael N. Sawka, FACSM. *USARIEM, Natick, MA.*
Email: brett.ely@us.army.mil

2:00 pm - 3:30 pm 1922/86 Effects Of Chronic Dopamine/noradrenaline Reuptake Inhibition On Performance, Thermoregulation And Hormonal Parameters.

Bart Roelands¹, Hiroshi Hasegawa², Phil Watson³, Maria Francesca Piacentini⁴, Luk Buyse¹, Guy De Schutter¹, Romain Meeusen, FACSM¹. ¹*Vrije Universiteit Brussel, Brussels, Belgium.* ²*Hiroshima University, Higashihiroshima, Japan.* ³*Loughborough University, Leicestershire, United Kingdom.* ⁴*Istituto Universitario di Scienze Motorie Roma, Roma, Italy.*
Email: bart.roelands@vub.ac.be

2:00 pm - 3:30 pm 1923/87 Does Whole Body Heat Acclimation Change Peripheral Blood Mononuclear Cell Thermotolerance?

Fabiano T. Amorim, Paulette M. Yamada, Suzanne M. Schneider, Pope L. Moseley, FACSM. *University of New Mexico, Albuquerque, NM.*
Email: amorim@unm.edu

2:00 pm - 3:30 pm 1924/88 Does Whole Body Heat Acclimation Change Peripheral Blood Mononuclear Cell Cytokine Response To Bacterial Lipopolysaccharide?

Christine M. Mermier, Fabiano T. Amorim, Paulette M. Yamada, Suzanne M. Schneider, Pope L. Moseley, FACSM. *University of New Mexico, Albuquerque, NM.*

2:00 pm - 3:30 pm 1925/89 Sympathetic Nerve Activity and Whole-Body Heat Stress

David A. Low, David M. Keller, Jonathan E. Wingo, R. Matthew Brothers, Craig G. Crandall, FACSM. *Presbyterian Hospital of Dallas, Dallas, TX.*

2:00 pm - 3:30 pm 1926/90 Heat Acclimation of an Individual with a Spinal Cord Injury: A Case Report

Jonathan E. Wingo¹, David A. Low¹, David M. Keller¹, Ross G. Querry², Craig G. Crandall, FACSM¹. ¹*Institute for Exercise and Environmental Medicine, Dallas, TX.* ²*University of Texas Southwestern Medical Center at Dallas, Dallas, TX.*
Email: jewingo@tx.rr.com

2:00 pm - 3:30 pm 1927/91 **Sweating Responsiveness to Reduced Skin Blood Flow During Passive Heat Stress**
R Matthew Brothers, Jonathan Wingo, Manabu Shibasaki, David Low, David Keller, Craig Crandall, FACSM.
Institute for Exercise and Environmental Medicine, Dallas, TX.
Email: robertbrothers@texashealth.org

2:00 pm - 3:30 pm 1928/92 **Neural Control of Cutaneous Vasoconstriction During Isometric Handgrip Exercise in Heat Stressed Individuals**
Manabu Shibasaki¹, Peter Rasmussen², Niels H. Secher², Craig G. Crandall, FACSM³. ¹*Nara Women's University, Nara, Japan.* ²*University of Copenhagen, Copenhagen, Denmark.* ³*Presbyterian Hospital of Dallas, Dallas, TX.*

2:00 pm - 3:30 pm 1929/93 **Ventilatory And Cerebrovascular Responses To Increasing Body Temperature During Exercise With Inhaling Hypercapnic Air**
Keiji Hayashi¹, Natsuki Miyakawa², Yasushi Honda², Naoto Fujii², Shunsaku Koga³, Narihiko Kondo⁴, Takeshi Nishiyasu². ¹*Junior College, University of Shizuoka, Shizuoka, Japan.* ²*Institute of Health and Sports Science, University of Tsukuba, Tsukuba, Japan.* ³*Kobe Design University, Kobe, Japan.* ⁴*Faculty of Human Development, Kobe University, Kobe, Japan.* (Sponsor: Christopher T. Minson, FACSM)
Email: hayashi@lbnp.taiiku.tsukuba.ac.jp

2:00 pm - 3:30 pm 1930/94 **Blood Flow Responses In Conduit Vessels Of The Inactive Limb During Passive Heating And Exercise**
Anna Ooue¹, Tomoko K. Ichinose², Yoshimitsu Inoue², Takeshi Nishiyasu³, Shunsaku Koga⁴, Narihiko Kondo¹.
¹*Kobe University, Kobe, Japan.* ²*Osaka International University, Osaka, Japan.* ³*University of Tsukuba, Tsukuba, Japan.* ⁴*Kobe Design University, Kobe, Japan.* (Sponsor: Christopher T. Minson, FACSM)
Email: 032f442f@stu.kobe-u.ac.jp

2:00 pm - 3:30 pm 1931/95 **Prolactin, Tryptophan, and Branch Chain Amino Acids, and Relationships with Psychomotor Performance during Heat Stress**
Heather E. Wright, Glen A. Selkirk, Tom M. McLellan. *Defence Research Development Canada & York University, Toronto, ON, Canada.* (Sponsor: I. Jacobs, FACSM)
Email: Heather.Wright@drdc-rddc.gc.ca

2:00 pm - 3:30 pm 1932/96 **Effect of Heat Stress on Marathon Pacing is Dependent on Runner Ability**
Matthew R. Ely¹, David E. Martin, FACSM², Samuel N. Cheuvront, FACSM¹, Scott J. Montain, FACSM¹.
¹*USARIEM, Natick, MA.* ²*Georgia State University, Atlanta, GA.*
Email: matthew.ely@us.army.mil

2:00 pm - 3:30 pm 1933/97 **Sex-related Differences In Cooling Rates After Exercise-induced Hyperthermia.**
Bruno Lemire, Daniel Gagnon, Lucy Dorman, Ollie Jay, Glen P. Kenny. *University of Ottawa, Ottawa, ON, Canada.*

2:00 pm - 3:30 pm 1934/98 **Sex Differences In Human Heat Balance At The Same Intermittent Work Loads**
Lucy E. Dorman¹, Ollie Jay¹, Daniel Gagnon¹, Paul Webb², Michel B. DuCharme³, Francis D. Reardon¹, Glen P. Kenny¹. ¹*University of Ottawa, Ottawa, ON, Canada.* ²*Yellow Springs, Ohio, OH.* ³*Defence Research and Development Canada, Quebec City, QC, Canada.*
Email: ldorman@uottawa.ca

2:00 pm - 3:30 pm 1935/99 **Sex-Related Differences in Dynamic Heat Balance: Metabolic Heat Production Considerations**
Daniel Gagnon, Ollie Jay, Bruno Lemire, Lucy Dorman, Glen P. Kenny. *University of Ottawa, Ottawa, ON, Canada.*
Email: dgagn048@uottawa.ca

2:00 pm - 3:30 pm 1936/100 **Heat Balance Is Attained During Postexercise Recovery Despite Residual Body Heat Storage**
Glen P. Kenny¹, Francis D. Reardon¹, Michel B. DuCharme², Paul Webb³, Ollie Jay¹. ¹*University of Ottawa, Ottawa, ON, Canada.* ²*Defence Research and Development Canada, Quebec City, QC, Canada.* ³*Yellow Springs, Yellow Springs, OH.*
Email: gkenny@uottawa.ca

1:00 pm - 6:00 pm Free Communication/Poster D-35. Occupational Physiology and Medicine: Physiological Stresses and Demands Hall B

3:30 pm - 5:00 pm 1997/161 **Acute Effect of Firefighting Activity on Platelets**

Denise L. Smith, FACSM, Uzma Ahmad, Sarah Assian, Gregory Freund, Gavin Horm. *University of Illinois, Champaign, IL.*

3:30 pm - 5:00 pm 1998/162 **Effects of Fire Fighting Gear on Physiological and Perceptual Responses to Short-Term Fire Fighting Activity**

Eric L. Goldstein, Denise L. Smith, FACSM, Gavin Horm, Steve Petruzello. *University of Illinois, Champaign, IL.*
Email: elgoldst@fsi.uiuc.edu

3:30 pm - 5:00 pm 2001/165 **Effects of an Immunomodulating Supplement on Upper Respiratory Tract Infection Symptoms in Wildland Firefighters**

Stephanie G. Harger-Domitrovich, Joseph W. Domitrovich, Brent C. Ruby, FACSM. *University of Montana, Missoula, MT.*

Email: stephanie_harger@yahoo.com

3:30 pm - 5:00 pm 2008/172 **Environmental Temperature Effects on Occupational Work Performance and Circulating Testosterone, Cortisol, and Creatine Kinase**

Bulent Sokmen, Carl M. Maresh, FACSM, Joao C. Dias, Douglas J. Casa, FACSM, William J. Kraemer, FACSM, Jaci L. VanHeest, FACSM, Matthew S. Ganio, Brendon P. McDermott, Rebecca M. Lopez, Linda M. Yamamoto, Elaine Lee, Kate Sanders, Rebecca Stearns. *University of Connecticut, Storrs, CT.*

Email: bsokmen@fullerton.edu

3:30 pm - 5:00 pm 2009/173 **Physiological Demands And "Air Management" For Firefighters Breathing From An Scba During Simulated High Rise Firefighting Tasks**

F. Michael Williams-Bell, Rodrigo Villar, Michael T. Sharratt, FACSM, Richard L. Hughson. *University of Waterloo, Waterloo, ON, Canada.*

3:15 pm - 4:45 pm Free Communication/Slide D-54. Blood Flow

116

4:30 pm - 4:45 pm 821 **Heat and Cold on the Back Modulate Blood Flow in Distant Skeletal Muscles**

Guoqiang Yu¹, Chulhyun Ahn², Xiaoman Xing², Turgut Durduran², Emile R. Mohler, III², Frank Erdman³, Arjun G. Yodh², Richard Salcido². ¹*University of Kentucky, Lexington, KY.* ²*University of Pennsylvania, Philadelphia, PA.* ³*Frederick Erdman Association, Havertown, PA.*

Email: guoqiang.yu@uky.edu

3:15 pm - 5:00 pm Free Communication/Slide D-56. Heat Stress and Fluid Balance: Hydration Status, Performance and Perceptions

103

3:15 pm - 3:30 pm 832 **Influence of Hydration at Various Intensities During Trail Running in the Heat**

Douglas J. Casa, FACSM, Rebecca L. Stearns, Rebecca M. Lopez, Matthew S. Ganio, Brendon P. McDermott, Linda M. Yamamoto, Susan W. Yeargin, Melissa W. Roti, Lawrence E. Armstrong, FACSM, Carl M. Maresh, FACSM. *University of Connecticut, Storrs, CT.*

Email: douglas.casa@uconn.edu

3:45 pm - 4:00 pm 834 **Improving Hydration Status Enhances Endurance Exercise In Children**

Stavros A. Kavouras, Michalis Makrilos, Christina Garagouni, Eleni Nikolaou, Eleftheria Ellinikaki, Olga Chira, Giannis Arnaoutis, Labros Sidossis. *Lab. of Nutrition & Clinical Dietetics, Harokopio University, Athens, Greece.* (Sponsor: Lawrence E Armstrong, FACSM)

Email: skav@hua.gr

4:00 pm - 4:15 pm 835 **The Thermoregulatory Effect of Consuming a Beverage Containing Protein During Exercise**

Andrew J. Cathcart¹, Scott R. Murgatroyd², Alison McNab¹, Laura J. Whyte¹, Chris Easton¹. ¹*University of Glasgow, Glasgow, United Kingdom.* ²*University of Leeds, Leeds, United Kingdom.* (Sponsor: Yannis P. Pitsiladis, FACSM)

Email: A.Cathcart@bio.gla.ac.uk

4:15 pm - 4:30 pm 836 **The Effect of Hyper-Hydration on Perceptual and Physiological Heat Strain in**

Personal Protective Equipment

Michael Gallagher, Jr.¹, Jennifer R. Seitz¹, Fredric L. Goss, FACSM¹, Robert J. Robertson, FACSM¹, Joe Suyama¹, Steven E. Reiss², William Northington¹, David Hostler¹. ¹University of Pittsburgh, Pittsburgh, PA. ²Cardiovascular Institute at the University of Pittsburgh Medical Center, Pittsburgh, PA.

4:30 pm - 4:45 pm 837 **The Effect of Passive Dehydration on Postural Sway In Healthy Adult Males**
Marjorie L. Wilson, Alison Lawther. *University of Teesside, Middlesbrough, United Kingdom.* (Sponsor: Alan M Batterham, FACSM)
Email: m.wilson@tees.ac.uk

5:45-7:15PM INDIANA CONVENTION CENTER, SAGAMORE 5

ENVIRONMENTAL PHYSIOLOGY INTEREST GROUP (EPIG) MEETING

Heat, Sand, and Three Crazy Runners: Environmental Physiology in the Sahara Desert

CAPT David W. DeGroot, Ph.D.

USARIEM, Natick, MA

Complimentary snacks, beer, and soft-drinks will be provided. Admission is FREE with your ACSM badge.

Friday, May 30, 2008

7:30 am - 12:30 pm Free Communication/Poster E-22. Environmental Conditions: Air Quality Hall B

9:00 am - 10:30 am 2039/10 **The Effects of Air Quality Index Levels on the Respiratory Function of Disabled Athletes**

Shane P. Esau, Jared R. Fletcher, Brian R. MacIntosh, FACSM. *University of Calgary, Calgary, AB, Canada.*
Email: sesau@kin.ucalgary.ca

9:00 am - 10:30 am 2040/11 **Impact of Pollution, Heat and Humidity on Athletic Performance**
Elisa Couto Gomes, Geraint Florida-James, Vicki Stone. *Napier University, Edinburgh, United Kingdom.*
Email: e.gomes@napier.ac.uk

7:30 am - 12:30 pm Free Communication/Poster E-25. Heat Stress and Fluid Balance: Monitoring and Predicting Core Temperature Hall B

9:00 am - 10:30 am 2054/25 **Ingestible Telemetry Core Temperature Sensor Measurements Are Affected By Gastrointestinal Tract Location**

Daniel A. Goodman, Jorge Diaz, Bruce S. Cadarette, Brett R. Ely, Robert W. Kenefick, FACSM, Samuel N. Cheuvront, FACSM. *United States Army Research Institute of Environmental Medicine, Natick, MA.*
Email: daniel.a.goodman@us.army.mil

9:00 am - 10:30 am 2055/26 **Utility of an Ingestible Capsule for Core Temperature Measurements during Active and Passive Body Warming**
Hermann J. Engels, FACSM, Hossein Yarandi, Jean Davis. *Wayne State University, Detroit, MI.*

9:00 am - 10:30 am 2056/27 **Validation of the ICDA Model for Predicting Body Core Temperature**
David W. DeGroot, Daniel A. Goodman, Scott J. Montain, FACSM, Samuel N. Cheuvront, FACSM. *US Army Research Institute of Environmental Medicine, Natick, MA.*
Email: david.degroot@amedd.army.mil

9:00 am - 10:30 am 2057/28 **The Influence of Different Radiative Heat Levels on Maximum Acceptable Working Duration of Emergency Responders**
Eric Mol, Ronald Heus, Emiel A. den Hartog. *TNO Defence, Security and Safety, Soesterberg, The Netherlands.* (Sponsor: Thomas W.J. Janssen, FACSM)
Email: eric.mol@tno.nl

9:00 am - 10:30 am 2058/29 **Predicting Individual Correction Factors For The Improved Thermometric Estimation Of Changes In Mean Body Temperature**
Ollie Jay¹, Francis D. Reardon¹, Michel B. DuCharme², Paul Webb³, Glen P. Kenny¹. ¹University of Ottawa, Ottawa,

ON, Canada. ²Defence Research and Development Canada, Quebec City, QC, Canada. ³Yellow Springs, Yellow Springs, OH.

Email: ojay@uottawa.ca

9:00 am - 10:30 am 2059/30 **The Effects of Cooling Vests on Endurance Performance in the Warm Temperatures**

Alicja Czajka¹, Jason P. Brandenburg², William A. Pitney¹, Judith M. Lukaszuk¹. ¹Northern Illinois University, DeKalb, IL. ²University College of the Fraser Valley, Abbotsford, BC, Canada.

Email: alicja1711@yahoo.com

9:00 am - 10:30 am 2060/31 **Neck Cooling During Exercise In The Heat Improves Subsequent Treadmill Time-trial Performance**

Christopher J. Tyler, Caroline Sunderland. *Nottingham Trent University, Nottingham, United Kingdom.*

Email: christopher.tyler@ntu.ac.uk

9:00 am - 10:30 am 2061/32 **Fatigue During High Intensity Exercise: The Interaction Between pH and Thermal Stress**

Melissa M. Rogers, Kimberly A. Hubing, Laura R. Quigg, John T. Bassett, Luke P. Quebedeaux, Robert M. Patrizi, Kristin L. Byrd, David E. Upton, Melody D. Phillips, Joel B. Mitchell, FACSM. *TCU, Ft. Worth, TX.*

Email: m.m.rogers@tcu.edu

9:00 am - 10:30 am 2062/33 **Heat Illness in Elite Football Athletes**

Eric E. Coris, Shabnam Mehra, Walz Steve, Pescasio Michele, Keith Abrams, Cuppett Micki, Morris Barbara, Jeff Konin. *University of South Florida College of Medicine, Tampa, FL.* (Sponsor: Doug Casa, ATC, PhD, FACSM)

Email: ecoris@hsc.usf.edu

7:30 am - 12:30 pm Free Communication/Poster E-28. Sport Physiology/Human Performance 1

Hall B

8:00 am - 9:30 am 2125/96 **Effect of Inhaling Canned Oxygen on Core Temperature in Soccer Players under Hot Weather Conditions**

Enrique O. Prada, Aldo F. Longo, Nestor A. Lentini, Enrique D. Balardini, Marcelo L. Cardey, Gustavo D. Aquilino, Mariela B. Arangio, Claudio A. Gillone, Esteban R. Francia. *Exercise Physiology Laboratory, National Sport High Performance Center (CeNARD), Buenos Aires, Argentina.*

8:00 am - 9:30 am 2144/115 **Heart Rate and Speed of Ultraendurance Participants During a 217 km Run in Extreme Heat**

Robert W. Wilson, II, Ann C. Snyder, FACSM. *University of Wisconsin - Milwaukee, Milwaukee, WI.*

Email: RWWilson@uwm.edu

8:00 am - 9:30 am 2149/120

The Effects of 25th Day Mountain Climbing on OGTT and TNF- α level

Yi-Cheng Liu¹, Mei-Chih Chen², Wen-Chih Lee³, John L. Ivy⁴, Chia-Hua Kuo⁵. ¹Yi-Cheng, Taipei, Taiwan. ²Mei-Chih, Taipei, Taiwan. ³Leo, Taipei, Taiwan. ⁴John, Taipei, Taiwan. ⁵Chia-Hua, Taipei, Taiwan. (Sponsor: John L. Ivy, FACSM)

Email: 681117@yahoo.com.tw

8:00 am - 9:30 am 2150/121 **Temperature And Altitude As A Confounding Factor For Taiwan National Health-Related Fitness Test- A Preliminary Data**

Chin Chuan Tu¹, Fu-Yi Chien¹, John L. Ivy, FACSM², Chia-Hua Kuo¹. ¹Taipei Physical Education College, Taipei, Taiwan. ²University of Texas at Austin, Austin, TX, Texas, TX. (Sponsor: John L Ivy, FACSM)

8:00 am - 9:30 am 2177/148 **Meta-Analysis of the Effect of Exercise-Induced Dehydration on Endurance Performance**

Eric D. Goulet¹, Michel O. Mélançon², Kfir Madjar¹. ¹McGill University, Montreal, QC, Canada. ²Sherbrooke University, Sherbrooke, QC, Canada. (Sponsor: Will Hopkins, FACSM)

Email: eric.goulet@mcgill.ca

8:00 am - 9:45 am Free Communication/Slide E-14. Heat Stress and Fluid Balance: Sodium Balance 116

8:00 am - 8:15 am 883 **Preexercise Beverage Composition Impact On Hydration And Performance During Exercise Under Compensable Heat Stress**

Neil M. Johannsen¹, Nicole Warnke², Douglas S. King, FACSM², Rick L. Sharp, FACSM². ¹*Pennington Biomedical Research Center, Baton Rouge, LA.* ²*Iowa State University, Ames, IA.*
Email: JohannNM@pbrc.edu

8:15 am - 8:30 am 884 **Osmotic Regulation Of Avp As A Risk Factor For Hyponatremia In Women**

Nina Stachenfeld, FACSM¹, Andrew R. Grabarek¹, Hugh S. Taylor². ¹*The John B. Pierce Laboratory, New Haven, CT.* ²*Yale School of Medicine, New Haven, CT.*
Email: nstach@jbpierce.org

8:30 am - 8:45 am 885 **Trained Subjects Excrete More Sodium in Sweat than Untrained when Normalized by Sweat Rate**

Ricardo Mora-Rodriguez, Nassim Hamouti, Juan Del Coso, Emma Estevez. *University of Castilla La Mancha, Toledo, Spain.*
Email: Ricardo.mora@uclm.es

8:45 am - 9:00 am 886 **Sweat Sodium Concentration in NFL Players during Dietary Sodium Supplementation compared to when they are not Supplemented**

Arthur R. Bartolozzi¹, Sandra Fowkes Godek², Chris Peduzzi³, Jason Kopec², Richard Burkholder³. ¹*Pennsylvania Hospital, Philadelphia, PA.* ²*The HEAT Institute at West Chester University, West Chester, PA.* ³*Philadelphia Eagles, Philadelphia, PA.*

1:00 pm - 3:00 pm Featured Science Session F-02. Iraq and Afghanistan Infantry Operations: Environment and Physiologic Challenges Sagamore 5

354 Chair
Michael N. Sawka, FACSM. *USARIEM, Natick, MA.*

1:00 pm - 1:05 pm Introduction and Overview
Michael N. Sawka, FACSM. *USARIEM, Natick, MA.*

1:05 pm - 1:35 pm 355 Keynote - Heat-Stress of Iraq and Infantry Operations
Samuel N. Cheuvront, FACSM. *USARIEM, Natick, MA.*

1:50 pm - 2:05 pm 357 Combating Heat Injury in Desert Wars
Dean A. Stulz, Captain. *U.S. Army, Ft Hood, TX.*

2:20 pm - 2:50 pm 359 Keynote - Mountains of Afghanistan and Infantry Operations
Stephen Muza. *USARIEM, Natick, MA.*

1:00 pm - 6:00 pm Free Communication/Poster F-23. Exercise Immunology Hall B

3:30 pm - 5:00 pm 2314/94 **Elevation Of Body Temperature Is Associated With Exercise-Increased Extracellular Heat Shock Protein 72 Level In Rat Plasma**

Yuji Ogura¹, Hisashi Naito¹, Senay Akin², Noriko Ichinoseki-Sekine¹, Mitsutoshi Kurosaka¹, Ryo Kakigi¹, Takao Sugiura³, Shizuo Katamoto¹, Haydar A. Demirel². ¹*Juntendo University, Inba, Japan.* ²*Hacettepe University, Ankara, Turkey.* ³*Yamaguchi University, Yamaguchi, Japan.*
Email: yuji-ogura@sakura.juntendo.ac.jp

4:25 pm - 5:15 pm Tutorial Lecture F-55. Methods in Sports Nutrition: Assessment of Hydration Status Sagamore 2

432 Presenter
Ronald J. Maughan, FACSM. *Loughborough University, Loughborough, United Kingdom.*

433 Presenter

Susan M. Shirreffs, FACSM. *Loughborough University, Loughborough, United Kingdom.*

Saturday, May 31, 2008

7:30 am - 11:00 am Free Communication/Poster G-12. Carbohydrate Metabolism Hall B

9:30 am - 11:00 am 2422/5 **Effects of Carbohydrate Supplementation on Changes in Cognitive Function during Prolonged Exercise in the Heat.**

Stephen P. Bailey, FACSM, Carrie Fredde, Abigail Sonnycalb, Michelle Szabo. *Elon University, Elon, NC.*
Email: baileys@elon.edu

9:00 am - 10:40 am Clinical Case Slide G-39. Issues in the Endurance Athlete 122

9:00 am - 9:20 am 1200 **Atypical Exertional Heat Illness in a Runner**

R Michael Galbraith. *Memorial Family Medicine Residency, South Bend, IN.* (Sponsor: Mark E. Lavalley, MD, FACSM)

Email: galbraithsfam@gmail.com

9:40 am - 10:00 am 1202 **Collapsed Athlete - Triathlon**

Mederic M. Hall. *Mayo Clinic, Rochester, MN.* (Sponsor: Karen Newcomer, FACSM)

Email: hall.mederic@mayo.edu