

Sessions of possible interest to EPIG members:

Wednesday, May 27, 2009

7:30 am - 12:30 pm	Free Communication/Poster A-28. Cold Stress Physiology	Hall 4F
7:30 am - 12:30 pm	Free Communication/Poster A-33. Sleep Deprivation and Diurnal Variation	Hall 4F
7:30 am - 12:30 pm	Free Communication/Poster A-34. Space Physiology and Microgravity	Hall 4F
1:00 pm - 1:50 pm	Clinical Colloquium B-10. Training in ACSM Black Flag Heat Stress Conditions: How U.S. Marines Routinely do It	611
3:15 pm - 5:15 pm	Featured Science Session B-44. Molecular Biology of Heat Stroke: Modern Approaches	616

Thursday, May 28, 2009

7:30 am - 12:30 pm	Free Communication/Poster C-33. Hydration Status and Rehydration	Hall 4F
7:30 am - 12:30 pm	Free Communication/Poster C-43. Sweat Composition and Electrolyte Balance	Hall 4F
8:00 am - 9:45 am	Free Communication/Slide C-16. Military Physiology and Medicine: Factors Affecting Performance	613
1:00 pm - 1:50 pm	Gisolfi Tutorial Lecture D-06. Molecular Biology of Thermoregulation and Heat Acclimation	611
1:00 pm - 6:00 pm	Free Communication/Poster D-24. Altitude and Hypoxia	Hall 4F
1:00 pm - 6:00 pm	Free Communication/Poster D-39. Ultra Endurance	Hall 4F
3:15 pm - 5:15 pm	Thematic Poster D-68. Hydration Assessment	203
5:45-7:15		

**Environmental Physiology Interest Group Meeting
Washington State Trade and Convention Center room 603
Complimentary soft-drinks and beer will be provided
Admission is FREE with your ACSM badge**



Sponsored by

Friday, May 29, 2009

7:30 am - 12:30 pm	Free Communication/Poster E-24. Altitude and Hypoxia: Training and Performance	Hall 4F
7:30 am - 12:30 pm	Free Communication/Poster E-30. Heat Stress: Thermoregulation and Other Responses	Hall 4F
1:00 pm -	Free Communication/Slide F-16. Exercise in the Heat:	3AB

2:45 pm	Psychological, Perceptual and Neurobiological Effects	
1:00 pm - 6:00 pm	Free Communication/Poster F-25. Hydration, Thermoregulation, and Performance	Hall 4F
3:15 pm - 5:15 pm	Symposium F-43. High Altitude for the Sports Medicine Professional	603

Saturday, May 30, 2009

7:30 am - 11:00 am	Free Communication/Poster G-16. Epidemiology of Injury	Hall 4F
9:00 am - 10:30 am	Free Communication/Slide G-38. Altitude and Hypoxia	206

Sessions with listing of individual presentations:

Wednesday, May 27, 2009

7:30 am - 12:30 pm	Free Communication/Poster A-28. Cold Stress Physiology	Hall 4F
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11:00 am - 12:30 pm 1510/112 **Cold-induced Vasodilation At Various Water Temperature And Its Reproducibility During Cold Water Finger Immersion**
Byeong Jo Kim, Dae Taek Lee, Myung Chun Lee, Kyong Tae Kim. *Kookmin Univ., Seoul, Republic of Korea.*
Email: kbc3926@naver.com

11:00 am - 12:30 pm 1511/113 **The Effects Of Localized Cold Exposure On Proprioception**
Tyler Whitcomb, Shanlyn Souza, Shawn O. Henry. *Pacific University, Forest Grove, OR.*

11:00 am - 12:30 pm 1512/114 **Aging Augments Pressor Responses To Mild Skin Surface Cooling In Humans**
Kari L. Hess¹, Thad E. Wilson², Chester A. Ray, FACSM¹, Kevin D. Monahan¹.
¹*Penn State College of Medicine, Hershey, PA.* ²*Ohio University College of Osteopathic Medicine, Athens, OH.*

11:00 am - 12:30 pm 1513/115 **Local Tetrahydrobiopterin Administration Augments Reflex And Tyramine-induced Cutaneous Vasoconstriction In Aged Human Skin (EPIG Graduate Student Research Award Winner)**
James A. Lang, Lacy A. Holowatz, W. Larry Kenney, FACSM. *The Pennsylvania State University, University Park, PA.*
Email: jal493@psu.edu

11:00 am - 12:30 pm 1514/116 **Does Hypoxia Affect Post-junctional Vasoconstrictor Responsiveness In Human Skin?**
Grant H. Simmons, Christopher T. Minson, FACSM, John R. Halliwill, FACSM.
University of Oregon, Eugene, OR.
Email: gsimmon1@uoregon.edu

7:30 am - Free Communication/Poster A-33. Sleep Deprivation and Diurnal Hall 4F
12:30 pm Variation

9:30 am - 11:00 am 1570/172 **53 Hrs Of Sleep Deprivation On**

Thermoregulation During Multiple Stages Of Acute Cold Exposure

Katherine E. Pierce¹, Tiffany A. Collinsworth², Edward J. Ryan³, Chul-Ho Kim³, Keisuke Ida³, Jacob E. Barkley³, Gary H. Kamimori, FACSM⁴, Ellen L. Glickman, FACSM³. ¹Mount Union College, Alliance, OH. ²Kennesaw State University, Kennesaw, GA. ³Kent State University, Kent, OH. ⁴Walter Reed Army Institute of Research, Silver Springs, MD.

9:30 am - 11:00 am 1571/173 **The Effects Of 53 Hours Of Sleep Deprivation On Thermal Sensation During Acute Cold Exposure.**

Ellen L. Glickman, FACSM¹, Katie Pierce¹, Tiffany Collinsworth¹, Jacob E. Barkley¹, Gary Kamimori, FACSM², Keisuke Ida¹, Chul-Ho Kim¹. ¹Kent State University, Kent, OH. ²Walter Reed Army Institute of Research, Silver Spring, MD. Email: eglickma@kent.edu

9:30 am - 11:00 am 1572/174 **Effects Of Sleep Deprivation On The Thermoregulatory Responses During Recovery From Acute Cold Exposure**

Tiffany A. Collinsworth¹, Katherine E. Pierce², Judith A. Juvancic-Heltzel³, Jacob E. Barkley³, Gary H. Kamimori, FACSM⁴, Ellen L. Glickman, FACSM³. ¹Kennesaw State University, Kennesaw, GA. ²Mount Union College, Alliance, OH. ³Kent State University, Kent, OH. ⁴Walter Reed Army Institute of Research, Silver Springs, MD.

9:30 am - 11:00 am 1573/175 **The Effect Of Jet Lag On Parameters Of Sleep In Elite Divers Quantified By Actigraphy.**

Jonathan D.C Leeder¹, Andrew S. Gardner¹, Steve Foley², Ken van Someren³, Charles R. Pedlar³. ¹English Institute of Sport, Manchester, United Kingdom. ²British Diving, Loughborough University, United Kingdom. ³English Institute of Sport, Twickenham, United Kingdom. (Sponsor: Gregory P Whyte, FACSM) Email: jonathan.leeder@eis2win.co.uk

9:30 am - 11:00 am 1574/176 **The Race Across America: A Cycle Race Or A Sleep Deprivation Challenge?**

Ian M. Lahart¹, Gregory Whyte, FACSM², Matthew Wilson³, Andrew Lane³, Richard Godfrey, FACSM⁴, Andrew Hulton², Karen Williams², Sarah Charlesworth⁵, Hannah Twigg³, Charles Pedlar⁶, Richard Ball⁷. ¹University College Birmingham, Birmingham, United Kingdom. ²Liverpool John Moores University, Liverpool, United Kingdom. ³University of Wolverhampton, Wolverhampton, United Kingdom. ⁴Brunel University, London, United Kingdom. ⁵University of British Columbia, Vancouver, DC, Canada. ⁶English Institute of Sport, London, United Kingdom. ⁷British School of Paris, Paris, United Kingdom. Email: i.lahart@ucb.ac.uk

9:30 am - 11:00 am 1575/177 **Effect Of Sleep Deprivation On Running Time To Exhaustion In Untrained Males**

Christine A. Craig, Tracey D. Matthews, Vincent J. Paolone, FACSM. *Springfield*

College, Springfield, MA.

7:30 am - Free Communication/Poster A-34. Space Physiology and Hall 4F
12:30 pm Microgravity

9:30 am - 11:00 am 1576/178 **Near-infrared Spectroscopic Measurements Of Calf Muscle During Walking At Simulated Reduced Gravity- Preliminary Results**

Gwenn E.C. Ellerby¹, Stuart M.C. Lee², Leah Stroud², Jason Norcross², Michael Gernhardt³, Babs R. Soller¹. ¹University of Massachusetts Medical School, Worcester, MA. ²Wyle Integrated Science and Engineering, Houston, TX. ³NASA Johnson Space Center, Houston, TX.

Email: gwenn.ellerby@umassmed.edu

9:30 am - 11:00 am 1577/179 **Low Load Resistance Training With Blood Flow Restriction As A Countermeasure To Disuse Atrophy**

Lori Ploutz-Snyder, FACSM. Universities Space Research Association, NASA Lyndon B Johnson Space Center, Houston, TX.

Email: lori.ploutz-snyder-1@nasa.gov

9:30 am - 11:00 am 1578/180 **Baroreflex Sensitivity Decreases During 90-day Bed Rest**

Michael B. Stenger¹, Natalia M. Arzeno¹, Steven H. Platts². ¹Wyle Integrated Science and Engineering Group, Houston, TX. ²NASA Johnson Space Center, Houston, TX.

Email: michael.b.stenger@nasa.gov

9:30 am - 11:00 am 1579/181 **Graded Compression Stockings Prevent Post-spaceflight Orthostatic Hypotension**

Steven H. Platts¹, Angela K. Brown², James P. Locke¹, Michael B. Stenger³. ¹NASA Johnson Space Center, Houston, TX. ²MEI Technologies, Houston, TX. ³Wyle Integrated Science and Engineering Group, Houston, TX.

Email: steven.platts-1@nasa.gov

1:00 pm - Clinical Colloquium B-10. Training in ACSM Black Flag Heat 611
1:50 pm Stress Conditions: How U.S. Marines Routinely do It

Submitter

Steve J. Blivin. *3d Marine Logistics Group, Okinawa, Japan.*

88 Presenter

John C. Biery, FACSM. *3d Marine Logistics Group, Okinawa, Japan.*

89 Presenter

Steve J. Blivin. *Naval Hospital Camp Lejeune, CAMP LEJEUNE, NC.*

3:15 pm - Featured Science Session B-44. Molecular Biology of Heat 616
5:15 pm Stroke: Modern Approaches

3:25 pm - 3:55 pm 103 Keynote - Heat Stroke Physiology/Pathophysiology
Michael N. Sawka, FACSM. *U.S. Army Research Inst. of Environmental Medicine,*

Natick, MA.

3:55 pm - 4:10 pm 104 A Conscious Mouse Model that Delineates the Role of Cytokines in Heat Stroke Pathophysiology
Lisa R. Leon. *USARIEM, Natick, MA.*

4:10 pm - 4:25 pm 105 Gene Expression and Heat Stroke
Larry A. Sonna. *University of Maryland School of Medicine, Baltimore, MD.*

4:25 pm - 4:55 pm 106 Keynote - Heat Shock Protein and Protection
Pope L. Moseley, FACSM. *University of New Mexico School of Medicine, Albuquerque, NM.*

4:55 pm - 5:15 pm Overall Discussion

Thursday, May 28, 2009

7:30 am - Free Communication/Poster C-33. Hydration Status and Hall 4F
12:30 pm Rehydration

9:00 am - 10:30 am 1968/109 **Total Energy Expenditure, Body Water Turnover, Hydration Status, And Blood Composition During The Western States 100**
John Cuddy, Dustin Slivka, Walter Hailes, Charles Dumke, FACSM, Brent C. Ruby, FACSM. *University of Montana, Missoula, MT.*

9:00 am - 10:30 am 1969/110 **Initial Hydration Status And Fluid Balance During Exercise Of Coaches And Fitness Trainers**
María de Lourdes Mayol-Soto, Nidia Rodríguez-Sánchez, Analí López-Fernández. *Gatorade Sports Science Institute, Mexico City, Mexico.*
Email: lourdesmayol@prodigy.net.mx

9:00 am - 10:30 am 1970/111 **Effect Of Ramadan On Hydration Status And Concentration In Military Cadets In The United Arab Emirates**
Tom Loney, James M. Carter, Graham F. Nicholson, Mark P. Rayson. *Optimal Performance Limited, Abu Dhabi, United Arab Emirates.*
Email: t.loney.uae@gmail.com

9:00 am - 10:30 am 1971/112 **Hydration Status In Young Males Following Fasting And Prescribed Fluid Intake**
Amy L. Morgan, FACSM¹, Debra Boardley². ¹*Bowling Green State University, Bowling Green, OH.* ²*University of Toledo, Toledo, OH.*
Email: amorgan@bgnet.bgsu.edu

9:00 am - 10:30 am 1972/113 **Efficacy Of Prevailing Fluid Intake Recommendations For Elite Marathon Running**
Barry W. Fudge¹, Yannis P. Pitsiladis, FACSM². ¹*University of Glasgow & Scottish Institute of Sport, Glasgow & Stirling, respectively, United Kingdom.* ²*University of Glasgow, Glasgow, United Kingdom.*

Email: barry.fudge@sisport.com

9:00 am - 10:30 am 1973/114 **The Effects Of Different Sodium And Carbohydrate Concentration And pH On The Intestinal Fluid Absorption In Humans**

Melissa L. Tippet, Kristin L. Osterberg, Craig A. Horswill, Xiaocai Shi, FACSM. *Gatorade Sports Science Institute, Gatorade R&D, Barrington, IL.*

Email: melissa.tippet@gatorade.com

9:00 am - 10:30 am 1974/115 **Rate Of D2O Accumulation With Rehydration Using Three Different Drinks**

Jennifer F. Klau, Matthew S. Ganio, Elaine C. Lee, Linda M. Yamamoto, Brendon P. McDermott, Rebecca M. Lopez, Jeffrey M. Anderson, Jeff S. Volek, Lawrence E. Armstrong, FACSM, William J. Kraemer, FACSM, Carl M. Maresh, FACSM. *University of Connecticut, Storrs, CT.*

Email: jennifer.klau@uconn.edu

9:00 am - 10:30 am 1975/116 **The Effect Of Sodium And Carbohydrate In A Rehydration Food On Subsequent Exercise Performance**

Huimin Yan, Todd M. Weber, Zebblin M. Sullivan, Rick L. Sharp, FACSM, Douglas S. King, FACSM. *Iowa State University, Ames, IA.*

Email: yhuimin@iastate.edu

9:00 am - 10:30 am 1976/117 **Pickle Juice Inhibits Gastric Emptying In Rested, Euhydrated Humans.**

Kevin C. Miller, Gary W. Mack, FACSM, Kenneth L. Knight, FACSM. *Brigham Young University, Provo, UT.*

Email: kevin_miller@byu.net

9:00 am - 10:30 am 1977/118 **Gastric Emptying Characteristics Of Carbohydrate/Protein And Carbohydrate Only Sports Drinks During Moderate Intensity Exercise**

John G. Seifert¹, John Schapman², Tanya J. Little³, Anna Robins⁴, David G. Thompson³, Robert Portman⁵. ¹Montana State University, Bozeman, MT. ²St. Cloud State University, St. Cloud, MN. ³University of Manchester, Salford, United Kingdom. ⁴University of Salford, Salford, United Kingdom. ⁵Signal Nutrition, Fairhaven, NJ.

(Sponsor: Dan Heil, FACSM)

Email: john.seifert@montana.edu

7:30 am - 12:30 pm Free Communication/Poster C-43. Sweat Composition and Electrolyte Balance Hall 4F

9:00 am - 10:30 am 2105/246 **Evaluation Of Artificial Sweat In Athletes With Spinal Cord Injuries**

Robert C. Pritchett¹, Matt J. Green, FACSM², Phillip Bishop³, Kelly Pritchett¹, Yang Zhang³. ¹Central Washington University, Ellensburg, WA. ²University of North Alabama, Florence, AL. ³The Univeristy of Alabama, Tuscaloosa, AL. (Sponsor: Matt Green, FACSM)

Email: pritcher@cwu.edu

9:00 am - 10:30 am 2106/247 **Suitability Of The Megaduct Sweat Collector For Sweat Mineral Analysis**

Matthew R. Ely, Brett R. Ely, Troy D. Chinevere, Samuel N. Cheuvront, FACSM. *USARIEM, Natick, MA.*

Email: matthew.ely@us.army.mil

9:00 am - 10:30 am 2107/248 **Comparison Of Regional Patch Collection Vs. Whole-body Washdown For Measuring Sweat Sodium Loss During Exercise**

John R. Stofan, Lindsay B. Baker, Adam A. Hamilton, Craig A. Horswill. *Gatorade Sports Science Institute, Gatorade R&D, Barrington, IL.*

Email: john.stofan@gatorade.com

9:00 am - 10:30 am 2108/249 **Sweat Losses During A Soccer Match Played In Hot Conditions**

Susan M. Shirreffs, FACSM¹, Ronald J. Maughan, FACSM¹, S. Sadi Kurdak², Kerem T. Özgünen², Jiri Dvorak³, Gülfem Ersöz⁴. ¹*Loughborough University, Loughborough, United Kingdom.* ²*Çukurova University, Adana, Turkey.*

³*FIFA/FMARC, Zurich, Switzerland.* ⁴*Ankara University, Ankara, Turkey.*

Email: s.shirreffs@lboro.ac.uk

9:00 am - 10:30 am 2109/250 **Effects Of Exercise At Moderate Altitude On Sweat Composition And Sweat Rate**

Lauren J. Hasler, Amanda Carlson, Katy J. Green, Drew Johnson, Maurie J. Luetkemeier, John E. Davis. *Alma College, Alma, MI.*

Email: 10ljhasl@alma.edu

9:00 am - 10:30 am 2110/251 **Gender Differences In Fluid And Electrolyte Balance During Endurance Exercise**

Thijs M.H. Eijsvogels, Dick H.J. Thijssen, Maria T.E. Hopman, FACSM. *Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands.*

9:00 am - 10:30 am 2111/252 **Exercise-associated Hyponatremia In A Cold Weather Ultraendurance Race**

Kristin J. Stuempfle, FACSM. *Gettysburg College, Gettysburg, PA.*

Email: kstuempf@gettysburg.edu

9:00 am - 10:30 am 2112/253 **Exercise-associated Hyponatremia: The Effects Of Carbohydrate And Hydration Status On II-6, Adh, And Sodium Concentrations**

Laura R. Quigg¹, Kimberly A. Hubing¹, John T. Bassett¹, Melody D. Phillips¹, James J. Barbee², Joel B. Mitchell, FACSM¹. ¹*TCU, Ft. Worth, TX.* ²*JPS Sports Medicine Program, Ft. Worth, TX.*

8:00 am - Free Communication/Slide C-16. Military Physiology and
9:45 am Medicine: Factors Affecting Performance

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8:00 am - 10:00 am 706 Chair

Stephen Bailey, FACSM. *Elon University, Elon, NC.*

8:00 am - 8:15 am 707 **The Stability And Utility Of A Simulated Casualty Evacuation Assessment In United States Service Academy Men**

G. Damon Wells, Todd A. Crowder, Brad D. Fenske, George A. Hodges, Mark R. Allen, Shawn J. Tenace. *US Military Academy, West Point, NY.*
Email: damon.wells@usma.edu

8:15 am - 8:30 am 708 **Metabolic Differences Between Backpack Walking And Running At A Fixed Treadmill Velocity In ‘Elite’ British Soldiers: A Pilot Study**

Scott M. Graham¹, Geraint D. Florida-James², Christopher Connaboy², Richard Clement², Richard J. Simpson³. ¹*University of the West of Scotland, Paisley, United Kingdom.* ²*Napier University, Edinburgh, United Kingdom.* ³*University of Houston, Houston, TX.*
Email: scott.murray.graham@uws.ac.uk

8:30 am - 8:45 am 709 **The Stability And Utility Of A 5-km, 22.7 Kg Loaded Ruck Run In United States Service Academy Men And Women**

Shawn J. Tenace, Todd A. Crowder, G. Damon Wells, Brad D. Fenske, George A. Hodges, Mark R. Allen. *US Military Academy, West Point, NY.*
Email: shawn.tenace@usma.edu

8:45 am - 9:00 am 710 **The Efficacy Of Single-Sex Platoon Training In Reducing Tibial Injuries During British Army Training.**

Rachel M. Iazard, Julie P. Greeves, Tom E. Nightingale. *MOD, Wiltshire, United Kingdom.*
Email: soocmed-plans@artd.mod.uk

9:00 am - 9:15 am 711 **Effect Of Cold On Post-transit Run Performance Of Marine High-speed Craft Passengers**

Stephen D. Myers, Winston R. Withey, Trevor D. Dobbins, Rosemary Dyson. *University of Chichester, Chichester, United Kingdom.* (Sponsor: James A Hodgdon, FACSM)
Email: s.myers@chi.ac.uk

9:15 am - 9:30 am 712 **Marine High-speed Craft Coxswain Workload**

Trevor Dobbins, Stephen Myers, Rosemary Dyson. *University of Chichester, Chichester, United Kingdom.* (Sponsor: James A Hodgdon, FACSM)

9:30 am - 9:45 am 713 **Performance In A Virtual Environment And Cognitive Function During Prolonged Exercise In The Heat**

Stephen P. Bailey, FACSM, Brent Henderly, James Fernandez. *Elon University, Elon, NC.*
Email: baileys@elon.edu

1:00 pm - 1:50 pm Gisolfi Tutorial Lecture D-06. Molecular Biology of Thermoregulation and Heat Acclimation

611

234 Presenter

Michal Horowitz. *The Hebrew University, Jerusalem, Israel.*

1:00 pm - Free Communication/Poster D-24. Altitude and Hypoxia Hall 4F
6:00 pm

2:00 pm - 3:30 pm 2113/1 **Finger Temperatures In Hypoxia And Normoxia In A Neutral And Cold Environment**

Eline M. van Es¹, Ted Meeuwssen², Boukje Smeets², Hein A.M. Daanen¹. ¹*TNO Defence, Security and Safety, Soesterberg, Netherlands.* ²*Royal Netherlands Air Force, Centre for Man and Aviation, Soesterberg, Netherlands.*

Email: Eline.vanes@tno.nl

2:00 pm - 3:30 pm 2114/2 **Normobaric Hypoxic Pre-acclimation And Ascent Of Mount Kilimanjaro By A 69.5-year-old Man: A Case Study**

Ken Kambis¹, Michio Yasukawa², Reina Chamberlain¹, Erica Jackson¹, Alastair Connell¹. ¹*The College of William & Mary, Williamsburg, VA.* ²*Senshu University, Kanagawa, Japan.*

Email: kwkamb@wm.edu

2:00 pm - 3:30 pm 2115/3 **Normobaric Hypoxic Simulated Altitude Reduces Appetite but Not Smell Identification**

Michio Yasukawa¹, Niha Zubair², Reina Chamberlain², Julie Barnes², Kristen Kappos², Erica Jackson², Alastair Connell², Ken Kambis². ¹*Senshu University, Kanagawa, Japan.* ²*The College of William and Mary, Williamsburg, VA.*

Email: yasukawa@isc.senshu-u.ac.jp

2:00 pm - 3:30 pm 2116/4 **Mitochondrial Substrates Modification By Skeletal Muscles After Caloric Restriction Due To Chronic Hypoxia**

Alexandra Malgoyre, SANCHEZ Hervé, SIMLER Nadine, KOULMANN Nathalie, BIGARD Xavier. *Center of Research for Army Medical Service, La Tronche, France.*

Email: xbigard@crssa.net

2:00 pm - 3:30 pm 2117/5 **Overnight Hypoxia Attenuates Glucose Response In Glucose Tolerance Test In Relatives Of Type 2 Diabetics**

Anne S. Koponen¹, Heikki O. Tikkanen¹, Juha Saltevo², Jukka Puolakka², Heikki K. Rusko³. ¹*University of Helsinki, Helsinki, Finland.* ²*Central Hospital of Central Finland, Jyvaskyla, Finland.* ³*University of Jyvaskyla, Jyvaskyla, Finland.*

Email: anne.s.koponen@helsinki.fi

2:00 pm - 3:30 pm 2118/6 **New Altitude Device Alters Markers Of Glucose Metabolism Using Cyclic Hypobaric Hypoxia**

Anne L. Friedlander¹, Scott Rubinstein², Andrew R. Hoffman², Omer Shah², Jill A. Fattor¹. ¹*Stanford University, Palo Alto, CA.* ²*VA Palo Alto Health Care System, Palo Alto, CA.* (Sponsor: Barry Braun, FACSM)

2:00 pm - 3:30 pm 2119/7 **Effects Of Hypoxia On Muscle Energy Metabolism During Exercise**

Toshiyuki Homma, Nobuhisa Ugaya, Takashi Kawahara, Hideyuki Takahashi. *Japan*

Institute of Sports Sciences, Tokyo, Japan.
Email: homma.toshiyuki@jiss.naash.go.jp

2:00 pm - 3:30 pm 2120/8 **The Effects Of Exercise And Atmospheric Oxygen Concentration In Normobaric Environment On The Free Radical Generation And Antioxidant Potential In Mice**

Joo Young Park, Hee Seok Seo, Hyun Sook Park, Tae Jin Kim. *Yonsei University Wonju Coll of Medicine, Wonju, Gangwondo, Republic of Korea.*
Email: joopark@yonsei.ac.kr

2:00 pm - 3:30 pm 2121/9 **Trained Women Demonstrate Greater Preservation Of Peak Exercise Capacity During Acute Hypoxia Than Trained Men**

Kevin A. Jacobs¹, Mark Stoutenberg¹, Jochen Kressler¹, Bernard Roos², Anne L. Friedlander³. ¹*University of Miami, Coral Gables, FL.* ²*University of Miami, Miller School of Medicine, Miami, FL.* ³*Stanford University, Palo Alto, CA.*
Email: k.jacobs@miami.edu

2:00 pm - 3:30 pm 2122/10 **Erythrocytes And Stress Responses During Repeated Intermittent Normobaric Hypoxia**

Jin Uchimaru, Hidekazu Takemura, Hidenori Yamano, Kazuyuki Yokokawa, Syozo Suzuki, Tasuku Sato. *Sendai University, Miyagi, Japan.*
Email: jn-uchimaru@scn.ac.jp

2:00 pm - 3:30 pm 2123/11 **Effect Of Sodium Bicarbonate Ingestion During Altitude Acclimatization On High-altitude, Short-duration, Cycling Performance**

Nazareth Khodiguiian¹, Jens Johansson¹, Andrew Cornwell¹, Eddie Leon¹, Eun-Jung Yoo². ¹*California State University, Los Angeles, Los Angeles, CA.* ²*Seoul National University, Seoul, Republic of Korea.*
Email: nkhodig@calstatela.edu

2:00 pm - 3:30 pm 2124/12 **Effect Of Normobaric Different Oxygen Concentration On Anaerobic Energy Release During Supramaximal Exercise In Cyclists**

Norio Saga, Tomoki Nagata, Shizuo Katamoto, Hisashi Naito, Mitsutoshi Kurosaka, Ikumi Kobayashi, Ryo Kakigi, Noriko Ichinoseki-Sekine. *Juntendo University, Chiba, Japan.*

2:00 pm - 3:30 pm 2125/13 **The Effect Of Sleeping In A Normobaric Hypoxic Tent For One Week Upon Sleep Quality**

Charles R. Pedlar¹, Richard Godfrey, FACSM², Gregory P. Whyte, FACSM³. ¹*English Institute of Sport, Twickenham, United Kingdom.* ²*Brunel University, Uxbridge, United Kingdom.* ³*Liverpool John Moores University, Liverpool, United Kingdom.*

Email: charles.pedlar@eis2win.co.uk

2:00 pm - 3:30 pm 2126/14 **Muscle Deoxygenation And Electromyographic Activity During Isolated Muscle Exercise In Hypoxia**

Keisho Katayama¹, Yutaka Takeuchi¹, Yasuhide Yoshitake², Osamu Fujita¹, Kohei Watanabe¹, Hiroshi Akima¹, Koji Ishida¹. ¹*Nagoya University, Nagoya, Japan.* ²*National Institute of Fitness and Sports, Kanoya, Japan.* (Sponsor: Jerome A. Dempsey, FACSM)
Email: katayama@htc.nagoya-u.ac.jp

2:00 pm - 3:30 pm 2127/15 **Oxygen Transport In Kenyan Runners**
Nicole Prommer¹, Stefanie Thoma², Lennart Quecke¹, Thomas Gutekunst¹, Christian Voelzke¹, Nadine Wachsmuth¹, Andreas Michael Niess², Walter Schmidt¹.
¹*University of Bayreuth, Bayreuth, Germany.* ²*University of Tübingen, Tübingen, Germany.* (Sponsor: Juergen Steinacker, FACSM)
Email: nicole.prommer@uni-bayreuth.de

2:00 pm - 3:30 pm 2128/16 **Interaction Of 4% Hypohydration And 3,048 M Altitude On Aerobic Exercise Performance**
John W. Castellani, FACSM, Samuel N. Cheuvront, FACSM, Stephen R. Muza, FACSM, Charles S. Fulco, Robert W. Kenefick, FACSM, Beth A. Beidleman, Michael N. Sawka, FACSM. *USARIEM, Natick, MA.*
Email: john.castellani@us.army.mil

2:00 pm - 3:30 pm 2129/17 **Green Tea Supplementation Improves Cycling Time-trial Performance At Simulated Altitude**
Michael D. Pugh¹, Robert D. Sawyer², Dustin C. Loftis², Charles A. Gremillion², James S. Williams, FACSM². ¹*The University of Texas Southwestern Medical Center at Dallas, Dallas, TX.* ²*Texas Tech University, Lubbock, TX.*
Email: michael.pugh@utsouthwestern.edu

2:00 pm - 3:30 pm 2130/18 **Normobaric Hypoxia Exposure During Sleep Produces Sleep-Specific Ventilatory Acclimatization At High Altitude**
Stephen R. Muza, FACSM, Charles S. Fulco, Beth A. Beidleman, Juli E. Jones, Rob N. Demes, Janet E. Staab, Paul B. Rock, Allen Cymerman. *USARIEM, Natick, MA.*
Email: stephen.muza@us.army.mil

1:00 pm - 6:00 pm Free Communication/Poster D-39. Ultra Endurance Hall 4F

2:00 pm - 3:30 pm 2347/235 **Ultra-marathon Runners Have The Biggest Hearts: Fact Or Fiction?**
Robert Shave¹, Darren Warburton², David Oxborough³, Ben Esch², Jessica Scott², Tim Noakes, FACSM⁴, Keith George, FACSM⁵. ¹*Brunel University, Middlesex, United Kingdom.* ²*University of British Columbia, Vancouver, BC, Canada.* ³*University of Leeds, Leeds, United Kingdom.* ⁴*University of Cape Town, Cape Town, South Africa.* ⁵*Liverpool John Moores, Liverpool, United Kingdom.*
Email: rob.shave@brunel.ac.uk

2:00 pm - 3:30 pm 2348/236 **Maintenance Of Total Body Water Despite Body Weight Loss During An Ultramarathon**
Tamara D. Hew-Butler¹, Nicholas Tam², Heinrich Nolte³, Timothy D. Noakes, FACSM². ¹*Arizona State University, Tempe, AZ.* ²*University of Cape Town, Cape*

Town, South Africa. ³ERGOnomics TECHnologies, Pretoria, South Africa.
Email: tamara.hew@overhydration.org

2:00 pm - 3:30 pm 2349/237 **Energy Intake And Expenditure During An Ultra Endurance Event - Race Across America**

Andrew T. Hulton¹, Ian Lahart², Karen L. Williams¹, Richard Godfrey³, Sarah Charlesworth⁴, Hannah Twigg⁵, Mat Wilson⁵, Andy Lane⁵, Charlie Pedlar⁶, Greg Whyte, FACSM¹. ¹Liverpool John Moores University, Liverpool, United Kingdom. ²University College Birmingham, Birmingham, United Kingdom. ³Brunel University, Brunel, United Kingdom. ⁴University of British Columbia, British Columbia, BC, Canada. ⁵Wolverhampton University, Wolverhampton, United Kingdom. ⁶English Institute of Sport, St Mary's University, London, United Kingdom.

Email: a.t.hulton@ljmu.ac.uk

2:00 pm - 3:30 pm 2350/238 **Assessment Of Hydration And Electrolyte Values Following A 161-km Endurance Race**

Daniel K. Lebus¹, Gretchen A. Casazza¹, Martin D. Hoffman, FACSM², Marta D. Van Loan, FACSM³, Alison C. Ganong². ¹University of California Davis Medical Center, Sacramento, CA. ²University of California Davis Medical Center and VA Northern California Health Care System, Sacramento, CA. ³USDA, ARS Western Human Nutrition Research Center, Davis, CA.

Email: dklebus@ucdavis.edu

2:00 pm - 3:30 pm 2351/239 **Historical Analysis Of The Western States 100-mile Endurance Run: 1974 Through 2007**

Martin D. Hoffman, FACSM¹, Jacob Wegelin². ¹University of California Davis Medical Center and VA Northern California Health Care System, Sacramento, CA. ²Virginia Commonwealth University, Richmond, VA.

Email: martin.hoffman@va.gov

2:00 pm - 3:30 pm 2352/240 **Impact Of Ambient Temperature On Performance In A 161-km Ultramarathon Run**

Kevin Fogard¹, Martin D. Hoffman, FACSM², Marcel Fraix³, Jacob Wegelin⁴. ¹VA Northern California Health Care System, Sacramento, CA. ²University of California Davis Medical Center and VA Northern California Health Care System, Sacramento, CA. ³Western University of Health Sciences, Pomona, CA. ⁴Virginia Commonwealth University, Richmond, VA.

Email: kevin.fogard@va.gov

2:00 pm - 3:30 pm 2353/241 **Analysis Of Factors Affecting The Probability Of Finishing The Western States 100-mile Endurance Run**

Jacob Wegelin¹, Martin D. Hoffman, FACSM². ¹Virginia Commonwealth University, Richmond, VA. ²University of California Davis Medical Center and VA Northern California Health Care System, Sacramento, CA.

Email: jwegelin@vcu.edu

2:00 pm - 3:30 pm 2354/242 **Historical Analysis Of Participation And Performance In 100-mile Ultramarathon Runs In North America: 1974-2008**

June C. Ong¹, Martin D. Hoffman, FACSM², Gary Wang³. ¹*University of California Davis Medical Center, Sacramento, CA.* ²*University of California Davis Medical Center and VA Northern California Health Care System, Sacramento, CA.* ³*Independent Researcher, Corte Madera, CA.*
Email: june.ong@ucdmc.ucdavis.edu

2:00 pm - 3:30 pm 2355/243 **Body Composition Characteristics Of Participants In A 161-km Trail Ultramarathon**

Alison C. Ganong¹, Daniel K. Lebus², Marta D. Van Loan, FACSM³, Gretchen A. Casazza¹, Martin D. Hoffman, FACSM⁴. ¹*University of California Davis Medical Center, Sacramento, CA.* ²*University of California, Davis, Davis, CA.* ³*USDA, ARS Western Human Nutrition Research Center, Davis, CA.* ⁴*University of California Davis Medical Center and VA Northern California Health Care System, Sacramento, CA.*
Email: alison.ganong@ucdmc.ucdavis.edu

3:15 pm - 5:15 pm Thematic Poster D-68. Hydration Assessment 203

3:15 pm - 5:15 pm 1366 Chair
Scott J. Montain, FACSM. *USARIEM, Natick, MA.*

3:15 pm - 5:15 pm 1367/1 **A Practical Method To Assess Euhydration**
Catalina Capitán, Luis F. Aragón-Vargas, FACSM. *University of Costa Rica, San Jose, Costa Rica.*
Email: ktaucr@gmail.com

3:15 pm - 5:15 pm 1368/2 **Salivary Osmolality As A Measure Of Moderate Dehydration**
Molly Winke, Inga Shalmiyeva, Jacob DeBlois, Elise Britt, Denise L. Smith, FACSM. *Skidmore College, Saratoga Springs, NY.*

3:15 pm - 5:15 pm 1369/3 **Reliability And Validity Of A Hand-held Osmometer To Determine Urine Osmolality**
Ross A. Sherman¹, Sarah E. Knipper¹, Alan M. Batterham, FACSM². ¹*Grand Valley State University, Allendale, MI.* ²*University of Teesside, Middlesbrough, United Kingdom.*
Email: shermaro@gvsu.edu

3:15 pm - 5:15 pm 1370/4 **Sensitivity Of Urine Specific Gravity As A Hydration Index During And After Dehydrating Exercise**
Nassim Hamouti¹, Juan Del Coso¹, Emma Estevez¹, Andrea Avila², Ricardo Mora-Rodriguez¹. ¹*Universidad de Castilla-La Mancha, Toledo, Spain.* ²*Universidad El Bosque, Bogotá, Colombia.*
Email: Nassim.Hamouti@uclm.es

3:15 pm - 5:15 pm 1371/5 **Effects Of Protein Metabolites On The Specificity Of Urine Gravity As Hydration Index**
Ricardo Mora-Rodriguez¹, Nassim Hamouti¹, Juan Del Coso¹, Emma Estevez¹,

Andrea Avila². ¹Universidad de Castilla-La Mancha, Toledo, Spain. ²Universidad El Bosque, Bogotá, Colombia.
Email: Ricardo.Mora@uclm.es

3:15 pm - 5:15 pm 1372/6 **Evaluation Of A Urine Color Chart To Determine Hydration Status**

Elizabeth A. Bougher, Martin O'Malley, Robert A. Thorne, Catherine Gabaree Boulant. *Capital University, Columbus, OH.*
Email: ebougher@capital.edu

5:45-7:15

Environmental Physiology Interest Group Meeting
Washington State Trade and Convention Center room 603
Complimentary snacks, soft-drinks and beer will be provided
Admission is FREE with your ACSM badge



Sponsored by

Friday, May 29, 2009

7:30 am - Free Communication/Poster E-24. Altitude and Hypoxia: Hall 4F
12:30 pm Training and Performance

8:00 am - 9:30 am 2356/1 **Self-selected Exercise Intensity Decreases But Perception Of Effort Remains Constant During A Cycle Time-trial At Altitude**
B A. Beidleman, S R. Muza, FACSM, C S. Fulco, E Lammi, J E. Staab, A Cymerman. *U.S. Army Research Institute of Environmental Medicine, Natick, MA.*
(Sponsor: Stephen Muza, FACSM)

8:00 am - 9:30 am 2357/2 **Maximal Oxygen Consumption Changes After Altitude Training: Role Of Ventilatory Acclimatization**
Daniel P. Wilhite, Abigail S. Laymon, James M. McKenzie, Elizabeth A. Lundgren, Robert F. Chapman. *Indiana University, Bloomington, IN.* (Sponsor: Timothy Mickleborough, FACSM)
Email: dpwilhit@indiana.edu

8:00 am - 9:30 am 2358/3 **Effect Of Altitude On Hiking Performance While Carrying A Weighted Backpack**
J E. Staab, B A. Beidleman, S R. Muza, FACSM, C S. Fulco, E Lammi, A Cymerman. *U.S. Army Research Institute of Environmental Medicine, Natick, MA.*

8:00 am - 9:30 am 2359/4 **Running Economy Changes After Altitude Training: Role Of Ventilatory Acclimatization**
Elizabeth A. Lundgren, Daniel P. Wilhite, Abigail S. Laymon, James M. McKenzie, Robert F. Chapman. *Indiana University, Bloomington, IN.* (Sponsor: Timothy

Mickleborough, FACSM)
Email: elundgre@indiana.edu

8:00 am - 9:30 am 2360/5 **Running Economy Changes After Altitude Training:
Role Of Running Mechanics**

Abigail S. Laymon, Elizabeth A. Lundgren, James M. McKenzie, Daniel P. Wilhite,
Robert F. Chapman. *Indiana University, Bloomington, IN.* (Sponsor: Joel Stager,
FACSM)
Email: aslaymon@indiana.edu

8:00 am - 9:30 am 2361/6 **What Is The Effect Of Moderate Altitude (ma) On
Olympic Running Performance: Perplexing Findings?**

Anthony A. Sucec. *San Diego State Univ., San Diego, CA.* (Sponsor: Larry Verity,
FACSM)
Email: tsucec@msn.com

8:00 am - 9:30 am 2362/7 **Relationship Between Total Hemoglobin Mass And
Aerobic Performance Of Sea Level Residents Exposed To 2210m**

Jeffrey L. Nelson¹, Brandon K. Doan¹, Ben Ryan², Al Wile¹, William C. Byrnes,
FACSM², Michael D. Brothers¹. ¹*U.S. Air Force Academy Human Performance Lab,
USAF Academy, CO.* ²*University of Colorado, Boulder, CO.*
Email: Jeffrey.Nelson@usafa.edu

8:00 am - 9:30 am 2363/8 **Effect Of Iron Supplementation On Hematological
Adaptations To Moderate Altitude Among Former Sea Level Females**

Christina Minares¹, Julia McGregor¹, Chris Ruth¹, Elizabeth Terry², Jeffrey L.
Nelson², Brandon K. Doan², Michael D. Brothers². ¹*Air Force Research Labs, Brooks
City-Base, TX.* ²*US Air Force Academy Human Performance Lab, USAF Academy,
CO.* (Sponsor: William C. Byrnes, FACSM)

8:00 am - 9:30 am 2364/9 **Hemoglobin Mass And Erythrocyte Volume
Adaptations After 10 Weeks Of Altitude In Sea Level Females**

Julia McGregor¹, Christina Minares¹, Chris Ruth¹, Andrea Pinchak¹, Michael F.
Zupan¹, Jeffrey L. Nelson², Michael D. Brothers². ¹*U.S. Air Force Research Labs,
Brooks City-Base, TX.* ²*U.S. Air Force Academy Human Performance Lab, USAF
Academy, CO.* (Sponsor: William C. Byrnes, FACSM)

8:00 am - 9:30 am 2365/10 **Altitude-related Difference In Hemoglobin Mass
And Blood Volumes Upon Acute Exposure To Moderate Altitude**

Michael D. Brothers¹, Jeffrey L. Nelson¹, Brandon K. Doan¹, Matt Lorenz², Michael
F. Zupan³, William C. Byrnes, FACSM⁴. ¹*U.S. Air Force Academy Human
Performance Lab, U.S. Air Force Academy, CO.* ²*University of Colorado, Colorado
Springs, CO.* ³*Air Force Research Laboratory, Brooks City-Base, TX.* ⁴*University of
Colorado, Boulder, CO.*

Email: michael.brothers@usafa.edu

7:30 am - 12:30 pm Free Communication/Poster E-30. Heat Stress: Thermoregulation Hall 4F
and Other Responses

8:00 am - 9:30 am 2422/67 **Hypothalamic-pituitary-adrenal Axis And The Sympathetic-adrenomedullary System Responses During Heat Acclimation In Sedentary Males**

Heather E. Wright, Tom M. McLellan, FACSM. *Defence Research & Development Canada-Toronto, Toronto, ON, Canada.*

Email: Heather.Wright@drdc-rddc.gc.ca

8:00 am - 9:30 am 2423/68 **The Relationship Between Plasma Volume Changes Following Heat Acclimation And Thermotolerance During Uncompensable Heat Stress In Sedentary Males**

Tom M. McLellan, FACSM¹, Heather E. Wright². ¹*DRDC Toronto, Toronto, ON, Canada.* ²*York University, Toronto, ON, Canada.*

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

8:00 am - 9:30 am 2424/69 **Heat And Run, Genomic And Morphological Aspects Of Adaptation In The Rat's Heart**

Einat Kodesh*¹, Assi Saamn¹, Ronen Beer², Dan Gilon², Michal Horowitz¹. ¹*Hebrew University, Jerusalem, Israel.* ²*Hadassah University Hospital, Jerusalem, Israel.*

(Sponsor: D.S Moran, FACSM)

8:00 am - 9:30 am 2425/70 **Effect Of Elevated Local Temperature On Cutaneous Vasoconstrictor Responsiveness In Humans**

Jonathan Wingo¹, David A. Low², David M. Keller³, R Matthew Brothers¹, Manabu Shibasaki⁴, Craig G. Crandall, FACSM¹. ¹*Institute for Exercise and Environmental Medicine, Dallas, TX.* ²*Brunel University, Uxbridge, Middlesex, United Kingdom.*

³*University of Texas at Arlington, Arlington, TX.* ⁴*Nara Women's University, Nara, Japan.*

Email: jewingo@tx.rr.com

8:00 am - 9:30 am 2426/71 **Comparison Of Invasive And Non-invasive Measures Of Arterial Blood Pressure In Heat Stressed Humans.**

Manabu Shibasaki¹, Thad E. Wilson², Niels H. Secher³, Craig G. Crandall, FACSM⁴. ¹*Nara Women's University, Nara, Japan.* ²*Ohio University College of Osteopathic Medicine, Athens, OH.* ³*Rigshospitalet, University of Copenhagen, Copenhagen, Denmark.* ⁴*University of Texas Southwestern Medical Center at Dallas, Dallas, TX.*

(Sponsor: CraigCrandall@texashealth.org, FACSM)

Email: shiba@cc.nara-wu.ac.jp

8:00 am - 9:30 am 2427/72 **Mechanisms Of Orthostatic Intolerance During Passive Heat Stress**

Luke C. Wilson, James D. Cotter, Jui-lin Fan, Rebekah A I Lucas, Kate N. Thomas, Philip N. Ainslie. *University of Otago, Dunedin, New Zealand.* (Sponsor: Nancy Rehrer, FACSM)

Email: willu061@student.otago.ac.nz

8:00 am - 9:30 am 2428/73 **The Effects Of Reduced End-tidal Carbon Dioxide Tension On Cerebrovascular Conductance During Heat Stress**

R Matthew Brothers, Jonathan E. Wingo, Kimberly A. Hubing, Craig G. Crandall,

FACSM. *Institute for Exercise and Environmental Medicine, Dallas, TX.*
Email: robertbrothers@texashealth.org

8:00 am - 9:30 am 2429/74 **Does Exercise Intensity Modulate The Thermoregulatory Responses To Intermittent And Continuous Exercise?**
Barry Drust, Steven Jones, Helen Jones, Warren Gregson, Greg Atkinson. *Liverpool John Moores University, Liverpool, United Kingdom.* (Sponsor: A.M.Batterham, FACSM)
Email: B.Drust@ljmu.ac.uk

8:00 am - 9:30 am 2430/75 **Impact Of Prior Heat Stress On Subsequent Aerobic Exercise Performance**
Robert W. Kenefick, FACSM, Laura J. Palombo, Brett R. Ely, Daniel A. Goodman, Samuel N. Cheuvront, FACSM, Michael N. Sawka, FACSM. *U.S. Army Research Institute of Environmental Medicine, Natick, MA.*
Email: Robert.Kenefick@us.army.mil

8:00 am - 9:30 am 2431/76 **High Solar Radiation Degrades Thermoregulatory Model Performance in Highly Fit Runners**
David W. DeGroot, Matthew R. Ely, Brett R. Ely, Laurie A. Blanchard, Scott J. Montain, FACSM, Samuel N. Cheuvront, FACSM. *USARIEM, Natick, MA.*
Email: david.degroot@us.army.mil

8:00 am - 9:30 am 2432/77 **The Heat Intolerant Phenotype. Physiological Responses And Lymphocyte Transcriptome**
Michal Horowitz¹, Luba Eli Berchoer¹, Tomer Erlich², Yoav Smith¹, Dani S. Moran FACSM, FACSM². ¹*The hebrew University, Jerusalem, Israel.* ²*Institute of Military Physiology, Medical Corps IDF, Tel Hashomer, Israel.*
Email: michalh@ekmd.huji.ac.il

8:00 am - 9:30 am 2433/78 **Heat Illness Symptom Index Scale In Football Players Predictive Of Elevated Gi Temperature In Subsequent Practice**
Eric E. Coris¹, Shabnam Mehra¹, Steve Walz¹, Diana Marchese¹, Sunil Medidi¹, Candi Ashley², Jeff Konin¹, Dylan Nugent¹, Jason Jennings¹, Pescasio D. Michele¹, Tony Brar¹, Kira Zwygart¹. ¹*University of South Florida College of Medicine, Tampa, FL.* ²*University of South Florida College of Public Health, Tampa, FL.* (Sponsor: Casa, Douglas, FACSM)
Email: ecoris@health.usf.edu

8:00 am - 9:30 am 2434/79 **Soccer Match-induced Heat Stress Effects On Blood Biochemistry And Serum Osmolality**
Sadi Sanli Kurdak¹, Kerem Tuncay Özgünen¹, Ronald J. Maughan, FACSM², Cigdem Zeren¹, Selcen Korkmaz³, Zubeyde Yazici³, Gulfem Ersoz⁴, Susan Shirreffs, FACSM², Jiri Dvorak⁵, Mehmet Serdar Binnet⁶. ¹*Cukurova University Faculty of Medicine, Adana, Turkey.* ²*Loughborough University, Loughborough, United Kingdom.* ³*Cukurova University, Adana, Turkey.* ⁴*Ankara University, Ankara, Turkey.* ⁵*FIFA, Zurich, Switzerland.* ⁶*Ankara University Faculty of Medicine, Ankara, Turkey.*

Email: sskurdak@cu.edu.tr

8:00 am - 9:30 am 2435/80 **Thermoregulatory Response To Heat In Soccer**
Kerem T. Ozgunen¹, Sadi Sanli Kurdak¹, Ronald J. Maughan, FACSM², Cigdem Zeren¹, Selcen Korkmaz³, Zübeyde Korkmaz³, Gulfem Ersoz⁴, Susan Shirreffs, FACSM², Mehmet Serdar Binnet⁵. ¹*Cukurova University Faculty of Medicine, Adana, Turkey.* ²*Loughborough University, Loughborough, United Kingdom.* ³*Cukurova University, Adana, Turkey.* ⁴*Ankara University, Ankara, Turkey.* ⁵*Ankara University Faculty of Medicine, Ankara, Turkey.*
Email: kozgunen@cu.edu.tr

8:00 am - 9:30 am 2436/81 **The Effect Of Mild Dehydration On Heat Shock Protein Induction During An Acute Cycling Bout**
Christine Mermier¹, Matthew Kuennen¹, Trevor Gillum¹, Kevin Christmas¹, Karol Dokladny², Suzanne Schneider², Pope Moseley, FACSM². ¹*University of New Mexico, Albuquerque, NM.* ²*University of New Mexico Hospital, Albuquerque, NM.*

8:00 am - 9:30 am 2437/82 **Assessment Of Heat Shock Protein 72 Day to Day Reliability**
Matthew Kuennen¹, Trevor Gillum¹, Kevin Christmas¹, Karol Dokladny², Suzanne Schneider², Pope Moseley, FACSM². ¹*University of New Mexico, Albuquerque, NM.* ²*University of New Mexico Hospital, Albuquerque, NM.*
Email: mkuennen@unm.edu

8:00 am - 9:30 am 2438/83 **Time Course of Intracellular Heat Shock Protein 72 During And After Acute Cycle Ergometry**
Trevor L. Gillum, Matthew Kuennen, Kevin Christmas, Karol Dokladny, Sue Schneider, Pope Moseley, FACSM. *University of New Mexico, Albuquerque, NM.*
Email: tgillum@unm.edu

1:00 pm - Free Communication/Slide F-16. Exercise in the Heat: 3AB
2:45 pm Psychological, Perceptual and Neurobiological Effects

1:00 pm - 2:45 pm 992 Chair
Douglas J. Casa, FACSM. *University of Connecticut, Storrs, CT.*

1:00 pm - 1:15 pm 993 **Neural Adaptations To Progressive Passive Hyperthermia.**
Nadia Gaoua¹, Sebastien Racinais¹, Olivier Girard¹, Farid El Massioui², Farid El Massioui². ¹*ASPETAR - Qatar Orthopaedic and Sports Medicine Hospital, Doha, Qatar.* ²*UFR de Psychologie, Université Paris 8, Saint-Denis, France.*
Email: nadia.gaoua@aspetar.com

1:15 pm - 1:30 pm 994 **Exercise In A Hot Environment Increases Serum Bdnf - No Influence Of A Ssri.**
Maaïke Goekint¹, Bart Roelands², Rose Njemini³, Romain Meeusen, FACSM². ¹*Vrije Universiteit Brussel - Research Foundation (FWO) - Flanders, Brussels, Belgium.* ²*Vrije Universiteit Brussel, Brussels, Belgium.* ³*Vrije Universiteit Brussel - Universitair Ziekenhuis Brussel, Brussels, Belgium.*

Email: mgoekint@vub.ac.be

1:30 pm - 1:45 pm 995 **Perceptual Responses While Wearing An American Football Uniform In The Heat**

Evan C. Johnson, Matthew S. Ganio, Elaine C. Lee, Douglas J. Casa, FACSM, Carl M. Maresh, FACSM, Lawrence E. Armstrong, FACSM. *University of Connecticut, Storrs, CT.*

Email: evan.johnson@med.navy.mil

1:45 pm - 2:00 pm 996 **The Relation Between Mood And Perceived Exertion Following Exercise In Thermal Protective Clothing**

Michael Gallagher, Jr., Jamey C. Bednez, Sarah Kerin, Joe Suyama, David Hostler, Fredric L. Goss, FACSM, Robert J. Robertson, FACSM. *University of Pittsburgh, Pittsburgh, PA.*

2:00 pm - 2:15 pm 997 **Effect Of A Cooling Collar On Affect, Perceived Exertion And Running Performance In The Heat**

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

Email: antoinette.minniti@ntu.ac.uk

2:15 pm - 2:30 pm 998 **Impact Of Exercise In The Heat And Carbohydrate Supplementation On Perceived Exertion, Affect, And Arousal**

Elizabeth K. Bailey, Brent Henderly, James Fernandez, Stephen P. Bailey, FACSM. *Elon University, Elon, NC.*

Email: ebailey@elon.edu

2:30 pm - 2:45 pm 999 **Human Thermo-Behavioral Responses Are Mediated By Changes In Peripheral Temperatures**

Zachary J. Schlader, Henry D. Prange, Timothy D. Mickleborough, FACSM, Joel M. Stager, FACSM. *Indiana University, Bloomington, IN.*

Email: zschlade@indiana.edu

1:00 pm - 6:00 pm Free Communication/Poster F-25. Hydration, Thermoregulation, and Performance Hall 4F

2:00 pm - 3:30 pm 2667/61 **Soccer Skill Performance And Hydration Level in Female Intercollegiate Soccer Players**

Astrid E. Mel¹, Tiffany Anderson², Kate Battista², Tracey Mathews², John Gibson², Vincent Paolone, FACSM². ¹*Methodist University, Fayetteville, NC.* ²*Springfield College, Springfield, MA.* (Sponsor: Dr Vincent Paolone, FACSM)

Email: amel@methodist.edu

2:00 pm - 3:30 pm 2668/62 **Effect Of Hypohydration And Intermittent Running In The Heat On Field Hockey Skill Performance**

Hannah Macleod, Caroline Sunderland. *Nottingham Trent University, Nottingham, United Kingdom.*

Email: hannah.macleod@ntu.ac.uk

2:00 pm - 3:30 pm 2669/63 **Impact Of Dehydration To 3% Body Weight On A Full Body Resistance Training Protocol**

Justin Kraft¹, James M. Green, FACSM², Phillip A. Bishop³, Mark T. Richardson³, Yasmine Neggers³, James Leeper³. ¹Missouri Western State University, St. Joseph, MO. ²University of North Alabama, Florence, AL. ³University of Alabama, Tuscaloosa, AL.

Email: jkraft@missouriwestern.edu

2:00 pm - 3:30 pm 2670/64 **Endurance Performance After Modest Hypohydration Evoked By Prolonged Fluid Restriction And Exercise Or Diuretics**

Jennifer Heaney¹, Mahdi Jibani², Juliet Milne², Samuel J. Oliver¹. ¹Bangor University, Bangor, United Kingdom. ²North West Wales NHS Trust, Bangor, United Kingdom.

2:00 pm - 3:30 pm 2671/65 **Effect Of Sports Beverage Temperature On Body Temperature And Cycling Performance In The Heat**

Catriona A. Burdon¹, Helen T. O'Connor¹, Janelle A. Gifford², Philip G. Chapman¹, Susan M. Shirreffs³. ¹University of Sydney, Sydney, Australia. ²NSW Institute of Sport, Sydney, Australia. ³University of Loughborough, Loughborough, United Kingdom.

2:00 pm - 3:30 pm 2673/67 **Neck Cooling Enhances Running Capacity And Thermal Tolerance During Exercise In Hot Conditions**

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

Email: christopher.tyler@ntu.ac.uk

2:00 pm - 3:30 pm 2674/68 **Cool Shirt™ Use As An Ergogenic Aid In Distance Runners Training In North Louisiana**

Kelly Brooks-Friery¹, Matt Nipper². ¹Louisiana Tech University, Ruston, LA. ²University of Louisiana at Monroe, Monroe, LA. (Sponsor: Jeff Chandler, FACSM)
Email: kbrooks@latech.edu

2:00 pm - 3:30 pm 2675/69 **Effect Of Hydration Pattern On Thermoregulation During Exercise In Dehydrated Females: Preliminary Data And Trends**

Patrick W. Davidson, Katie J. Bouley, Christine A. Craig, Sean M. Collins, Gregory C. McMahon, Mary C. Pieklo, Jan E. Redmond, Jason C. Sawyer, Deborah L. VanLagen, Vincent J. Paolone, FACSM. *Springfield College, Springfield, MA.*
Email: pdpdavidson@gmail.com

2:00 pm - 3:30 pm 2676/70 **Neuro-muscular Fatigue Development During Repeated Cycling Sprints In A Hot Environment**

Fuad A. Almudehki¹, Olivier Girard¹, Justin Grantham¹, Nicolas Berger², Sebastien Racinais¹. ¹ASPETAR-Qatar Orthopaedic and Sport Medicine Hospital, Doha, Qatar. ²University of Teesside, Middlesbrough, United Kingdom.

Email: fuad_aaj@yahoo.com

3:15 pm - Symposium F-43. High Altitude for the Sports Medicine 603
5:15 pm Professional

Submitter

Benjamin D. Levine, FACSM. *Presbyterian Hospital, The University of TX SW Medical Center, Dallas, TX.*

3:15 pm - 3:20 pm 407 Chair

Benjamin D. Levine, FACSM. *Presbyterian Hospital, The University of TX SW Medical Center, Dallas, TX.*

3:20 pm - 3:45 pm 408 Sports Play at Altitude: How Will Altitude Affect My Athletes' Ability to Play Their Sport?

Benjamin D. Levine, FACSM. *Presbyterian Hospital, The University of TX SW Medical Center, Dallas, TX.*

3:45 pm - 4:10 pm 409 Update on Mechanisms and Management of Acute Mountain Sickness

Robert Roach, FACSM. *University of Colorado Denver, Aurora, CO.*

4:10 pm - 4:35 pm 410 Advances in Mechanisms and Management of High Altitude Pulmonary Edema

Peter Bartsch. *Internal Medicine VII: Sports Medicine, University Hospital, Heidelberg, Germany.*

4:35 pm - 5:00 pm 411 What Every Sports Medicine Physician Needs to Know about Common Medical Problems at High Altitude

Peter Hackett. *Telluride Medical Clinic, Telluride, CO.*

5:00 pm - 5:15 pm Overall Discussion

Saturday, May 30, 2009

7:30 am - Free Communication/Poster G-16. Epidemiology of Injury Hall 4F
11:00 am

8:00 am - 9:30 am 2924/71 **Risk Of Heat Illness Among Male U.S. Army Recruits Exceeding Body Fat Limits**

Sheryl A. Bedno¹, David N. Cowan¹, Yuanzhang Li¹, Christine T. Scott², Weiwei Han¹, David W. Niebuhr¹. ¹*Walter Reed Army Institute of Research, Silver Spring, MD.* ²*Department of Defense Medical Evaluation Review Board, Colorado Springs, CO.*

Email: sheryl.ann.bedno@us.army.mil

9:00 am - Free Communication/Slide G-38. Altitude and Hypoxia 206
10:30 am

9:00 am - 10:30 am 1094 Chair

Maurie J. Luetkemeier. *Alma College, Alma, MI.*

9:00 am - 9:15 am 1095 **The Differences Of Initial Responses Between Short-term Simulated And Real Altitude Training**

Chih Min Wu¹, Jung Charng Lin², Yung Cheng Chang³. ¹*National Taiwan Normal University, Taipei, Taiwan.* ²*Chinese Culture University, Taipei, Taiwan.* ³*National Taiwan Sport University, Taoyuan, Taiwan.*

Email: sugicalwu@mail.ncpes.edu.tw

9:15 am - 9:30 am 1096 **Effects Of Sildenafil On Vo_{2max} In Trained Women With Moderate Normobaric Hypoxia**

Irene E. Cisneros, Joshua Bettencourt, Rebekah Joy Turner, Jennifer Zierke, Daryl Parker, Roberto Quintana. *CSUS Human Performance Research Laboratory, Sacramento, CA.*

Email: futbolnene11@hotmail.com

9:30 am - 9:45 am 1097 **Sildenafil Does Not Improve Exercise Performance During Acute Hypoxia In Trained Men Or Women.**

Jochen Kressler¹, Mark Stoutenberg¹, Bernard Roos², Anne L. Friedlander³, Richard Viskochil¹, Kevin A. Jacobs¹. ¹*University of Miami, Coral Gables, FL.* ²*University of Miami, Miller School of Medicine, Miami, FL.* ³*Stanford University, Palo Alto, CA.*

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9:45 am - 10:00 am 1098 **Increased Oxidative-nitrative Stress In The Hypoxic Human Brain**

Damian M. Bailey¹, Kevin A. Evans¹, Sarah Taudorf², Ronan MG Berg², Carsten Lundby², Jane McEneny³, Ian S. Young³, Philip E. James⁴, Bente K. Pedersen², Kirsten Moller². ¹*University of Glamorgan, Pontypridd, United Kingdom.* ²*University of Copenhagen, Copenhagen, Denmark.* ³*Queen's University Belfast, Belfast, United Kingdom.* ⁴*Cardiff University, Cardiff, United Kingdom.*

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10:00 am - 10:15 am 1099 **Simulated Altitude During The Night Reduces Severity Of Acute Mountain Sickness**

Christoph Dehnert, Astrid Böhm, Elmar Menold, Igor Grigoriev, Peter Bärtsch. *Medical Clinic, University Hospital Heidelberg, Heidelberg, Germany.*

Email: christoph.dehnert@med.uni-heidelberg.de

10:15 am - 10:30 am 1100 **Superoxide Dimutase Activity Can Be Induced By Ex Vivo Hypoxia/reoxygenation In Human Erythrocytes**

Sha Pu Lu Bi¹, WEI-LUN JHANG², CHIA-CHIH LIN³, JUNG-CHARNG LIN¹. ¹*Chinese Culture University, Taipei, Taiwan.* ²*National Taiwan Normal University, Taipei, Taiwan.* ³*National Dong Hwa University, Hualien, Taiwan.*

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