

# PROGRAM

## Monday, October 11, 2004

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**08:30-08:45 OPENING SESSION (Hall A)**

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Chair: Y. Shapiro, Israel

Greetings:

Prof. Y. Shapiro, *Symposium President*Prof. K. Kanosue, *Chair of Section on Thermal Physiology, IUPS*Prof. A. Romanovsky, *President, Second PPTR Symposium 2006*

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**08:45-11:05 SESSION MON/S-01: NEURONAL MECHANISM OF TEMPERATURE REGULATION AND THERMORECEPTION (Hall A)**

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Chair: K. Kanosue, Japan

**TRACING BRAIN THERMOREGULATORY PATHWAYS FROM RATS TO HUMANS (Keynote) 1****R. McAllen<sup>1</sup>, M. Farrell<sup>1</sup>, L. Carabott<sup>1</sup>, M. McKinley<sup>1</sup>, G. Egan<sup>1</sup>, G. Jackson<sup>1</sup>, D. Denton<sup>1</sup>, J. Johnson<sup>2</sup>**<sup>1</sup>*Howard Florey Institute, University of Melbourne, Australia*<sup>2</sup>*University of Texas, USA***CENTRAL THERMOSENSITIVITY AND THE INTEGRATIVE RESPONSES OF ANTERIOR HYPOTHALAMIC NEURONS 2****J. D. Griffin***College of William and Mary, USA***HYPOTHALAMIC AND BRAINSTEM PATHWAYS CONTROLLING THERMOGENESIS IN BROWN ADIPOSE TISSUE (BAT) 3****S. F. Morrison, W. H. Cao, C. J. Madden***Neurological, Sciences Institute, Oregon Health & Science University, USA***COLD-INDUCED THERMOGENESIS MEDIATED BY GABA IN THE PREOPTIC AREA 4****T. Osaka***National Institute of Health and Nutrition, Japan***FEVER-INDUCING SYMPATHETIC NEURAL PATHWAYS 5****K. Nakamura***Graduate School of Medicine, Kyoto University, Japan*

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**11:05-11:30 COFFEE BREAK (Imperial Foyer)**

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You are viewing this document on the webpage of the  
 Second International Meeting on Physiology and Pharmacology of Temperature Regulation  
 Phoenix, AZ, USA, March 3-6, 2006 • [www.FeverLab.net](http://www.FeverLab.net)

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 Rhodes, Greece, October 10-15, 2004 • [www.ortra.com/pptr](http://www.ortra.com/pptr)

**11:30-13:00    SESSION MON/O-02: NEURAL FUNCTIONS IN THERMOREGULATION    (Hall A)**

Chair: K. Nakamura, Japan

**THERMAL STRESS AND NEURAL FUNCTION: ADAPTIVE MECHANISMS IN INSECT MODEL SYSTEMS    6**

**R. M. Robertson**

*Queen's University, Canada*

**LOCAL ALTERNATED TEMPERATURE GRADIENTS AS FOOTPRINTS OF CORTICAL FUNCTIONAL ACTIVATION**

**A. M. Gorbach**

*Bioengineering and Physical Science, National Institutes of Health, USA*

**PURINERGIC SIGNALING IN HYPOTHALMIC MECHANISMS OF BODY TEMPERATURE REGULATION**

**V. N. Gourine<sup>1</sup>, E. V. Melenchuk<sup>1</sup>, D. M. Poputnikov<sup>1</sup>, A. V. Gourine<sup>1,2</sup>, K. M. Spyer<sup>2</sup>**

<sup>1</sup>*Institute of Physiology, National Academy of Sciences of Belarus, Belarus*

<sup>2</sup>*Royal Free and University College London Medical School, UK*

**IDENTIFICATION OF TEMPERATURE-SENSITIVE NEURAL CIRCUITS IN MICE USING C-FOS EXPRESSION MAPPING**

**A. E. Ryabinin, N. O. Tsivkovskaia, R. K. Bachtell**

*Oregon Health & Science University, USA*

**PLATEAU POTENTIALS IN MOTONEURONES CONTRIBUTE TO TEMPERATURE REGULATION IN THE RAT**

**E. B. Rein<sup>1</sup>, T. Eken<sup>1,2</sup>, T. Lomo<sup>1</sup>**

<sup>1</sup>*Institute of Basic Medical Sciences, University of Oslo, Norway*

<sup>2</sup>*Aker University Hospital, Norway*

**SEROTONIN CELLS OF THE VENTRAL MEDULLA ARE NOT REQUIRED FOR SYMPATHETIC ACTIVATION OF BROWN ADIPOSE TISSUE**

**C. J. Madden, S. F. Morrison**

*Neurological Sciences Institute, Oregon Health & Science University, USA*

**11:30-13:00 SESSION MON/O-03: THERMAL RESPONSES TO COLD EXPOSURE**

**(Hall B)**

Chair: H. Rintamäki, Finland

**EFFECT OF LONG TERM ADAPTATION TO COLD ON THE IMMUNE RESPONSE**

**T. V. Kozyreva, L. S. Eliseeva**

*Institute of Physiology, Academy of Medical Sciences, Russia*

**THE EFFECT OF TROPISETRON VERSUS PLACEBO! ON COLD INDUCED OXYGEN CONSUMPTION AND SHIVERING IN MALE VOLUNTEERS**

**K. P. Ittner, L. Faerber, K. Taeger**

*University of Regensburg, Germany*

**WIND INDUCED THERMAL RESPONSES DURING REST AND EXERCISE IN COLD**

**T. T. Mäkinen, H. Rintamäki**

*Oulu Regional Institute of Occupational Health, Finland*

**BLOOD PRESSURE AND THERMAL RESPONSES TO WHOLE BODY COLD EXPOSURE IN MILDLY HYPERTENSIVE SUBJECTS: EFFECT OF HYDROCHLOROTHIAZIDE**

**S. Komulainen<sup>1</sup>, T. Oja<sup>1</sup>, H. Rintamäki<sup>2</sup>, H. Virokannas<sup>1</sup>, S. Keinänen-Kiukaanniemi<sup>1</sup>**

<sup>1</sup>*University of Oulu, Finland*

<sup>2</sup>*Oulu Regional Institute of Occupational Health, Finland*

**EFFECTS OF LEG EXERCISE ON METABOLIC AND THERMAL RESPONSES DURING COLD WATER IMMERSION UNDER SEVERE ENVIRONMENTAL CONDITIONS**

**H. Færevik<sup>1</sup>, R. Reinertsen<sup>1</sup>, G. Giesbrecht<sup>2</sup>**

<sup>1</sup>*SINTEF Health Research, Norway*

<sup>2</sup>*Health Leisure and Human Performance Research Institute, University of Manitoba, Canada*

**EFFECT OF BODY HEAT CONTENT ON FACIAL TEMPERATURES AND TISSUE THERMAL RESISTANCE DURING EXPOSURE TO COLD WIND**

**M. B. Ducharme, D. Brajkovic**

*Human Protection and Performance Group, Defence Research and Development, Canada*

<b>13:00-14:30</b>	<b>SESSION POSL-01: GUIDED POSTER SESSION AND LUNCH</b>	<b>(Imperial Foyer)</b>
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Chairs: T. Kozyreva, Russia and V. Gourine, UK

1. **EVIDENCE FOR THERMOREGULATION BY DOPAMINE D<sub>2</sub> RECEPTOR IN THE ANTEROVENTRAL PREOPTIC REGION** 18  
**R. C. H. Barros, L. G. S. Branco, E. C. Carnio**  
*Universidade de São Paulo, Brazil*
  
2. **EFFECT OF HEAT AND COLD EXPOSURE ON THE RAT BRAIN MONOAMINE OXIDASE AND ANTIOXIDATIVE ENZYME ACTIVITIES** 19  
**J. Djordjevic, G. Cvijic, V. Davidovic**  
*Faculty of Biology, University of Belgrade, Serbia and Montenegro*
  
3. **5-HT<sub>1A</sub> RECEPTORS IN THE ANTEROVENTRAL PREOPTIC REGION ARE INVOLVED IN HYPOXIA-INDUCED ANAPYREXIA** 20  
**L. H. Gargaglioni, L. G. S. Branco**  
*Faculade de Odontologia de Ribeirao Preto, Universidade de Sao Paulo, Brazil*
  
4. **AFFERENT CONNECTION OF THE DORSOMEDIAL HYPOTHALAMUS INVOLVED IN THERMOREGULATION**  
**Y. Takashige<sup>1</sup>, K. Yoshida<sup>1</sup>, K. Nakamura<sup>2</sup>, K. Matsumura<sup>3</sup>, K. Kobayashi<sup>3</sup>, K. Nagashima<sup>1</sup>, K. Kanosue<sup>1</sup>**  
*<sup>1</sup>School of Allied Health Sciences, Osaka University, Japan*  
*<sup>2</sup>Laboratory of Molecular Neurobiology, Graduate School of Biostudies, Japan*  
*<sup>3</sup>Graduate School of Informatics, Kyoto University, Japan*
  
5. **THE DORSOMEDIAL HYPOTHALAMIC NUCLEUS MEDIATES TERMOGENESIS ELICITED BY MICROINJECTION OF GABA INTO THE PREOPTIC AREA IN RATS**  
**A. Kobayashi<sup>1</sup>, T. Osaka<sup>1</sup>, K. Kanosue<sup>2</sup>**  
*<sup>1</sup>National Institute of Health and Nutrition, Japan*  
*<sup>2</sup>School of Sport Science, Waseda University, Japan*
  
6. **ARGININE VASOPRESSIN IN FEVER: A STILL UNSOLVED PUZZLE**  
**A. Romanovsky<sup>1</sup>, A. Steiner<sup>2</sup>, L. Branco<sup>2</sup>, L. Jansky<sup>1</sup>, V. N. Gourine<sup>1</sup>**  
*<sup>1</sup>Institute of Physiology, National Academy of Sciences, Belarus*  
*<sup>2</sup>Dental School of Ribeirao Preto, University of Sao Paulo, Brazil*
  
7. **SIGNALING POSTPRANDIAL HYPERTHERMIA: A ROLE FOR CHOLECYSTOKININ**  
**M. Székely, A. Ember, G. Göbel, E. Petervari**  
*Faculty of Medicine, University of Pecs, Hungary*
  
8. **EXPRESSION OF MT<sub>1</sub> AND MT<sub>2</sub> MELATONIN RECEPTOR mRNA IN SOME TISSUES OF RAT**  
**P. Sallinen, S. Saarela, M. Ilves, O. Vakkuri, J. Leppaluoto**  
*University of Oulu, Finland*
  
9. **A COMPARATIVE STUDY OF THE ANTIPYRETIC EFFECTS OF INDOMETHACIN AND IBUPROFEN IN RATS**  
**R. Cristofolletti, A. S. C. Fabricio, D. M. Soares, G. E. P. Souza**  
*Faculty of Pharmaceutical Science, University of Sao Paulo, Brazil*
  
10. **LPS-INDUCED FEVER IN DIABETIC RATS: ROLE OF KININ RECEPTORS**  
**O. O. Cardoso<sup>1</sup>, M. C. C. Melo<sup>1</sup>, D. M. Soares<sup>1</sup>, M. J. Figueiredo<sup>1</sup>, E. Geroldo<sup>2</sup>, C. J. Lindsey<sup>2</sup>, G. E. P. Souza<sup>1</sup>**  
*<sup>1</sup>Laboratory of Pharmacology, FCFRP-USP, Brazil*  
*<sup>2</sup>EPM-UNIFESP, Brazil*

11. **CHARACTERIZATION OF PYROGENIC PROPERTIES OF POLY I: POLY C IN GUINEA PIGS**  
**T. Voss, C. Rummel, R. Gerstberger, T. Hübschle, J. Roth**  
*Veterinary-Physiology, Justus-Liebig-University, Germany*
  
12. **PYROGEN-INDUCED NUCLEAR STAT3 TRANSLOCATION IN ENDOTHELIUM OF RAT AND GUINEA PIG BRAIN**  
**C. Rummel<sup>1</sup>, T. Voss<sup>1</sup>, J. Muetze<sup>1</sup>, J. Roth<sup>1</sup>, R. Gerstberger<sup>1</sup>, S. Kobayashi<sup>2</sup>, K. Matsumura<sup>2</sup>, T. Hübschle<sup>1</sup>**  
<sup>1</sup>*Veterinary-Physiology, Justus-Liebig-University, Germany*  
<sup>2</sup>*Kyoto University, Japan*
  
13. **IDENTIFICATION AND DISTRIBUTION OF THE PROCALCITONIN-LIKE IMMUNOREACTIVITY IN THE RAT BRAIN FOLLOWING LIPOPOLYSACCHARIDE ADMINISTRATION**  
**F. J. Minano<sup>1,2</sup>, E. Tavares<sup>2</sup>, M. L. Ojeda<sup>1</sup>, J. Ambrosiani<sup>1</sup>, R. Maldonado<sup>2</sup>**  
<sup>1</sup>*Labs for Clinical and Experimental Pharmacology, Valme University Hospital, Spain*  
<sup>2</sup>*Faculty of Medicine, University of Seville, Spain*
  
14. **NEURTRALIZATION OF MACROPHAGE INFLAMMATORY PROTEIN 2 BLOCKS THE FEBRILE RESPONSE INDUCED BY LIPOPOLYSACCHARIDE IN RATS**  
**E. Tavares<sup>2</sup>, F. J. Minano<sup>1,2</sup>**  
<sup>1</sup>*Labs for Clinical and Experimental Pharmacology, Valme University Hospital, Spain*  
<sup>2</sup>*Faculty of Medicine, University of Seville, Spain*
  
15. **THE ROLE OF PURINERGIC SIGNALING IN FEBRILE AND CYTOKINE RESPONSES DURING SYSTEMIC INFLAMMATION**  
**V. Gourine<sup>1,2</sup>, D. M. Poputnikov<sup>2</sup>, N. A. Zhernosek<sup>2</sup>, E. V. Melenchuk<sup>2</sup>, V. N. Gourine<sup>2</sup>, K. M. Spyer<sup>1</sup>**  
<sup>1</sup>*Royal Free and University College London Medical School, UK*  
<sup>2</sup>*Institute of Physiology, National Academy of Sciences of Belarus, Belarus*
  
16. **ROLE OF PROTEASE INHIBITORS IN FEVER**  
**V. Gourine<sup>1</sup>, V. N. Gourine<sup>1</sup>, M. J. Kluger<sup>2</sup>**  
<sup>1</sup>*Institute of Physiology, National Academy of Sciences of Belarus, Belarus*  
<sup>2</sup>*Medical College of Georgia, USA*
  
17. **A SUBSIDIARY FEVER CENTRE IN THE MEDULLARY RAPHE?**  
**M. Tanaka, R. McAllen**  
*Howard Florey Institute, University of Melbourne, Australia*
  
18. **IS PROSTAGLANDIN (E<sub>2</sub>) IMPORTANT TO FEVER INDUCED BY MIP-1 $\alpha$  IN RATS?**  
**D. M. Soares, F. H. V. Souza, R. Cristofolletti, A. S. C. Fabricio, G. E. P. Souza**  
*Laboratory of Pharmacology, FCFRP-USP, Brazil*
  
19. **SYSTEMIC VERSUS LOCALIZED INFLAMMATION: A ROLE FOR PROSTAGLANDINS AT DISTANT POINTS OF THE FEVER-INDUCTION PATHWAYS?**  
**C. Rummel<sup>1</sup>, S. Barth<sup>2</sup>, R. Gerstberger<sup>1</sup>, T. Hübschle<sup>1</sup>, J. Roth<sup>1</sup>**  
<sup>1</sup>*Veterinary-Physiology, Justus-Liebig-University, Germany*  
<sup>2</sup>*Nutritional Physiology, Federal Research Center for Nutrition, Germany*
  
20. **ENDOGENOUS OPIOIDS PARTICIPATE ON PROSTAGLANDIN-F<sub>2 $\alpha$</sub> -CORTICOTROPIN-RELEASING FACTOR-, AND ENDOTHELIN-1-INDUCED FEVER**  
**D. Fraga<sup>1</sup>, G. E. P. de Souza<sup>2</sup>, A. R. Zamprônio<sup>1</sup>**  
<sup>1</sup>*Federal University of Parana, Brazil*  
<sup>2</sup>*Faculty of Pharmaceutical Sciences, University of Sao Paulo, Brazil*

- 21. SUPPRESSION OF INFLAMMATION IN NEAR-TERM PREGNANT RATS:  
A POSSIBLE CAUSE OF PREGNANCY-ASSOCIATED ANTIPYRSIS**  
**K. Imai-Matsumura<sup>1</sup>, G. Jho<sup>1</sup>, K. Matsumura<sup>2</sup>, S. Kobayashi<sup>2</sup>, T. Ibuki<sup>3</sup>, Y. Yamaszaki<sup>3</sup>**  
<sup>1</sup>*Hyogo University of Teacher Education, Japan*  
<sup>2</sup>*Graduate School of Informatics, Kyoto University, Japan*  
<sup>3</sup>*Kyoto Prefectural University of Medicine, Japan*
- 22. IS THERE A ROLE FOR CYCLOOXYGENASE-2 IN ENDOTHELIN-1-  
INDUCED FEVER?**  
**S. C. Fabricio, F. H. Veiga-Souza, R. Cristofolletti, G. E. P. Souza**  
*Laboratory of Pharmacology, FCFRP-USP, Brazil*
- 23. NITRIC OXIDE (NO) ACTIVATES INTRACELLULAR SIGNALING  
PATHWAYS OF RAT MNPO CELLS IN PRIMARY CULTURE**  
**M. Kuth<sup>1</sup>, D. Hild<sup>1</sup>, S. Korte<sup>1</sup>, M. Horowitz<sup>2</sup>, R. Gerstberger<sup>1</sup>**  
<sup>1</sup>*Veterinary Faculty, Justus-Liebig-University, Germany*  
<sup>2</sup>*Hadassah Medical School, The Hebrew University, Israel*
- 24. THE EFFECT OF PERFUSION OF PHENOXYBENZAMINE INTO THE  
PREOPTIC AREA ON THERMOREGULATION IN COLD ACCLIMATED OR  
NON-COLD ACCLIMATED RATS**  
**T. Saitou<sup>1</sup>, T. Ishiwata<sup>1</sup>, H. Hasegawa<sup>2,3</sup>, S. Nomoto<sup>4</sup>, Y. Aihara<sup>1</sup>**  
<sup>1</sup>*Graduate School of Science, Tokyo Metropolitan University, Japan*  
<sup>2</sup>*Faculty of Integrated Arts and Science, Hiroshima University, Japan*  
<sup>3</sup>*Vrije University, Belgium*  
<sup>4</sup>*Tokyo Metropolitan Institute of Geontology, Japan*
- 25. THE THERMOREGULATORY RESPONSE OF SHORT DAY ACCLIMATED  
SOCIAL VOLES MICROTUS SOCIALIS TO LIGHT INTERFERENCE**  
**A. Alsalam Zubidat, A. Haim**  
*University of Haifa, Israel*  
*University of Haifa – Oranim, Israel*

**14:30-16:40    SESSION MON/S-04: INTEGRATION OF OSMOTIC AND THERMAL SIGNALS AT THE LEVEL OF THE PREOPTIC ANTERIOR HYPOTHELAMUS: A MULTIDISCIPLINARY APPROACH    (Hall A)**

Chair: R. Gerstberger, Germany

**NONLINEAR INTERACTIONS BETWEEN THERMAL, OSMOTIC AND IMMUNE SIGNALS IN HYPOTHALAMIC NEURONS RECORDED IN RAT BRAIN SLICES**

**H. A. Braun<sup>1</sup>, M. Dewald<sup>1</sup>, M. Huber<sup>2</sup>, B. Wollweber<sup>1</sup>, H. Schneider<sup>1</sup>, K. Voigt<sup>1</sup>**

<sup>1</sup>*Institute of Physiology, University of Marburg, Germany*

<sup>2</sup>*Department of Psychiatry, University of Marburg, Germany*

**EFFERENT MULTISYNAPTIC PATHWAYS FROM PREOPTIC AREA TO EFFECTOR ORGANS OF THERMO-AND/OR OSMOREGULATORY IMPORTANCE AS REVEALED BY THE VIRAL TRACING TECHNIQUE**

**T. Hübschle<sup>1</sup>, K. Yoshida<sup>1</sup>, B. Oldfield<sup>2</sup>, M. McKinley<sup>2</sup>, M. Mathai<sup>2</sup>, R. Gerstberger<sup>1</sup>**

<sup>1</sup>*Veterinary-Physiology, Justus-Liebig University, Germany*

<sup>2</sup>*Howard Florey Institute of Experimental Physiology and Medicine, Australia*

**WARM AND COLD RECEPTORS ARE THERMOSTATS**

**S. Kobayashi, M. Okazawa**

*Graduate School of Informatics, Kyoto University, Japan*

**THERMOREGULATORY RESPONSES IN RATS DURING SYSTEMIC SALT LOADING**

**M. Konishi<sup>1</sup>, K. Nagashima<sup>1</sup>, K. Asano<sup>1</sup>, K. Kanosue<sup>2</sup>**

<sup>1</sup>*Graduate School of Medicine, Osaka University, Japan*

<sup>2</sup>*School of Sport Sciences, Waseda University, Japan*

**THE MEDIAN PREOPTIC NUCLEUS (MNPO) OF THE LAMINA TERMINALIS AS HOMEOSTATIC RELAY STATION: THE ROLE OF NITRIC OXIDE**

**R. Gerstberger<sup>1</sup>, D. Hild<sup>1</sup>, K. Hudl<sup>1</sup>, S. Korte<sup>1</sup>, M. Kuth<sup>1</sup>, H. Schwimmer<sup>2</sup>, T. Hübschle<sup>1</sup>**

<sup>1</sup>*Veterinary Faculty, Justus-Liebig-University, Germany*

<sup>2</sup>*Hadassah Medical School, The Hebrew University, Israel*

**GENOMIC AND PROTEOMIC APPROACHES IN THE STUDY OF THE HYPOTHALAMUS FOLLOWING HEAT-ACCLIMATION AND SUPERIMPOSED HYPOHYDRATION**

**H. Schwimmer, L. Eli-Berchoer, M. Horowitz**

*Faculty of Dental Medicine, The Hebrew University, Israel*





Chair: D. Yablonskiy, USA

**INDIVIDUAL CHARACTERISTICS AND MATHEMATICAL MODELING  
HUMAN THERMOREGULATION**

**W. van Marken Lichtenbelt<sup>1</sup>, F. E. M. Janssen<sup>2</sup>, A. M. J. van Ooijen<sup>1</sup>, A. J. H. Frijns<sup>2</sup>**

<sup>1</sup>Maastricht University, Netherlands

<sup>2</sup>University of Technology Eindhoven, Netherlands

**AN INTEGRATED MODEL FOR SIMULATING INTERACTIVE THERMAL  
PROCESSES IN HUMAN-CLOTHING SYSTEM**

**Y. Li<sup>1</sup>, F. Z. Li<sup>1,2</sup>, Y. X. Liu<sup>2</sup>, Z. X. Luo<sup>2</sup>**

<sup>1</sup>Institute of Textiles and Clothing, The Hong Kong Polytechnic University, Hong Kong, China

<sup>2</sup>Dalian University of Technology, China

**PREDICTING RECTAL TEMPERATURE DURING HEAT STRESS AND  
EXERCISE USING FIELD-MEASURABLE PHYSIOLOGICAL PARAMETERS**

**J. W. Kaufman<sup>1</sup>, S. A. Hastings<sup>2</sup>**

<sup>1</sup>Naval Air Systems Command, USA

<sup>2</sup>ARINC Inc, USA

**AN ANALYTICAL MODEL OF A TEMPERATURE DISTRIBUTION IN THE BRAIN**

**A. L. Sukstanskii, D. A. Yablonskiy**

Mallinckrodt Institute of Radiology, Washington University, USA

**EVALUATION OF THE COLD STRAIN INDEX (CSI) FOR PERIPHERAL  
COLD ENVIRONMENTAL STRESS**

**D. Moran**

Heller Institute of Medical Research, Sheba Medical Center, Israel

**NONINVASIVE MEASUREMENT OF HUMAN BRAIN TEMPERATURE  
USING <sup>1</sup>H-NMR SPECTROSCOPY AT 3 T**

**Y. Yoshioka<sup>1</sup>, Y. Kanbara<sup>1</sup>, H. Oikawa<sup>2</sup>, T. Inoue<sup>3</sup>, A. Ogawa<sup>3</sup>, S. Ehara<sup>3</sup>**

<sup>1</sup>High Field Magnetic Resonance Imagine Research Institute, Iwate Medical University, Japan

<sup>2</sup>Iwate Prefectural Fukuoka Hospital, Japan

<sup>3</sup>School of Medicine, Iwate Medical University, Japan

Chair: A. Arieli, Israel

**ADULT AND CHILD SLEEP PATTERNS OVER THE ARCTIC WINTER  
TOTAL DARKNESS PERIOD**

**G. R. Leon, M. M. Atlis**

*University of Minnesota, USA*

**SEASONAL CHANGES OF THERMOGENESIS IN MONGOLIAN GERBILS  
(MERIONES UNGUICULATUS)**

**D. H. Wang, Z. W. Wang, Y. S. Wang**

*Institute of Zoology, The Chinese Academy of Sciences, China*

**MECHANISMS OF BODY WEIGHT REGULATION AND THERMOGENESIS  
IN SEASONAL ACCLIMATIZED BRANDT'S VOLES (MICROTUS BRANDTI)**

**X. S. Li, D. H. Wang**

*Institute of Zoology, The Chinese Academy of Sciences, China*

**CIRCADIAN BODY TEMPERATURE RHYTHM IN THE WILD BLACK-  
LIPPED PIKAS (OCHOTONA CURZONIAE) IN THEIR NATURAL HABITAT  
IN QINGHAI, CHINA**

**T. Matsumoto<sup>1</sup>, A. Sakai<sup>2</sup>, M. Saito<sup>3</sup>, T. Matsuzaki<sup>3</sup>, Z.-H. Ruan<sup>2</sup>, N. Nishimura<sup>1</sup>, Y. Inukai<sup>1</sup>, M. Sato<sup>1</sup>,  
J.-B. Lee<sup>1</sup>, Z.-G. Wang<sup>4</sup>, Q.-H. Chen<sup>4</sup>, X.-Q. Wang<sup>4</sup>, J. Sugeno<sup>1</sup>**

<sup>1</sup>*Aichi Medical University School of Medicine, Japan*

<sup>2</sup>*Institute on aging and Adaptation, Shinshu University Graduate School of Medicine, Japan*

<sup>3</sup>*Central Institute for Experimental Animals, Japan*

<sup>4</sup>*High Altitude Medical Science Institution of Qinghai, China*

**EFFECTS OF HOME APPLICABLE PERIPHERAL THERMAL STIMULATION  
ON SLEEP ONSET LATENCY**

**R. JEM Raymann<sup>1,2</sup>, D. F. Swaab<sup>1,2</sup>, E. J. W. van Someren<sup>1,2,3</sup>**

<sup>1</sup>*Netherlands Institute for Brain Research, Netherlands*

<sup>2</sup>*Graduate School Neurosciences Amsterdam, Netherlands*

<sup>3</sup>*VU University Medical Center, Netherlands*

**DAILY RHYTHMS OF OXYGEN CONSUMPTION AND 6-SULPHATOXY  
MELATONIN IN THE NORWEGIAN LEMMING LEMMUS LEMMUS**

**A. Haim<sup>1</sup>, E. Hohtola<sup>2</sup>, S. Saarela<sup>2</sup>**

<sup>1</sup>*University of Haifa-Oranim, Israel*

<sup>2</sup>*University of Oulu, Finland*

# Tuesday, October 12, 2004

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09:00-11:10    **SESSION TUE/S-01: MOLECULAR AND CELLULAR  
RESPONSES TO HEAT STRESS**    (Hall A)

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Chair: L. Sonna, USA

**INTRODUCTION FOR THE SYMPOSIUM ON MOLECULAR AND  
CELLULAR RESPONSES TO HEAT STRESS**

**L. A. Sonna**

*U.S. Army, USA*

**IMMUNOLOGIC AUGMENTATION BY FEBRILE-RANGE HYPERTHERMIA:  
A DUAL EDGED SWORD**

**J. D. Hasday, I. S. Singh**

*The Mucosal Biology Research Center, University of Maryland School of Medicine, USA*

**GENES AND MOLECULES SHAPE THE HEAT ACCLIMATED PHENOTYPE: GENO-  
PHYSIOLOGICAL LINKAGE**

**M. Horowitz**

*Faculty of Dental Medicine, The Hebrew University, Israel*

**PHYSIOLOGICAL THERMOTOLERANCE – THE ROLE OF HEAT SHOCK  
PROTEINS**

**P. L. Moseley**

*University of New Mexico, USA*

**IN VITRO MODELS OF THERMAL INJURY AND CYTOPROTECTION:  
ASSESSMENT OF THERMAL AND PHARMACOLOGIC PRECONDITIONING  
WITH CDNA ARRAYS**

**S. T. Schuschereba<sup>1</sup>, P. D. Bowman<sup>2</sup>**

<sup>1</sup>*Medical Research Detachment, U.S. Army, USA*

<sup>2</sup>*US Army Institute of Surgical Research, USA*

**HUMAN GENE EXPRESSION RESPONSES TO THERMAL STRESS AND  
EXERTIONAL HEAT INJURY**

**L. A. Sonna**

*US Army Research Institute of Environmental Medicine, USA*

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11:10-11:35    **COFFEE BREAK**    (Imperial Foyer)

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**11:35-13:05 SESSION TUE/O-02: TEMPERATURE REGULATION  
THROUGH LIFE CYCLE**

**(Hall A)**

Chair: D. Wolfenson, Israel

**PHYSIOLOGICAL MECHANISMS OF MENOPAUSAL HOT FLASHES**

**R. R. Freedman**

*School of Medicine, Wayne State University, USA*

**GSH CONTENT, INDUCTION OF APOPTOSIS, IBAT HYPERPLASIA AND  
MASS REGRESSION IN THE RATS EXPOSED TO DIFFERENT AMBIENT  
TEMPERATURE**

**B. Buzadzic<sup>1</sup>, A. Korac<sup>2</sup>, V. Petrovic<sup>1</sup>, B. Korac<sup>1</sup>**

<sup>1</sup>*Institute for Biological Research, Serbia and Montenegro*

<sup>2</sup>*Institute of Zoology, Faculty of Biology, University of Belgrade, Serbia and Montenegro*

**COMPARISON OF THERMOREGULATORY RESPONSES TO EXERCISE  
IN DRY HEAT AMONG PRE-PUBERTAL BOYS, YOUNG ADULTS, AND  
OLDER MALES**

**O. Inbar<sup>1</sup>, N. Morris<sup>2</sup>, Y. Epstein<sup>3,4</sup>, G. Gass<sup>2</sup>**

<sup>1</sup>*Zinman College, Wingate Institute, Israel*

<sup>2</sup>*Griffith University, Australia*

<sup>3</sup>*Heller Institute of Medical Research, Sheba Medical Center, Israel*

<sup>4</sup>*Sackler School of Medicine, Tel Aviv University, Israel*

**NUCLEAR STAT3 EXPRESSION IS REDUCED IN PREGNANT RATS AT  
NEAR TERM**

**E. Harré, A. Mouihate, S. Ellis, Q. J. Pittman**

*Neuroscience Research Group, Health Sciences Center, Canada*

**11:35-13:05 SESSION TUE/O-03: MEASUREMENTS AND TECHNIQUES (Hall B)**

Chair: R. Reinertsen, Norway

**NON-INVASIVE THIGH MUSCLE TEMPERATURE MEASUREMENT  
USING ZERO-HEAT-FLOW METHOD**

**D. Brajkovic, M. B. Ducharme**

*Human Protection and Performance Group, Defence Research and Development, Canada*

**ON TRAINING BACTERIA OR CONVERTING THEM INTO NANO-  
MACHINES TO ACHIEVE TEMPERATURE REGULATION**

**A. Tillu, E. Irani, S. B. Khadkikar, A. Kesarkar**

*Pune University, India*

**BODY TEMPERATURE MEASUREMENTS IN THE CLINIC: EVALUATION  
OF PRACTICE IN A NORWEGIAN HOSPITAL**

**M. Sandsund<sup>1</sup>, I. H. Geving<sup>1</sup>, R. E. Reinertsen<sup>1</sup>, P. Aadahl<sup>2</sup>**

<sup>1</sup>*SINTEF Unimed, Norway*

<sup>2</sup>*St. Olavs Hospital, Norway*

**SAFE COOLING LIMITS DURING HYPERTHERMIA TREATMENT AND  
INDICES OF CORE TEMPERATURE**

**M. B. Ducharme<sup>1,2</sup>, C. Proulx<sup>2</sup>, G. P. Kenny<sup>2</sup>**

<sup>1</sup>*Human Protection and Performance Group, Defence Research and Development, Canada*

<sup>2</sup>*Faculty of Health Sciences, University of Ottawa, Canada*

**EFFECTS OF CO<sub>2</sub> BATH IMMERSION (100 PPM) ON THERMOREGULATORY  
RESPONSES IN HUMANS**

**M. Sato<sup>1</sup>, J. Sugeno<sup>1</sup>, H. Sato<sup>2</sup>, M. Kudoh<sup>2</sup>, N. Nishimura<sup>1</sup>, T. Matsumoto<sup>1</sup>, Y. Inukai<sup>1</sup>,  
A. Ogata<sup>1</sup>, Y. Taniguchi<sup>1</sup>, A. Osada<sup>1</sup>**

<sup>1</sup>*Aichi Medical University School of Medicine, Japan*

<sup>2</sup>*Kao Corporation, Tokyo Laboratories, Japan*

**VALIDATION OF A NEW TELEMETRIC CORE TEMPERATURE MONITOR**

**J. M. McKenzie, D. S. Osgood**

*Mini Mitter Co., Inc., USA*

**13:05-14:30 SESSION POSL-02: GUIDED POSTER SESSION  
AND LUNCH**
**(Imperial Foyer)**

Chairs: Z. Arad, Israel and M. Dascomb, UK

1. **CARRY-OVER EFFECT OF SUMMER THERMAL STRESS ON CHARACTERISTICS OF THE PEOVULATORY FOLLICLE OF LACTATING COWS**  
**Z. Roth<sup>1</sup>, A. Bor<sup>2</sup>, R. Braw-Tal<sup>2</sup>, D. Wolfenson<sup>1</sup>**  
<sup>1</sup>*Faculty of Agricultural, Food and Environmental Quality Sciences, The Hebrew University of Jerusalem, Israel*  
<sup>2</sup>*Agricultural Research Organization, Institute of Animal Science, Israel*
2. **INDIVIDUAL TYPOLOGICAL PROFILES FOR HUMAN HEART RATE UNDER LOCAL COLD AND HYPOXIC EXPOSURES**  
**L. Maximov, N. N. Maximova**  
*International Scientific Center "Arktika" FEB RAS, Russia*
3. **BLOOD CHEMISTRY AND IMMUNE CELL CHANGES DURING ONE-WEEK OF INTENSIVE FIREFIGHTING TRAINING**  
**D. L. Smith<sup>1</sup>, K. Dyer<sup>2</sup>, S. J. Petruzzello<sup>3</sup>**  
<sup>1</sup>*Skidmore College, USA*  
<sup>2</sup>*Carle Medical Center, USA*  
<sup>3</sup>*University of Illinois, USA*
4. **EXPERIMENTAL STUDY ON DYNAMIC CHANGE IN SWEATING AND EVAPORATION THROUGH CLOTHING DURING HOT EXPOSURE**  
**N. Kakituba**  
*Ashikaga Institute of Technology, Japan*
5. **THE ROLE OF WARD TEMPERATURE IN THE MANAGEMENT OF SCHIZOPHERNIA INPATIENTS**  
**R. Shiloh, A. Weizman, R. Isseroff, H. Hermesh, H. Munitz**  
*Geha Mental Health Center, Israel*
6. **EFFECTS OF HYPERBARIC OXYGENATION ON RAT HEATSTROKE**  
**K. C. Niu, S. M. Tsai, Y. W. Chen, M. T. Lin**  
*Chi-Mei Foundation Medical Center, Taiwan*
7. **GENOMIC APPROACH TO EVALUATE DIFFERENCES DUE TO HEAT ACCLIMATION IN BRAIN, HEART AND SKELETAL MUSCLE**  
**E. Kodesh, H. Schwimmer, L. Ali-Berchoyer, M. Horowitz**  
*Division of Physiology, The Hebrew University of Jerusalem, Israel*
8. **THE CHANGE IN PERIPHERAL SWEATING MECHANISMS OF THE TROPICAL MALAYSIAN WHO STAYS IN JAPAN**  
**J. B. Lee<sup>1</sup>, J. S. Bae<sup>1</sup>, T. Matsumoto<sup>2</sup>, H. M. Yang<sup>1</sup>, Y. K. Min<sup>1</sup>**  
<sup>1</sup>*College of Medicine, Soonchunhyang University, Korea*  
<sup>2</sup>*Aichi Medical University, Japan*
9. **CHANGES IN VASCULAR COMPLIANCE IN HUMANS ACCLIMATED TO HEAT GIVEN DAILY AT A FIXED TIME**  
**M. Maruyama<sup>1</sup>, T. Hara<sup>1</sup>, M. Hashimoto<sup>1</sup>, M. Koga<sup>2</sup>, O. Shido<sup>1</sup>**  
<sup>1</sup>*School of Medicine, Shimane University, Japan*  
<sup>2</sup>*School of Nursing, Shimane University, Japan*

- 10. EFFECT OF ALTERNATIVELY REPEATED EXPOSURE TO COLD AND WARM ENVIRONMENTS ON MANUAL AND MENTAL PERFORMANCE**  
**S. I. Sawada<sup>1</sup>, S. Araki<sup>1</sup>, K. Yokoyama<sup>2</sup>, H. Sato<sup>3</sup>**  
<sup>1</sup>National Institute of Industrial Health, Japan  
<sup>2</sup>School of Medicine, Mie University, Japan  
<sup>3</sup>Graduate School of Medicine, University of Tokyo, Japan
- 11. MUS MUSCULUS - A NEW MODEL FOR STUDYING THE DYNAMICS OF HEAT ACCLIMATION AND CROSS-TOLERANCE BETWEEN HEAT ACCLIMATION AND OXYGEN DEPRIVATION**  
**Z. Bromberg, M. Horowitz**  
 Faculty of Medicine, The Hebrew University of Jerusalem, Israel
- 12. THE ROLE OF SOLAR AND UV RADIATION IN ENVIRONMENTAL STRESS ASSESSMENT**  
**D. S. Moran<sup>1</sup>, K. B. Pandolf<sup>2</sup>, A. Vitalis<sup>3</sup>, Y. Heled<sup>1</sup>, R. Parker<sup>4</sup>, R. R. Gonzalez<sup>2</sup>**  
<sup>1</sup>Heller Institute of Medical Research, Sheba Medical Center, Israel  
<sup>2</sup>U.S Army Research Institute of Environmental Medicine, USA  
<sup>3</sup>Massey University, New Zealand  
<sup>4</sup>Center for Human Factors and Ergonomics, Forest Research Institute, New Zealand
- 13. EVALUATION OF THE ENVIRONMENTAL STRESS INDEX (ESI) FOR THE SOUTHERN HEMISPHERE**  
**D. S. Moran<sup>1</sup>, K. B. Pandolf<sup>2</sup>, A. Vitalis<sup>3</sup>, Y. Heled<sup>1</sup>, R. Parker<sup>4</sup>, R. R. Gonzalez<sup>2</sup>**  
<sup>1</sup>Heller Institute of Medical Research, Sheba Medical Center, Israel  
<sup>2</sup>U.S Army Research Institute of Environmental Medicine, USA  
<sup>3</sup>Massey University, New Zealand  
<sup>4</sup>Center for Human Factors and Ergonomics, Forest Research Institute, New Zealand
- 14. THERMOREGULATORY EFFECTS OF A SURGICAL DRAPE IMPERVIOUS TO MOISTURE**  
**R. Lenhardt, P. E. Maglinger, D. I. Sessler**  
 Outcomes Research<sup>TM</sup> Institute, University of Louisville, USA
- 15. PHYSIOLOGICAL RESPONSES OF BOS TAURUS AND BOS INDICUS CATTLE TO PROLONGED HEAT AND HUMIDITY**  
**D. Beatty<sup>1</sup>, A. Barnes<sup>1</sup>, E. Taylor<sup>1</sup>, D. Pethick<sup>1</sup>, R. Taplin<sup>2</sup>, M. McCarthy<sup>3</sup>, S. K. Maloney<sup>4</sup>**  
<sup>1</sup>Division of Veterinary and Biomedical Sciences, Murdoch University, Australia  
<sup>2</sup>Division of Science and Engineering, Murdoch University, Australia  
<sup>3</sup>Professional Agricultural Services, Australia  
<sup>4</sup>School of Biomedical and Chemical Sciences, University of WA, Australia
- 16. HEAT ACCLIMATION INDUCES PROTECTION AGAINST CNS OXYGEN TOXICITY IN THE RAT: HSP72 MAY BE INVOLVED**  
**Y. Arieli<sup>1</sup>, M. Eynan<sup>1</sup>, H. Gancz<sup>2</sup>, R. Arieli<sup>1</sup>, Y. Kashi<sup>2</sup>**  
<sup>1</sup>Israel Naval Medical Institute, IDF Medical Corps, Israel  
<sup>2</sup>The Faculty of Food Engineering and Biotechnology, The Technion, Israel
- 17. OXYGEN CONSUMPTION PREDICTION USING A NOVEL ACTIGRAPHY METHOD**  
**D. S. Moran<sup>1</sup>, Y. Heled<sup>1</sup>, A. Laor<sup>1</sup>, R. R. Gonzalez<sup>2</sup>**  
<sup>1</sup>Heller Institute of Medical Research, Sheba Medical Center, Israel  
<sup>2</sup>Bio-Tor, Inc., USA
- 18. HUMAN PHYSIOLOGICAL AND PSYCHOLOGICAL RESPONSES WHEN WEARING TWO DIFFERENT KINDS OF PROTECTIVE FACEMASKS**  
**Y. P. Guo, Y. Li, H. Tokura, A. S. W. Wong**  
 Institute of Textiles and Clothing, The Hong Kong Polytechnic University, Hong Kong, China

**19. INDIVIDUAL VARIATION IN COLD INDUCED THERMOGENESIS**

**A. M. J. van Ooijen**<sup>1</sup>, **W. D. van Marken Lichtenbelt**<sup>1</sup>, **A. A. van Steenhoven**<sup>2</sup>,  
**K. R. Westerterp**<sup>1</sup>

<sup>1</sup>*Maastricht University, Netherlands*

<sup>2</sup>*University of Technology, Netherlands*

**20. INHIBITION OF NEURONS IN ROSTRAL MEDULLARY RAPHE WITH MUSICMOL AND 5-HT1A AGONIST INHIBITS COLD-INDUCED CUTANEOUS BLOOD FLOW CHANGES IN CONSCIOUS AND ANESTHETIZED RABBITS**

**Y. Ootsuka**, **W. W. Blessing**

*Center for Neuroscience, Flinders University, Australia*

**21. ADRENORECEPTOR MECHANISMS OF THE FORMATION OF THE THERMOREGULATORY AND IMMUNE RESPONSES UNDER THE EFFECT OF COLD EXPOSURE**

**T. V. Kozyreva**, **L. S. Eliseeva**, **E. V. Gonsales**

*Institute of Physiology, Academy of Medical Sciences, Russia*

**22. IS NITRIC OXIDE INVOLVED IN THE BEHAVIORAL THERMOREGULATION OF AMPHIBIANS**

**K. C. Bicego**<sup>1</sup>, **A. S. Abe**<sup>1</sup>, **L. G. S. Branco**<sup>2</sup>

<sup>1</sup>*Instituto de Biociencias, Universidade Estadual Paulista, Brazil*

<sup>2</sup>*Faculdade de Odontologia de Ribeirao Preto, Universidade de Sau Paulo, Brazil*

**23. EFFECT OF THE SUBSTANCE P IONTOPHORESIS TO SKIN ON THE THERMOREGULATORY PARAMETERS AT COOLING**

**E. Ya. Tkachenko**, **V. P. Kozaruk**, **T. V. Kozyreva**

*Institute of Physiology, Academy of Medical Sciences, Russia*



**14:30-16:00 SESSION TUE/O-04: NON-SHIVERING THERMOGENESIS****(Hall A)**

Chair: B. Cannon, Sweden

**CORRELATION OF TORPOR FREQUENCY AND NORADRENALINE-INDUCED THERMOGENESIS IN THE SIBERIAN HAMSTERS****M. Jefimow<sup>1</sup>, M. Wojciechowski<sup>1</sup>, A. Masuda<sup>2</sup>, T. Oishi<sup>2</sup>**<sup>1</sup>*Institute of General and Molecular Biology, Copernicus University, Poland*<sup>2</sup>*Faculty of Science, Nara Women's University, Japan***HYPERINDUCED THERMOGENESIS IN ELOVL3-ABLATED MICE (ROLE FOR ELOVL3 IN NON-SHIVERING THERMOGENESIS)****R. Westerberg<sup>1</sup>, V. Golozoubova<sup>1</sup>, P. Tvrdik<sup>1</sup>, K. Retterstøl<sup>2</sup>, A. Jacobsson<sup>1</sup>**<sup>1</sup>*The Wenner-Gren Institute, The Arrhenius Lab. F3, Stockholm University, Sweden*<sup>2</sup>*Institute of Clinical Biochemistry, University of Oslo, Norway***ACUTE EFFECT OF COLD ON THE ANTIOXIDANT ENZYMES ACTIVITIES AND UNCOUPLING PROTEIN-1 CONTENT IN THE BROWN FAT OF 6-HYDROXYDOPAMINE-TREATED RATS****V. Davidovic, N. Petrovic, J. Djordjevic, S. Durasevic, G. Cvijic***Faculty of Biology, University of Belgrade, Serbia and Montenegro***THE  $\beta$ 3-ADRENERGIC RECEPTOR IN THERMOGENESIS CONTROL****B. Cannon, J. Nedergaard, T. Bengtsson***The Wenner-Gren Institute, The Arrhenius Lab. F3, Stockholm University, Sweden***THE ARCHETYPAL UNCOUPLING PROTEIN, UCP1, AND THERMOGENESIS CONTROL****J. Nedergaard, I. G. Shabalina, N. Petrovic, B. Cannon***The Wenner-Gren Institute, The Arrhenius Labs. F3, Stockholm University, Sweden***COMPARATIVE THERMOREGULATORY DAILY RHYTHMS ON THE POPULATION LEVEL AND THEIR RESPONSE TO PHOTOPERIOD MANIPULATIONS****M. Spiegel<sup>1</sup>, A. Haim<sup>2</sup>**<sup>1</sup>*Lifshitz College, Israel*<sup>2</sup>*University of Haifa - Oranim, Israel*

<b>14:30-16:00</b>	<b>SESSION TUE/O-05: PHYSICAL PERFORMANCE AND AMBIENT TEMPERATURE</b>	<b>(Hall B)</b>
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Chair: L. Nybo, Denmark

**CHANGES IN MAXIMAL CARDIORESPIRATORY CAPACITY AND SUBMAXIMAL STRAIN WHILE EXERCISING IN COLD**

**J. Oksa<sup>1</sup>, H. Kaikkonen<sup>2</sup>, P. Sorvisto<sup>1</sup>, M. Vaappo<sup>1</sup>, S. Rissanen<sup>1</sup>, V. Martikkala<sup>3</sup>, H. Rintamäki<sup>1</sup>**

<sup>1</sup>*Oulu Regional Institute of Occupational Health, Finland*

<sup>2</sup>*Oulu Deaconess Institute, Finland*

<sup>3</sup>*Eastern Finland Sports Institute, Finland*

**ROWING IN THE HEAT, WHAT ARE THE LIMITATIONS FOR THE PERFORMANCE OF AN ELITE OLYMPIC ROWER**

**J. W. M. Willems<sup>1</sup>, R. Heus<sup>1</sup>, E. A. den Hartog<sup>2</sup>**

<sup>1</sup>*TNO Industrial Technology, Netherlands*

<sup>2</sup>*TNO Human Factors, Netherlands*

**THE EFFECT OF HYPERTHERMIA ON REPEATED SPRINT PERFORMANCE**

**B. Drust<sup>1</sup>, P. Rasmussen<sup>2</sup>, M. Mohr<sup>2</sup>, L. Nybo<sup>2</sup>, B. Nielsen<sup>2</sup>**

<sup>1</sup>*School for Sport and Exercise Sciences Liverpool, John Moores University, UK*

<sup>2</sup>*August Krogh Institute, University of Copenhagen, Denmark*

**LOCALLY APPLIED WARM WATER AND PULSATING NEGATIVE PRESSURE PREVENTS HYPOTHERMIA DURING LAPAROTOMIA**

**E. B. Rein<sup>1</sup>, M. Filtvedt<sup>2</sup>, L. Walløe<sup>1</sup>, J. Ræder<sup>2</sup>**

<sup>1</sup>*Institute of Basic Medical Sciences, University of Oslo, Norway*

<sup>2</sup>*Ullevål University Hospital, Norway*

**PERIPHERAL SKIN TEMPERATURE EFFECTS ON MUSCLE OXYGEN LEVELS**

**R. Pozos, C. Hom, P. Vasquez**

*San Diego State University, USA*

**EFFECT OF EXERCISE DURATION, INTENSITY AND ENVIRONMENT ON RATE OF RISE OF CORE TEMPERATURE DURING REPEATED WORK CYCLES**

**E. Song, T. Yue-Nie**

*DMERI@DSO, Military Physiology Program, Singapore*

<b>16:00-16:30</b>	<b>COFFEE BREAK</b>	<b>(Imperial Foyer)</b>
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<b>16:30-18:00</b>	<b>SESSION TUE/O-06: ADIPOSE TISSUES, PEPTIDES AND TEMPERATURE REGULATION</b>	<b>(Hall A)</b>
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Chair: A. Haim, Israel

**INHIBITORY EFFECTS OF HALOTHANE ON THE THERMOGENIC PATHWAY IN BROWN ADIPOCYTES: LOCALISATION TO ADENYLYL CYCLASE AND MITOCHONDRIAL FATTY ACID OXIDATION**

**K. B. E. Ohlson**<sup>1,2</sup>, N. Mohell<sup>1</sup>, G. Bronnikov<sup>1</sup>, I. Shabalina<sup>1</sup>, K. Lennström<sup>1</sup>, S. G. E. Lindahl<sup>2,3</sup>, B. Cannon<sup>1</sup>, J. Nedergaard<sup>1</sup>

<sup>1</sup>The Wenner-Gren Institute, The Arrhenius Labs. F3., Stockholm University, Sweden

<sup>2</sup>Lund University Hospital, Sweden

<sup>3</sup>Karolinska Hospital, Sweden

**CENTRAL INHIBITION OF NITRIC OXIDE INDUCES A DOSE-DEPENDENT HYPERTHERMIA IN CONSCIOUS RATS THAT IS PREVENTED BY INDOMETHACIN**

**M. L. Mathai**<sup>1</sup>, I. Arnold<sup>1</sup>, M. A. Febbraio<sup>2</sup>, M. J. McKinley<sup>1</sup>

<sup>1</sup>Howard Florey Institute of Experimental Physiology and Medicine, University of Melbourne, Australia

<sup>2</sup>School of Medical Sciences, RMIT University, Australia

**POLYINOSINIC: POLYCYTIDYLIC ACID INDUCED FEVER IN RATS IS CYTOKINE MEDIATED**

**S. Kent**<sup>1,2</sup>, M. E. Fortier<sup>1</sup>, S. Poole<sup>3</sup>, P. Boksa<sup>1</sup>, G. N. Luheshi<sup>1</sup>

<sup>1</sup>Douglas Hospital Research Center, McGill University, Canada

<sup>2</sup>School of Psychological Science, La Trobe University, Australia

<sup>3</sup>National Institute for Biological Standards and Control, UK

**A NEW FUNCTION OF THE LEPTIN RECEPTOR: MEDIATION OF THE RECOVERY FROM LIPOPOLYSACCHARIDE HYPOTHERMIA**

**A. A. Steiner**<sup>1</sup>, M. D. Dogan<sup>1</sup>, A. I. Ivanov<sup>2</sup>, S. Patel<sup>1</sup>, A. Y. Rudaya<sup>1</sup>, D. H. Jennings<sup>3</sup>, M. Orchinik<sup>3</sup>, T. W. Pace<sup>4</sup>, K. A. O'Connor<sup>4</sup>, L. R. Watkins<sup>4</sup>, A. A. Romanovsky<sup>1</sup>

<sup>1</sup>St. Joseph's Hospital, USA

<sup>2</sup>Emory University, USA

<sup>3</sup>Arizona State University, USA

<sup>4</sup>University of Colorado, USA

**THE EFFECTS OF MELANOCORTIN AGONISTS AND ANTAGONISTS ON LEPTIN-INDUCED FEVER IN RATS**

**V. F. Turek**<sup>1</sup>, D. H. Olster<sup>2</sup>, K. R. Gililand<sup>3</sup>, M. Sheehy<sup>3</sup>, A. Ettenberg<sup>3</sup>, H. J. Carlisle<sup>3</sup>

<sup>1</sup>Oregon Health Sciences University, USA

<sup>2</sup>Office of Behavioral and Social Sciences Research, National Institute of Health, USA

<sup>3</sup>University of California, USA

**BRAIN LEPTIN TARGET CELLS IDENTIFIED WITH STAT3 IMMUNOHISTOCHEMISTRY: EVIDENCE OF FUNCTIONAL LEPTIN RECEPTOR EXPRESSION IN BRAIN ENDOTHELIUM**

**J. Mütze**, J. Roth, R. Gerstberger, T. Hübschle

*The Veterinary-Physiology, Justus-Liebig-University, Germany*

**16:30-18:00 SESSION TUE/O-07: ADVERSE CONDITIONS AND INDUCIBLE RESPONSES****(Hall B)**

Chair: M. Sawka, USA

**HUMAN BODY TEMPERATURE REGULATION IN EXTREMELY STRESSFUL ENVIRONMENTS****M. Kosaka<sup>1</sup>, M. Yamane<sup>1</sup>, R. Ogai<sup>1</sup>, T. Kato<sup>1</sup>, N. Ohnishi<sup>1</sup>, E. Simon<sup>2</sup>**<sup>1</sup>Graduate School of Health and Sport Sciences, Chukyo University, Japan<sup>2</sup>W.G.Kerckhoff-Institute, Max-Planck Institute, Germany**HEAT SHOCK PRETREATMENT PROTECTS AGAINST CEREBRAL FREE RADICAL FORMATION AND ENERGY DEPLETION IN RAT HEATSTROKE****J. L. Wang<sup>1</sup>, M. T. Lin<sup>2</sup>**<sup>1</sup>National Yang-Ming University, Taiwan<sup>2</sup>Chi-Mei Medical Center, Taiwan**PROTECTIVE EFFECTS OF PURIFIED HUMAN UMBILICAL CORD BLOOD ON CIRCVLATORY SHOCK AND CEREBRAL ISCHEMIA IN EXPERIMENTAL HEATSTROKE****S. H. Chen<sup>1,3</sup>, F. M. Change<sup>2,3</sup>, Y. C. Tsai<sup>1</sup>, K. F. Huang<sup>1</sup>, C. L. Lin<sup>1</sup>, M. T. Lin<sup>1</sup>**<sup>1</sup>Chi-Mei Medical Center, Taiwan<sup>2</sup>National Cheng Kung University Hospital, Taiwan<sup>3</sup>College of Medicine, National Cheng Kung University, Taiwan**THE THERMAL PREFERENCE IN HUMANS DURING MODERATE HYPOXIA****P. Golja<sup>2,3</sup>, A. Kacin<sup>2,4</sup>, M. J. Tipton<sup>2</sup>, I. B. Mekjavic<sup>1,2</sup>**<sup>1</sup>Jozef Stefan Institute, Slovenia<sup>2</sup>Inst of Biomedical and Biomolecular Sciences, University of Portsmouth, UK<sup>3</sup>Polytechnic Nova Gorica, Slovenia<sup>4</sup>College of Health Studies, University of Ljubljana, Slovenia**THE INFLUENCE OF INTERMITTENT ALTITUDE ACCLIMATIZATION ON EXERCISE TEMPERATURE REGULATION****A. Kacin<sup>2,3</sup>, P. Golja<sup>2,5</sup>, M. J. Tipton<sup>2</sup>, O. Eiken<sup>4</sup>, I. B. Mekjavic<sup>1,2</sup>**<sup>1</sup>Institute Jozef Stefan, Slovenia<sup>2</sup>Inst of Biomedical and Biomolecular Sciences, University of Portsmouth, UK<sup>3</sup>College of Health Studies, University of Ljubljana, Slovenia<sup>4</sup>Swedish Defence Research Agency, Karolinska Institute, Sweden<sup>5</sup>Nova Gorica Polytechnic, Slovenia

# Wednesday, October 13, 2004

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08:45-10:55 SESSION WED/S-01: HEAT-RELATED ILLNESSES

(Hall A)

Chair: N. Taylor, Australia

**EXTREMES OF HUMAN HEAT TOLERANCE: LIFE AT THE PRECIPICE OF THERMOREGULATORY FAILURE (Keynote)**

**W. L. Kenney, D. DeGroot, L. Holowatz**

*Noll Physiological Research Center, Penn State University, USA*

**HOST FACTORS AFFECTING THE INDIVIDUAL'S SUSCEPTABILITY TO HEAT**

**Y. Epstein<sup>1,2</sup>, E. Hadad<sup>1,2</sup>, Y. Shapiro<sup>3</sup>**

<sup>1</sup>*Heller Institute of Medical Research, Sheba Medical Center, Israel*

<sup>2</sup>*The Sackler Faculty of Medicine, Tel Aviv University, Israel*

<sup>3</sup>*School of Health Sciences, Judea and Samaria College - Ariel, and Assuta Medical Centers, Israel*

**THE NEUROPHARMACOLOGICAL BASIS OF HEAT INTOLERANCE AND ITS TREATMENT**

**M. T. Lin, C. P. Chang**

*Chi-Mei Medical Center, Taiwan*

**HYDRATION EFFECTS ON THERMOREGULATION AND EXERCISE-HEAT TOLERANCE**

**M. N. Sawka, S. N. Cheuvront, R. Carter III, S. J. Montain**

*US Army Research Institute of Environmental Medicine, USA*

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08:45-10:55 SESSION WED/S-02: SLEEP, CIRCADIAN RHYTHMS AND THERMOREGULATION

(Hall B)

Chair: E. van Someren, Netherlands

**SLEEP, CIRCADIAN RHYTHMS AND THERMOREGULATION (Keynote)**

**E. J. W. Van Someren<sup>1,2</sup>, R. JEM Raymann<sup>1</sup>, D. F. Swaab<sup>1</sup>**

<sup>1</sup>*Netherlands Institute for Brain Research, Netherlands*

<sup>2</sup>*VU University Medical Center, Netherlands*

**TEMPERATURE EFFECTS ON CIRCADIAN CLOCKS**

**P. Ruoff<sup>1</sup>, L. Rensing<sup>2</sup>**

<sup>1</sup>*School of Science and Technology, Stavanger University College, Norway*

<sup>2</sup>*University of Bremen, Germany*

**SLEEP INERTIA AND THE CIRCADIAN MODULATION OF SLEEPINESS, BUT NOT SLEEP HOMEOSTASIS, IS ASSOCIATED WITH DISTAL VASODILATATION**

**K. Kräuchi**

*Center for Chronobiology, Psychiatric University Clinic Basel, Switzerland*

**CIRCADIAN CLOCK AS A THERMOREGULATORY MECHANISM**

**K. Nagashima**

*School of Human Sciences, Waseda University, Japan*

**PERIPHERAL THERMAL CHALLENGE: A TEST OF HEAT LOSS CAPACITY IN SLEEP ONSET INSOMNIACS**

**C. J. van den Heuvel, S. A. Ferguson, D. Dawson**

*Center for Sleep Research, University of South Australia, Australia*

*The Queen Elizabeth Hospital, Australia*

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10:55-11:20 COFFEE BREAK

(Imperial Foyer)

Chairs: D. Mitchel, South Africa and B. Wollweber, Germany

**ALCOHOL EFFECTS ON TEMPERATURE-SENSITIVE HYPOTHALMIC NEURONS IN RAT BRAIN SLICES**

**B. T. Wollweber, H. Schneider, K. Voigt, H. A. Braun**

*Institute für Normale and Pathologische Physiologie, Philipps-University, Germany*

**HEAT SHOCK PROTEIN 70 GENE OVEREXPRESSING PROTECTS AGAINST HEATSTROKE INDUCED ARTERIAL HYPOTENSION AND CEREBRAL ISCHEMIA**

**C. P. Chang, M. T. Lin**

*Chi-Mei Medical Center, Taiwan*

**EFFECT OF HYPERVOLEMIC HEMODILUTION ON CEREBRAL GLUTAMATE, GLYCEROL, LACTATE AND FREE RADICALS IN HEATSTROKE RATS**

**C. K. Chang<sup>1</sup>, C. P. Chang<sup>2</sup>, M. T. Lin<sup>2</sup>**

<sup>1</sup>*Division of Neurosurgery, Mackay Memorial Hospital, Taiwan*

<sup>2</sup>*Chi-Mei Medical Center, Taiwan*

**TORPOR - LIKE AND LEPTIN RESPONSES AS ADAPTATIONS OF THE GOLDEN SPINY MOUSE (ACOMYS RUSSATUS) TO VARIATIONS IN FOOD AVAILABILITY**

**R. Gutman, I. Choshniak, N. Kronfeld-Schor**

*Tel Aviv University, Israel*

**POSTURAL SWAY DURING REPEATED COLD EXPOSURES**

**T. M. Mäkinen<sup>1</sup>, T. Pääkkönen<sup>2</sup>, H. Rintamäki<sup>3</sup>, J. T. Korpelainen<sup>2</sup>, V. Kampman<sup>2</sup>, L. A. Palinkas<sup>4</sup>, J. Leppäluoto<sup>2</sup>, J. Hassi<sup>1</sup>**

<sup>1</sup>*Center for Arctic Medicine, University of Oulu, Finland*

<sup>2</sup>*University of Oulu, Finland*

<sup>3</sup>*Oulu Regional Institute of Occupational Health, Finland*

<sup>4</sup>*University of California, USA*

**THE ROLE OF HEAT SHOCK PROTEIN 90 IN CELL RESPONSE TO HYPERTHERMIA**

**V. Yavelsky, O. Vais, B. Piura, M. Wolfson, A. Rabinovich, V. Fraifeld**

*Faculty of Health Sciences, Ben-Gurion University of the Negev, Israel*

*Soroka Medical Center, Israel*

Chairs: L. Kenney, USA and C. Haley, Australia

**EFFECT OF CALCIUM ON THE COLD DEFENSE RESPONSE IN HYPERTENSIVE AND NORMOTENSIVE RATS**

**S. V. Lomakina, E. Ya. Tkachenko, T. V. Kozyreva**

*Institute of Physiology, Academy of Medical Science, Russia*

**AN OPEN-LOOP MODEL FOR INVESTIGATING MAMMALIAN THERMOSENSITIVITY**

**C. J. Gordon<sup>1</sup>, C. D. Haley<sup>1</sup>, P. L. McLennan<sup>1</sup>, M. J. Tipton<sup>2</sup>, I. B. Mekjavic<sup>3</sup>, N. A. S. Taylor<sup>1</sup>**

<sup>1</sup>*University of Wollongong, Australia*

<sup>2</sup>*University of Portsmouth, UK*

<sup>3</sup>*Institute Jozef Stefan, Slovenia*

**NOVEL, HIGH-AMPLITUDE BLOOD-FLOW OSCILLATIONS IN VASODILATING HUMAN SKIN**

**C. D. Haley, A. Zeyl, N. A. S. Taylor, A. B. Jenkins**

*University of Wollongong, Australia*

**HEAT INDUCED SLOWING OF EEG ACTIVITY IS NOT RELATED TO REDUCED CEREBRAL PERFUSION DURING PROLONGED EXERCISE**

**P. Rasmussen, H. Stie, L. Nybo, B. Nielsen**

*Institute of Exercise and Sports Sciences, University of Copenhagen, Denmark*

**INVESTIGATING HIGH-AMPLITUDE OSCILLATIONS IN RAT TAIL SKIN BLOOD FLOW DURING CORE HEATING AND COOLING**

**C. D. Haley, C. J. Gordon, N. A. S. Taylor, A. B. Jenkins**

*University of Wollongong, Australia*

**ALPHA-1-ADRENERGIC INDUCED CONTRACTION OF HEAT ACCLIMATED RAT AORTAE IS ENHANCED VIA MULTIPLE PATHWAYS**

**E. A. Nir<sup>1</sup>, M. Horowitz<sup>2</sup>**

<sup>1</sup>*The Hebrew University of Jerusalem, Israel*

<sup>2</sup>*Hadassah Schools of Medicine and Dental Medicine, Israel*

# Thursday, October 14, 2004

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09:00-11:10 SESSION THU/S-01: FEVER - PART 1

(Hall A)

Chair: C. Blatteis, USA

**ELEVATED LEVELS OF CIRCULATING CYTOKINES AND ENDOTOXIN ARE NOT NECESSARY FOR THE ACTIVATION OF THE SICKNESS OR CORTICOSTERONE RESPONSES PRODUCED BY PERIPHERAL E.COLI CHALLENGE**

**M. Fleshner, M. K. Hansen, K. A. O'Connor, J. C. Biedenkapp, L. R. Watkins, S. F. Maier, J. Campisi**

*University of Colorado, USA*

**FEBRIGENIC ROLE OF MEDIATORS CARRIED IN THE BLOOD BY THEIR TRANSPORTERS: OF THE HORSEMEN AND THEIR HORSES**

**A. A. Romanovsky**

*St. Joseph's Hospital, USA*

**COMPLEMENT IS REQUIRED FOR THE INDUCTION OF ENDOTOXIC FEVER IN GUINEA PIGS AND MICE**

**C. M. Blatteis, S. Li, Z. Li, V. Perlik, C. Feleder**

*College of Medicine, University of Tennessee Health Science Center, USA*

**A ROLE FOR A CYCLOPENTANE PROSTAGLANDIN AS A NOVEL ANTIPYRETIC IN RAT BRAIN**

**Q. J. Pittman, L. Boissé, A. Mouihate**

*Neuroscience Research Group, Faculty of Medicine, University of Calgary, Canada*

**EPOXYEICOSATRIENOIC ACIDS AS MEDIATORS OF ANTIPYRESIS: HOW DO THEY FIT?**

**W. Kozak<sup>1</sup>, V. Fraifeld<sup>2</sup>, A. Kozak<sup>3</sup>**

<sup>1</sup>*Institute of General and Molecular Biology, University Nicolaus Copernicus, Poland*

<sup>2</sup>*Faculty of Health Sciences, Ben-Gurion University of the Negev, Israel*

<sup>3</sup>*University of Georgia, USA*

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11:10-11:35 COFFEE BREAK

(Imperial Foyer)



**11:35-13:05    SESSION THU/O-02: BRAIN COOLING; VASCULAR  
RESPONSES TO HEAT EXPOSURE**

**(Hall A)**

Chair: M. Cabanac, Canada

**THE HOT AND HARD WORKING BRAIN**

**L. Nybo, B. Nielsen**

*August Krogh Institute, University of Copenhagen, Denmark*

**ABSENCE OF SELECTIVE BRAIN COOLING IN FREE-LIVING HORSES**

**N. Rump<sup>1</sup>, D. Mitchell<sup>1</sup>, S. K. Maloney<sup>1,2</sup>, G. Mitchell<sup>1</sup>, A. Fuller<sup>1</sup>**

<sup>1</sup>*School of Physiology, University of Witwatersrand, Australia*

<sup>2</sup>*SA and School of Biomedical and Chemical Sciences, University of Western Australia, Australia*

**IN-VITRO HEAT EXCHANGE BEHAVIOUR OF THE RETE OF THE BOER  
GOAT UNDER SPECIFIED LABORATORY CONDITIONS**

**J. M. Kamau, S. J. Nsoso**

*Botswana College of Agriculture, Botswana*

**SELECTIVE BRAIN COOLING: A MULTIPLE REGULATORY MECHANISM**

**M. Caputa**

*Institute of General and Molecular Biology, Nicolaus Copernicus University, Poland*

**BRAIN TEMPERATURE REGULATION IN ANESTHETIZED RATS**

**M. Zhu, D. Nehra, J. J. H. Ackerman, D. A. Yablonskiy**

*Washington University, USA*

**HISTAMINE RECEPTORS IN THE DIGITAL ARTERY OF THE WARM  
ACCLIMATIZED FALLOW DEER (DAMA DAMA)**

**A. Milton, W. Kallagher, H. Warrington, B. Callingham**

*University of Cambridge, UK*

**11:35-13:05    SESSION THU/O-03: ENVIRONMENTAL STRESS AND BODY    (Hall B)**  
**TEMPERATURE RESPONSE**

Chair: M. Ducharme, Canada

**PHYSIOLOGICALLY-BASED APPROACHES TO ENHANCE FINGER  
COMFORT IN OPEN SPACE AND OTHER EXTREME COLD CONDITIONS**

**V. S. Koscheyev, G. R. Leon, A. Coca**

*University of Minnesota, USA*

**EFFECT OF BILATERAL CAROTID COOLING ON THERMAL RESPONSES  
DURING CYCLING AND ARM CRANKING WORKS DUE TO IDENTICAL  
OXYGEN CONSUMPTION**

**M. Torii<sup>1</sup>, Z. Szygara<sup>2</sup>, M. Iwashita<sup>1</sup>**

<sup>1</sup>*Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology, Japan*

<sup>2</sup>*Institute of Human Physiology, University School of Physical Education, Poland*

**RELATIONSHIPS BETWEEN THERMOPHYSIOLOGICAL RESPONSES AND  
PSYCHOLOGICAL THERMAL PERCEPTION DURING EXERCISE WEARING  
AEROBIC WEAR**

**A. S. W. Wong, Y. Li**

*Institute of Textiles and Clothing, The Hong Kong Polytechnic University, Hong Kong, China*

**HEAT STRAIN AND GROSS EFFICIENCY AFTER PRE-COOLING IN THE  
HEAT**

**H. A. M. Daanen<sup>1,2</sup>, E. van Es<sup>2</sup>, J. de Graaf<sup>2</sup>**

<sup>1</sup>*TNO Human Factors, Netherlands*

<sup>2</sup>*Faculty of Human Movement Sciences, Vrije Universiteit, Netherlands*

**FINGER TEMPERATURES DURING MILITARY FIELD TRAINING AT  
0- -29°C**

**H. Rintamäki<sup>1</sup>, S. Rissanen<sup>1</sup>, T. Mäkinen<sup>1</sup>, A. Peitso<sup>2</sup>**

<sup>1</sup>*Oulu Regional Institute of Occupational Health, Finland*

<sup>2</sup>*Northern Command Headquarters Oulu, Finland*

<b>13:05-14:30</b>	<b>SESSION POSL-03: GUIDED POSTER SESSION AND LUNCH</b>	<b>(Imperial Foyer)</b>
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Chairs: L. Branco, Brazil and F. Mioano Sanchez, Spain and V. Fraifeld, Israel

1. **HYPOHYDRATION MEASUREMENTS BY RADIO FREQUENCY ABSORPTIOMETRY**  
R. Yanovitch<sup>1</sup>, D. S. Moran<sup>1</sup>, Y. Heled<sup>1</sup>, E. Hadad<sup>1</sup>, A. Laor<sup>1</sup>, M. Margaliot<sup>2</sup>, Y. Shapiro<sup>1</sup>  
<sup>1</sup>Heller Institute of Medical Research, IDF Institute of Military Physiology, Sheba Medical Center., Israel  
<sup>2</sup>MBD Ltd, Israel
2. **CORE TEMPERATURE MEASUREMENT BY MICROWAVE RADIOMETRY**  
U. Eliyahu<sup>1</sup>, D. S. Moran<sup>1</sup>, Y. Heled<sup>1</sup>, E. Hadad<sup>1</sup>, M. Margaliot<sup>2</sup>  
<sup>1</sup>Heller Institute of Medical Research, IDF Institute of Military Physiology, Sheba Medical Center., Israel  
<sup>2</sup>Soreq Nuclear Research Center, Israel
3. **CHANGING THE PARADIGM IN THE THERMOREGULATION THEORY**  
**K. P. Ivanov**  
*I.P Pavlov Institute of Physiology, Russian Academy of Sciences, Russia*
4. **MATHEMATICAL MODELING OF THERMAL PHYSIOLOGICAL RESPONSES OF CLOTHED INFANTS**  
B. A. Ying<sup>1</sup>, Y. L. Kwok<sup>1</sup>, Y. Li<sup>1</sup>, C. Y. Yeung<sup>2</sup>, F. Z. Li<sup>1</sup>  
<sup>1</sup>Institute of Textiles and Clothing, The Hong Kong Polytechnic University, Hong Kong, China  
<sup>2</sup>The University of Hong Kong, China
5. **THE PATHOPHYSIOLOGY OF HEAT STROKE – AN INTEGRATIVE VIEW**  
**Y. Epstein**  
*Heller Institute of Medical Research, Sheba Medical Center and the Sackler Faculty of Medicine, Tel Aviv University, Israel*
6. **INTRAMUSCULAR TEMPERATURES DURING EXERCISE IN THE HEAT FOLLOWING PRE-COOLING AND PRE-HEATING**  
**J. D. Booth, B. R. Wilmore, A. D. Macdonald, A. Zeyl, L. H. Storlien, N. A. S. Taylor**  
*University of Wollongong, Australia*
7. **PERIPHERAL FINGER TEMPERATURE ASSOCIATED WITH SEQUENTIAL FINGER EXERCISE**  
M. Camarena, P. Osborne, A. Rochet-Canabal, R. S. Pozos  
*San Diego State University, USA*
8. **ADAPTIVE CHANGE IN MUSCULAR PERFORMANCE AND CIRCULATION BY STRENGTH TRAINING WITH REGULAR POST-EXERCISE COLD APPLICATION**  
N. Ohnishi<sup>1</sup>, M. Yamane<sup>2</sup>, N. Ushiyama<sup>1</sup>, S. Shirasawa<sup>1</sup>, M. Kosaka<sup>2</sup>, A. Shiono<sup>3</sup>, T. Okada<sup>3</sup>  
<sup>1</sup>Aichi Mizuho College, Japan  
<sup>2</sup>School of Health and Sport Sciences, Chukyo University, Japan  
<sup>3</sup>Aichi Medical University, Japan
9. **HUMAN ACE I/D POLYMORPHISM IS ASSOCIATED WITH INDIVIDUAL DIFFERENCES IN EXERCISE HEAT TOLERANCE**  
Y. Heled<sup>1</sup>, D. S. Moran<sup>1</sup>, L. Mendel<sup>1</sup>, A. Laor<sup>1</sup>, E. Pras<sup>2</sup>, Y. Shapiro<sup>1</sup>  
<sup>1</sup>The Military Physiology Unit, IDF, Heller Institute of Medical Research., Israel  
<sup>2</sup>The Danek Gartner Institute of Human Genetics, Tel Aviv University, Sheba Medical Center, Israel

**10. EXPRESSION OF EXERCISE-INDUCED HSP70 IN LONG-DISTANCE RUNNER'S LEUKOCYTES**

**Y. O. Shin<sup>1</sup>, J. K. Oh<sup>1</sup>, H. S. Sohn<sup>1</sup>, J. B. Lee<sup>2</sup>, J. S. Bae<sup>2</sup>, H. M. Yang<sup>2</sup>, Y. K. Min<sup>2</sup>, T. Matsumoto<sup>3</sup>**

<sup>1</sup>*Korea National Sport University, Korea*

<sup>2</sup>*College of Medicine, Soonchunhyang University, Korea*

<sup>3</sup>*Aichi Medical University, Japan*

**11. PROGRESSIVE STRENUOUS EXERCISE INDUCE THE EXPRESSION OF HSP70 IN RAT SKELETAL MUSCLE AND MYOCARDIUM**

**Y. O. Shin<sup>1</sup>, J. K. Oh<sup>1</sup>, J. B. Lee<sup>2</sup>, J. S. Bae<sup>2</sup>, H. M. Yang<sup>2</sup>, Y. K. Min<sup>2</sup>, T. Matsumoto<sup>3</sup>**

<sup>1</sup>*Korea National Sport University, Korea*

<sup>2</sup>*College of Medicine, Soonchunhyang University, Korea*

<sup>3</sup>*Aichi Medical University, Japan*

**12. EFFECT OF BLOOD VOLUME ON PLASMA VOLUME SHIFT DURING EXERCISE**

**T. Kawabata, T. Suzuki, T. Miyagawa**

*School of Medicine, Osaka City University, Japan*

**13. GLUCOSE-6-PHOSPHATASE ACTIVITY, GLUCOSE-6-PHOSPHATE AND GLYCOGEN CONTENT IN LIVER OF RATS DURING ACUTE AND CHRONIC EXPOSURE TO HIGH ENVIRONMENTAL TEMPERATURE**

**B. Miova, S. Dinevska-Kovkarovska, S. Mitev**

*Faculty of Natural Sciences and Mathematics, Gazi baba, Macedonia*

**14. THE EFFECT OF FASTING ON GLYCOGEN PHOSPHORYLASE ACTIVITY, GLUCOSE-1-PHOSPHATE AND GLYCOGEN CONTENT IN THE LIVER OF HEAT-ACCLIMATED RATS**

**S. Dinevska-Kovkarovska, S. Mitev, B. Miova**

*Faculty of Natural Sciences and Mathematics, Gazi baba, Macedonia*

**15. INFUSION OF TTX INTO THE PO/AH MODIFIES INCREASE IN CORE TEMPERATURE OF EXERCISING RATS**

**H. Hasegawa<sup>1,3</sup>, T. Ishiwata<sup>2</sup>, T. Saito<sup>2</sup>, T. Yazawa<sup>2</sup>, Y. Aihara<sup>2</sup>, R. Meeusen<sup>3</sup>**

<sup>1</sup>*Faculty of Integrated Arts and Science, Hiroshima University, Japan*

<sup>2</sup>*Graduate School of Science, Tokyo Metropolitan University, Japan*

<sup>3</sup>*Vrije Universiteit, Belgium*

**16. EFFECTS OF PHOTOPERIOD AND TEMPERATURE ON BODY WEIGHTS, SERUM LEPTIN LEVELS AND UNCOUPLING PROTEIN 1 CONTENTS IN BRANDT'S VOLES (MICROTUS BRANDTI) AND MONGOLIAN GERBILS (MERIONES UNGUICULATUS)**

**X. S. Li, D. H. Wang**

*Institute of Zoology, The Chinese Academy of Sciences, China*

**17. CHRONIC COLD ACCLIMATION IN NAKED MOLE-RATS: EFFECTS ON THE THERMOREGULATION AND ENERGY BALANCE**

**R. Woodley<sup>1</sup>, R. Buffenstein<sup>2</sup>**

<sup>1</sup>*Medical School, University of Witwatersrand, South Africa*

<sup>2</sup>*City College of City University of New York, USA*

**18. EFFECTS OF ALCOHOL ON THERMOREGULATION IN HUMANS**

**T. Yoda<sup>1</sup>, L. I. Crawshaw<sup>2</sup>, K. Saito<sup>3</sup>, M. Nakamura<sup>3</sup>, A. Konishi<sup>3</sup>, K. Nagashima<sup>4</sup>, S. Uchida<sup>3</sup>, K. Kanosue<sup>3</sup>**

<sup>1</sup>*Institute of Physical Education, Keio University, Japan*

<sup>2</sup>*Portland State University, USA*

<sup>3</sup>*School of Sport Science, Waseda University, Japan*

<sup>4</sup>*School of Allied Health Sciences, Faculty of Medicine, Osaka University, Japan*

- 19. CIRCADIAN BODY TEMPERATURE AND HEAT TOLERANCE IN TRPV1 KNOCKOUT MICE**  
**Z. Szèlenyi<sup>1</sup>, Z. Hummel<sup>1</sup>, J. Szolcsanyi<sup>1</sup>, J. B. Davis<sup>2</sup>**  
<sup>1</sup>*Medical Faculty, University of Pecs, Hungary*  
<sup>2</sup>*GlaxoSmithKline, UK*
- 20. VOLUME PARTITIONS OF THE RETIE OF TSWANA GOAT, BOER GOAT AND THE SPRINGBOK**  
**J. M. Kamau**  
*Botswana College of Agriculture, Botswana*
- 21. MAGNESIUM DOES NOT REDUCE THE THRESHOLD OR GAIN OF SHIVERING**  
**N. Wadhwa, R. Lenhardt, P. Sengupta, J. Durrani, G. Chernyak, D. Sessler**  
*University of Louisville, USA*
- 22. EFFECT OF THE SUPRACHIASMATIC NUCLEUS LESION ON NYCTHEMERAL VARIATIONS IN CORE TEMPERATURE OF HEAT-ACCLIMATED RATS**  
**M. Maruyama, T. Hara, M. Hashimoto, O. Shido**  
*School of Medicine, Shimane University, Japan*
- 23. PREVENTION AND REPAIR OF CIRCULATORY SHOCK AND CEREBRAL ISCHEMIA INJURY BY CHINESE HERBAL MEDICINE, SHENGMAI SAN, IN RAT HEATSTROKE**  
**N. L. Wang<sup>1</sup>, C. K. Chang<sup>1</sup>, M. T. Lin<sup>2</sup>**  
<sup>1</sup>*MacKay Memorial Hospital, Taiwan*  
<sup>2</sup>*Chi-Mei Medical Center, Taiwan*
- 24. BODY TEMPERATURE, BEHAVIOR AND PLASMA CORTISOL CHANGES INDUCED BY CHRONIC INFUSION OF STAPHYLOCOCCUS AUREUS IN GOATS**  
**N. R. Mphahlele<sup>1</sup>, A. Fuller<sup>1</sup>, J. Roth<sup>2</sup>, P. R. Kamerman<sup>1</sup>**  
<sup>1</sup>*University of the Witwatersrand, South Africa*  
<sup>2</sup>*Veterinary-Physiology, Justus-Liebig-University Giessen, Germany*
- 25. HMG-C<sub>o</sub>A REDUCTASE INHIBITOR, ATORVASTATIN, IS NOT ANTIPYRETIC IN RATS**  
**P. R. Kamerman, B. M. E. Modisa, N. R. Mphahlele**  
*School of Physiology, University of the Witwatersrand, South Africa*
- 26. STRESS: THE CAUSE OF HYPERTHERMIA IN CHEMICALLY CAPTURED IMPALA**  
**L. Meyer<sup>1</sup>, A. Mathee<sup>2</sup>, L. Fick<sup>1</sup>, P. Kamerman<sup>1</sup>, D. Mitchell<sup>1</sup>, A. Fuller<sup>1</sup>**  
<sup>1</sup>*University of the Witwatersrand, South Africa*  
<sup>2</sup>*National Zoological Gardens Game Breeding Centre, South Africa*
- 27. QUERCETIN IN COMBINATION WITH INDOMETHACIN AND/OR GELDANAMYCIN SHARPLY ENHANCES CYTOTOXICITY OF HEAT STRESS**  
**A. Kabakov, K. Budagova**  
*Medical Radiology Research Center, Russia*

**14:30-16:00 SESSION THU/O-04: COMPARATIVE ASPECTS IN  
THERMAL BIOLOGY - PART 1**

**(Hall B)**

Chairs: R. Paul, Germany and M. Vera, Chile

**THERMAL PROFILES OF ZOOPLANKTON: A KEY TO GLOBAL MARINE  
ECOLOGICAL CHANGE**

**W. Greve**

*German Centre for Marine Biodiversity Research, Forschungsinstitut Senckenberg, Germany*

**GLYCEROL PRODUCTION BY RAINBOW SMELT PROVIDES FREEZE  
RESISTANCE TO ALLOW WINTER FORAGING**

**W. Driedzic, K. A. Clow, C. E. Short**

*Ocean Sciences Center, Memorial University of Newfoundland, Canada*

**DOES THE BEHAVIORAL FEVER OCCUR IN SNAILS PARASITISED WITH  
TREMATODE LARVAE?**

**E. Zbikowska**

*Institute of General and Molecular Biology, Nicholas Copernicus University in Torun, Poland*

**INTEGRATIVE MECHANISMS OF THERMAL ACCLIMATION IN THE  
MICROCRUSTACEAN DAPHNIA**

**R. J. Paul, T. Lamkemeyer, J. Maurer, O. Pinkhaus, M. Seidl, B. Zeis**

*Institute of Physiology, Westfälische Wilhelms-Universität Münster, Germany*

**SEASONAL WATER TEMPERATURES AFFECT NUCLEOLAR FUNCTION  
IN AN EURITHERMAL FISH**

**M. Alvarez<sup>1,2</sup>, C. Quezada<sup>1,2</sup>, C. Navarro<sup>1,2</sup>, R. Pinto<sup>1,2</sup>, M. Reyes<sup>1,2</sup>, I. Delgado<sup>1,2</sup>, A. Molina<sup>1,2</sup>, P. Bouvet<sup>3</sup>, M. Krauskopf<sup>1,2</sup>, M. I. Vera<sup>1,2</sup>**

<sup>1</sup>*MIFAB, Chile*

<sup>2</sup>*Lab. de Biología Celular y Molecular, Universidad de Andres Bello, Chile*

<sup>3</sup>*Ecole Normale Supérieure de Lyon, France*

**BEHAVIORAL MECHANISMS OF OVERWINTERING IN THE HELIX  
POMATIA**

**A. Nowakowska, M. Caputa, J. Rogalska, K. Wentowska**

*Institute of General and Molecular Biology, Nicholas Copernicus University in Torun, Poland*

**14:30-16:00 SESSION THU/O-05: PHARMACOLOGY OF THERMOREGULATION****(Hall A)**

Chair: H. Labrun, South Africa

**ROLE OF NITRIC OXIDE ON THE THERMOREGULATION DURING SEPTIC SHOCK: INVOLVEMENT OF VASOPRESSIN****E. C. Carnio***Escola de Enfermagem de Ribeirao Preto, Universidade de Sao Paulo, Brazil***CORNEAL TEMPERATURE IN DRUG-FREE AND NEUROLEPTIC-TREATED SCHIZOPHRENIA PATIENTS COMPARED TO HEALTHY SUBJECTS****R. Shiloh<sup>1</sup>, A. Weizman<sup>1</sup>, S. Portuguese<sup>1</sup>, R. Gross-Isseroff<sup>1</sup>, M. Sigler<sup>1</sup>, L. Bodinger<sup>1</sup>, N. Katz<sup>1</sup>, R. Stryjer<sup>2</sup>, H. Hermesh<sup>1</sup>, H. Munitz<sup>1</sup>**<sup>1</sup>*Geha Mental Health Center, Felsenstein Medical Research Center, Rabin Medical Center, Beilinson Campus, Sackler Faculty of Medicine, Tel Aviv University, Israel*<sup>2</sup>*Beer-Yaakov Mental Health Center, Israel***ACUTE AND SUBACUTE EFFECTS OF CENTRAL NEUROPEPTIDE Y (NPY) ON ENERGY BALANCE IN RATS****E. Pétervári, Z. Szélenyi, M. Szekély***Faculty of Medicine, University of Pecs, Hungary***CLOZAPINE, AN ATYPICAL ANTIPSYCHOTIC AGENT ACTIVE AT SEROTONIN RECEPTORS, REVERSES COLD-INDUCED CUTANEOUS VASOCONSTRICTION IN RABBITS AND RATS****W. Blessing***Centre for Neuroscience, Flinders University, Australia***DANTROLENE REDUCES THE THRESHOLD AND GAIN FOR SHIVERING****R. Lenhardt<sup>1</sup>, C. M. Lin<sup>1</sup>, S. Neeru<sup>2</sup>, A. G. Doufas<sup>1</sup>, E. Liem<sup>1</sup>, Y. M. Shah<sup>1</sup>, A. Wadhwa<sup>1</sup>, A. Bjorksten<sup>3</sup>, D. I. Sessler<sup>1</sup>, A. Kurz<sup>4</sup>**<sup>1</sup>*University of Louisville, USA*<sup>2</sup>*Washington University, USA*<sup>3</sup>*Royal Melbourne Hospital, Australia*<sup>4</sup>*University of Bern, Switzerland***16:00-16:30 COFFEE BREAK****(Imperial Foyer)**

**16:30-18:00    SESSION THU/O-06: COMPATATIVE ASPECTS IN THERMAL    (Hall B)**  
**BIOLOGY - PART 2**

Chair: B. Tzschentke, Germany

**ACTIVATION OF THERMOREGULATORY CONTROL ELEMENTS IN  
PRECOCIAL BIRDS DURING THE PRENATAL PERIOD**

**M. Nichelmann**

*Medical University of Minsk, Belarus*

**PRENATAL EPIGENETIC TEMPERATURE ADAPTATION: TURKEY IN  
COMPARISON TO MUSCOVY DUCK**

**M. Nichelmann**

*Medical University of Minsk, Belaus*

**METABOLIC RESPONSES TO REPEATED FOOD DEPRIVATIONS IN BIRDS**

**M. Laurila, E. Hohtola**

*University of Oulu, Finland*

**THERMOREGULATORY USE OF HEAT INCREMENT OF FEEDING IN  
THE TAWNY OWL (STRIX ALUCO)**

**C. Bech<sup>1</sup>, K. E. Praesteng<sup>2</sup>**

<sup>1</sup>*Norwegian University of Science and Technology, Norway*

<sup>2</sup>*University of Tromø, Norway*

**FUNDAMENTAL CHARACTERISTICS OF THE EARLY ONTOGENY OF  
THERMOREGULATION IN BIRDS**

**B. Tzschentke**

*Institute of Biology, Humboldt University of Berlin, Germany*

**THE THRESHOLD FOR EMOTIONAL FEVER IN PHYLOGENY**

**M. Cabanac<sup>1</sup>, A. Cabanac<sup>2</sup>**

<sup>1</sup>*Faculty of Medicine, Université Laval, Canada*

<sup>2</sup>*Aquarium Park of Quebec, Societé des Parcs de Sciences Naturelles du Quebec, Canada*



Chair: A. Milton, UK

**BODY TEMPERATURES AND SPONTANEOUS RUNNING ACTIVITY IN RATS AFTER SUBCUTANEOUS ADMINISTRATION OF LIPOPOLYSACCHARIDE**

**H. P. Laburn<sup>1</sup>, D. Mitchell<sup>1</sup>, T. Cartmell<sup>1,2</sup>**

<sup>1</sup>*Brain Function Research Unit, School of Physiology, University of Witwatersrand, South Africa*

<sup>2</sup>*National Institute of Biological Standards and Control, UK*

**EFFECTS OF SELECTIVE CYCLOOXYGENASE ENZYME INHIBITORS ON LPS-INDUCED HYPOTHERMIA AND SERUM TNF-- $\alpha$  ELEVATION IN BIOTELEMETERED RATS**

**E. S. Akarsu**

*Faculty of Medicine, Ankara University, Turkey*

**BACTERIAL ENDOTOXIN-INDUCED HYPOTHERMIA IN RATS: PUTATIVE ROLE OF CENTRAL DOPAMINERGIC NEUROTRANSMISSION AND PERIPHERAL INFLAMMATION**

**M. Diltor<sup>1</sup>, S. Sarre<sup>2</sup>, Y. Michotte<sup>2</sup>, L. Huyghens<sup>1</sup>**

<sup>1</sup>*Academisch Ziekenhuis, Vrije Universiteit, Belgium*

<sup>2</sup>*Pharmaceutical Chemistry, Vrije Universiteit, Belgium*

**MICROSOMAL PROSTAGLANDIN E SYNTHASE-1 IS RESPONSIBLE FOR FEVER**

**K. Matsumura<sup>1</sup>, W. Inoue<sup>1</sup>, Y. Mizushima<sup>1</sup>, H. Hosokawa<sup>1</sup>, S. Uematsu<sup>2</sup>, S. Akira<sup>2</sup>, S. Kobayashi<sup>1</sup>**

<sup>1</sup>*Graduate School of Informatics, Kyoto University, Japan*

<sup>2</sup>*Research Institute for Microbial Diseases, Osaka University, Japan*

**THE EFFECT OF LIPOPOLYSACCHARIDE AND CYTOKINE ANTISERA ON BODY TEMPERATURE AND SPONTANEOUS RUNNING IN RATS**

**L. S. de Castro, L. Harden, I. du Plessis, H. P. Laburn**

*Brain Function Research Unit, School of Physiology, University of Witwatersrand, South Africa*

**THE ROLE OF NON-PROSTAGLANDIN EICOSANOIDS IN THERMOREGULATION**

**V. Fraifeld<sup>1</sup>, L. Paul<sup>1</sup>, J. Kaplanski<sup>1</sup>, O. Sagi<sup>1</sup>, M. Wolfson<sup>1</sup>, T. Tchaikovskaya<sup>2</sup>, I. Listowsky<sup>2</sup>, M. J. Kluger<sup>3</sup>, W. Kozak<sup>3,4</sup>**

<sup>1</sup>*Faculty of Health Sciences, Ben-Gurion University of the Negev, Israel*

<sup>2</sup>*Albert Einstein College of Medicine, USA*

<sup>3</sup>*Medical College of Georgia, USA*

<sup>4</sup>*Institute of General and Molecular Biology, Nicolaus Copernicus University, Poland*

# Friday, October 15, 2004

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08:30-10:40 SESSION FRI/S-01: FEVER - PART 2

(Hall A)

Chair: C. Blatteis, USA

**POSSIBLE SEQUENCE OF PYROGENIC AFFERENT PROCESSING IN THE POA**

**C. M. Blatteis, C. Feleder, V. Perlik**

*College of Medicine, University of Tennessee Health Science Center, USA*

**ROLE OF CARBON MONOXIDE IN THE THERMOREGULATION AND FEVER**

**L. G. S. Branco**

*Faculdade de Odontologia de Ribeirao Preto, Universidade de Sao Paulo, Brazil*

**IS INTERLEUKIN-6 THE NECESSARY PYROGENIC CYTOKINE?**

**J. Roth, C. Rummel, E. M. Harre, T. Voss, J. Mütze, R. Gerstburger, T. Hübschle**

*Veterinary-Physiology, Justus-Liebig-University Giessen, Germany*

**PRE-FORMED PYROGENIC FACTOR-INDUCED FEVER: ARE PROSTAGLANDINS IMPORTANT?**

**F. H. Veiga, A. S. C. Fabricio, M. C. C. Melo, G. E. P. Souza**

*Laboratory of Pharmacology, FCFRP-USP, Brazil*

**THE CYTOKINE-PROSTAGLANDIN CASCADE IN FEVER PRODUCTION: FACT OR FANCY? (Keynote)**

**C. H. Blatteis**

*College of Medicine, University of Tennessee Health Science Center, USA*

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**08:30-10:40    SESSION FRI/S-02: HYPOTHERMIA IN BRAIN TREATMENT    (Hall B)**

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Chair: R. Greif, Austria

**THERAPUETIC HYPOTHERMIA - INTRODUCTION**

**R. Greif**

*Donauspital/ SMZ-Ost. Vienna, Austria*

**FROM THE ANIMAL EXPERIMENT TO HUMAN TRAILS IN HYPOTHERMIA TO IMPROVE NEUROOUTCOME**

**W. Behringer**

*Vienna General Hospital, Austria*

**MILDE HYPOTHERMIA AFTER CARDIAC ARREST - HOW DOES IT WORK?**

**M. Holzer**

*Medical University Vienna, Austria*

**THE RESULTS FROM LARGE HUMAN STUDIES ON THERAPEUTIC HYPOTHERMIA IN NEUROSURGERY AND TRAUMATIC BRAIN INJURY**

**R. Greif**

*Donauspital/ SMZ-Ost. Vienna, Austria*

**SO MANY ANIMAL STUDIES ON HYPOTHERMIA SO POOR RESULTS OF HUMAN SURGICAL TRAILS - THE DILEMMA OF RESEARCH**

**D. Warner**

*USA*

**DISCUSSION OF THE PANEL: WERE DOES HYOPTHERMIA RESEARCH GO NOW?**

**R. Greif<sup>1</sup>, M. Holzer<sup>2</sup>, W. Behringer<sup>3</sup>, D. Warner<sup>4</sup>**

<sup>1</sup>*Donauspital/ SMZ-Ost. Vienna, Austria*

<sup>2</sup>*Medical University Vienna, Austria*

<sup>3</sup>*Vienna General Hospital, Austria*

<sup>4</sup>*USA*

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**10:40-11:00    COFFEE BREAK    (Imperial Foyer)**

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<b>11:00-12:15</b>	<b>SESSION FRI/O-03: FARM ANIMAL AND LARGE MAMMALS IN HOT ENVIRONMENTS</b>	<b>(Hall A)</b>
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Chair: I. Choshniak, Israel

**LYMPHOCYTE FUNCTIONS IN DAIRY COWS UNDER HOT ENVIRONMENT**

**N. Lacetera**, U. Bernabucci, D. Scalia, B. Ronchi, G. Kuzminsky, A. Nardone  
*Universita Degli Study della Tuscia, Italy*

**THE EFFECT OF FIBER CHARACTERISTICS ON THERMOREGULATORY RESPONSES AND FEEDING BEHAVIOR OF HEAT STRESSED COWS**

**A. Arieli**<sup>1</sup>, A. Rubenstein<sup>1</sup>, U. Moallem<sup>2</sup>, I. Halachmi<sup>2</sup>, Y. Aharoni<sup>2</sup>

<sup>1</sup>*Faculty of Agricultural Food and Environmental Quality, The Hebrew University of Jerusalem, Israel*

<sup>2</sup>*Agricultural Research Organization, Israel*

**BENEFIT OF DIETARY SEAWEED (ASCOPHYLLUM NODOSUM) IN REDUCING HEAT STRAIN AND FESCUE TOXICOSIS: A COMPARATIVE EVALUATION**

**D. E. Spiers**<sup>1</sup>, P. A. Eichen<sup>1</sup>, M. J. Leonard<sup>1</sup>, L. E. Wax<sup>1</sup>, G. Rottinghaus<sup>2</sup>,  
**J. E. Williams**<sup>1</sup>, **D. P. Colling**<sup>3</sup>

<sup>1</sup>*Animal Science Research Center, University of Missouri, USA*

<sup>2</sup>*Veterinary Diagnostic Lab., University of Missouri, USA*

<sup>3</sup>*Acadian Agritech, USA*

**BODY TEMPERATURES BEFORE, DURING AND AFTER PARTURITION IN FARM-MANAGED ANGORA GOATS AND THEIR KIDS**

**H. P. Laburn**<sup>1</sup>, A. Faurie<sup>1</sup>, **D. Mitchell**<sup>1</sup>, G. Mitchell<sup>1,3</sup>, G. Kerley<sup>2</sup>

<sup>1</sup>*Brain Function Research Unit, School of Physiology, University of Witwatersrand, South Africa*

<sup>2</sup>*Terrestrial Ecology Research Unit, University of Port Elizabeth, South Africa*

<sup>3</sup>*University of Wyoming, USA*

**USE OF PHYSIOLOGICAL PARAMETERS TO PREDICT MILK YIELD AND FEED INTAKE IN HEAT-STRESSED DAIRY COWS**

**D. E. Spiers**, J. N. Spain, J. D. Sampson, R. P. Rhoads

*Animal Science Research Center, University of Missouri, USA*

<b>12:15-13:15</b>	<b>SESSION FRI/O-04 : CLOSING SESSION: ROUNDTABLE - PERSPECTIVES IN THERMAL PHYSIOLOGY</b>	<b>(Hall A)</b>
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Chair : M. Horowitz, Israel

**CLOSING SESSION - ROUNDTABLE**

**K. Kanosue**<sup>1</sup>, C. Blatteis<sup>2</sup>, D. Mitchel<sup>2</sup>, M. Sawka<sup>3</sup>, M. Horowitz<sup>4</sup>

<sup>1</sup>*School of Sport Science, Waseda University, Japan*

<sup>2</sup>*University of Tennessee Health Science Center, USA*

<sup>3</sup>*US Army Research Institute of Environmental Medicine, USA*

<sup>4</sup>*The Hebrew University, Israel*