The International Society of Exercise and Immunology (ISEI)
www.exerciseimmunology.com
The 15th ISEI SYMPOSIUM
“Exercise Immunology Gets Personal”
*Precision Prescriptions for the Prevention and Management of Chronic Diseases*

The Westin La Paloma Resort & Spa
3800 East Sunrise Drive, Tucson, Arizona, USA, 85718
24th – 27th October, 2022

**Program**

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<th>Time</th>
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<td><strong>Monday 24th October 2022</strong></td>
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<tr>
<td>13:00 – 16:30</td>
<td>Registration</td>
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<td>16:30 – 17:00</td>
<td>Opening of the Symposium&lt;br&gt;Ana Teixeira (ISEI President)&lt;br&gt;Richard Simpson (Symposium Chair, ISEI President Elect)</td>
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<td>17:00 – 18:00</td>
<td>Welcome Keynote Seminar&lt;br&gt;<strong>Jeff Woods</strong> (USA)&lt;br&gt;“Exercise Immunology in the Age of Pandemics”&lt;br&gt;Chair: Ana Teixeira (Portugal)</td>
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<td>18:00 – 20:00</td>
<td>Welcome Reception</td>
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<tr>
<td><strong>Tuesday 25th October 2022</strong></td>
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<td>07:30 – 08:30</td>
<td>Continental Breakfast and Poster Mounting</td>
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<td>08:30 – 10:00</td>
<td><strong>Session 1: Honorary Lecture &amp; Highlighted Topic</strong>&lt;br&gt;Chairs: Katsuhiko Suzuki (Japan) and Brandt Pence (USA)</td>
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<td>08:30 – 09:00</td>
<td><strong>Jonathan Peake</strong> (Australia)&lt;br&gt;“Look how far we’ve come! Where to next?”</td>
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<td>09:00 – 09:30</td>
<td><strong>Marian Kohut</strong> (USA)&lt;br&gt;“Mechanisms Underlying the benefits of Exercise Training in Protection from Respiratory Viral Infection and Enhanced Antibody Response to Single Session Exercise Post-Immunization”</td>
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<td>09:30 – 10:00</td>
<td><strong>Shlomit Radom-Aizik</strong> (USA)&lt;br&gt;“Molecular Transducers of Physical Activity Consortium (MoTrPAC) - Multi-Omics Approach to Understanding the Health Benefits of Exercise in Children and Across the Lifespan”</td>
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<td>10:00 – 10:30</td>
<td>Tea/Coffee Break</td>
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<td>10:30 – 12:00</td>
<td><strong>Session 2: Inflammaging and Immunosenescence</strong>&lt;br&gt;Chairs: Jeff Woods (USA) and Marian Kohut (USA)</td>
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<tr>
<td>10:30 – 11:00</td>
<td><strong>Janko Nikolich-Žugich</strong> (USA)</td>
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“Aging of secondary lymphoid organs as a key contributor to immune senescence”

11:00 – 11:30  Karsten Krüger (Germany)
   “Immunomodulatory Effects of Exercise Training on T-cells in the Context of Healthy Aging and Inflammation”

11:30 – 11:45  Ivan Bautmans (Belgium)
   “Strength training alters LPS-induced immune responses in peripheral mononuclear blood cells of older persons”

11:45 – 12:00  Ana Pedrosa (Portugal)
   “The impact of 28-week muscle-strength and multicomponent exercises on salivary stress biomarkers and well-being in frail older women”

12:00 – 13:00  Lunch

13:00 – 14:30  Session 3: Immunity, Gut and the Brain
   Chairs: Emily LaVoy (USA) and Hiromi Yano (Japan)

13:00 – 13:30  Monika Fleshner (USA)
   “Exercise and Prebiotics Optimize Gut Microbial Ecology and Promote Stress Robustness”

13:30 – 14:00  Suzi Hong (USA)
   “Brain to Immune and Back: Neuroendocrine Regulatory Pathways of Inflammation Underlying Psychological and Physical Health Interface from an Exercise Immunology Perspective”

14:00 – 14:30  Jacob Allen (USA)
   “The Impact of Exercise and Nutrition on Microbiome-Immune Interactions for Health”

14:30 – 15:00  Tea/Coffee Break

15:00 – 16:30  Session 4: Immunoregulatory Tissue and Crosstalk
   Chairs: Janko Nikolich-Zugich (USA) and Monika Fleshner (USA)

15:00 – 15:30  Barbara Wessner (Austria)
   “Immune-Muscle Crosstalk During Recovery from Exercise – Age Matters”

15:30 – 16:00  James Turner (UK)
   “Immunological Characteristics of Adipose Tissue with Ageing and Exercise”

16:00 – 16:15  Phillip Zimmer (Germany)
   “Exercise and the Kynurenine Pathway – From Bench to Bedside”

16:15 – 16:30  James Vanhie (Canada)
   “Bone marrow-derived extracellular vesicles from exercise trained mice promote mesenchymal stromal cell osteogenic differentiation in mice”

16:30 – 19:00  Poster Session
   Chairs: Lindy Castell (UK) & José Cesar Rosa Neto (Brazil)
   Poster viewing and judging for early career investigator awards

Wednesday 26th October 2022

07:30 – 08:30  Continental Breakfast
08:30 – 10:00  **Session 5: Immunonutrition**  
Chairs: Neil Walsh (UK) and Barbara Wessner (Austria)

08:30 – 09:00  David Nieman (USA)  
“*Nutrition and Exercise Immunology: Scientific Discoveries Using Multiomics Approaches*”

09:00 – 09:30  Jonathan Little (Canada)  
“*Immunomodulatory Potential of Exogenous Ketone Supplementation*”

09:30 – 09:45  Heather Caslin (USA)  
“*Weight cycling induces innate immune memory in adipose tissue macrophages*”

09:45 – 10:00  David Ostrov (USA)  
“The potential for Lactoferrin combined with Diphenhydramine to influence immune responses to COVID-19 and other infectious diseases”

10:00 – 10:30  Tea/Coffee Break

10:30 – 12:00  **Session 6: Infection and Human Performance**  
Chairs: David Nieman (USA) and Karsten Krüger (Germany)

10:30 – 11:00  Neil Walsh (UK)  
“*Sleep and Immune Health in the Athlete and Warfighter*”

11:00 – 11:30  Brian Crucian (USA)  
“*Countermeasures-based Improvements in Stress, Immune System Dysregulation and Latent Herpesvirus Reactivation onboard the International Space Station – Relevance for Deep Space Missions and Terrestrial Medicine*”

11:30 – 11:45  Fabio Lira (Brazil)  
“*Physical activity level induces strong impact on systemic and cellular immunometabolic response in mild-to-moderate COVID-19*”

11:45 – 12:00  Forrest Baker (USA)  
“*T-cell and Neutralizing Antibody Responses to Acute Exercise in Humans with Natural and Synthetic Immunity to SARS-CoV-2*”

12:00 – 13:30  Lunch (ISEI Board Meeting)

13:30 – 15:00  **Session 7: Immuno-Oncology**  
Chairs: Richard Simpson (USA) and Kathryn Schmitz (USA)

13:30 – 14:00  Erik Hanson (USA)  
“The Immune Response in Cancer Survivors: New Cells, Alternative Approaches and Standardized Techniques”

14:00 – 14:30  John Campbell (UK)  
“*Physical Activity and Exercise as Therapeutic Adjuvants for Human Blood Cancers*”

14:30 - 14:45  Gitte Holmen Olofsson (Denmark)  
“Aiming high in HI-AIM; A clinical testing of exercise in cancer”

14:45 – 15:00  Dong-Woo Kang (USA)
"Changes in immune parameters after 12-week high-intensity interval training in men with prostate cancer undergoing active surveillance”

15:00 – 15:30 Tea/Coffee Break

15:30 – 17:00 Session 8: Immuno-Oncology 2
Chairs: Michael Gustafson (USA) and David Bartlett (UK)

15:30 – 16:00 Keri Schadler (USA)
“Differences in Exercise-Induced Immune Response to Melanoma Models in Mice”

16:00 – 16:30 Alejandro Lucia (Spain)
“Exercise in Pediatric Cancer”

16:30 - 16:45 Helena Batatinha (USA)
“Human lymphocytes mobilized with exercise have an anti-tumor transcriptome profile and exert enhanced graft-versus-leukemia effects in xenogeneic mice”

16:45 – 17:00 Tobias Esser (Germany)
“Effect of a single bout of aerobic exercise on NK cell mobilization and infiltration in tumor tissue in prostate cancer patients”

17:30 – 18:30 Pernille Hojman Memorial Lecture
Kathryn Schmitz (USA)
“Effects of Exercise on Factors Influencing the Tumor Microenvironment; Some Evidence, More Questions”
Chairs: Shlomit Radom-Aizik (USA) and Erik Hanson (USA)

19:00 – 21:30 Symposium Dinner – La Paloma Resort & Spa

Thursday 27th October 2022

07:30 – 08:30 Continental Breakfast

08:30 – 10:00 Session 9: Exercise Immunology - Open Presentations
Chairs: Jonathan Peake (Australia) and Suzi Hong (USA)

08:30 – 08:45 Hiromi Yano (Japan)
“Gut Microbiota and Short-chain Fatty Acids in TLR5 Gene-deficient Mice”

08:45 – 09:00 Kristina Gebhardt (Germany)
“Effect of training status and acute endurance exercise on metabolic signatures of CD4+ cells”

09:00- 09:30 Jason Edwards (UK)
“Cutaneous in vivo immunity as a clinically relevant measure of respiratory infection burden in otherwise healthy young adults”

09:15-09:30 Liliana Baptista (USA)
“Impact of genetically modified Lactobacillus Paracasei probiotic designed to express Angiotensin (1-7) combined with exercise training in an aging male rat model: evidence for altered neuro-remodeling and inflammation gene expression”
09:30-09:45  
**Eunhan Cho (USA)**  
"Acute exercise increases NK cell mitochondrial respiration and effector functions under hypoxic conditions"

09:45-10:00  
**Garett Jackson (Canada)**  
"Sex-based differences in leukocyte, endothelial, and platelet derived extracellular vesicles in healthy adults"

10:00 – 10:30  
Tea/Coffee Break

10:30 – 12:00  
**Session 10: Immunometabolism and Metabolic Disease**  
**Chairs:** Guillaume Spielmann (USA) and Jonathan Little (Canada)

10:30 – 11:00  
**Brandt Pence (USA)**  
"Metabolic Regulation of Innate Immunity by Exercise-Derived Metabolites"

11:00 – 11:30  
**José Cesar Rosa Neto (Brazil)**  
"Exercise and Immunometabolism in Inflammation and Obesity: The Role of Metabolic Sensors and Physical Fitness in Immune cells"

11:30 – 12:00  
**Hawley Kunz (USA)**  
"Immune and Metabolic Determinants of Inflammation in Obesity and Insulin Resistance"

12:00 – 13:00  
**Closing of the Symposium and Early Career Research Awards**  
Announcement of the 16th ISEI Symposium and new President-Elect