Open Networking Time Available Online Before the Meeting in the Virtual Meeting Hub

8:00am – 8:15am PDT
Welcome from Julienne Bower, PNIRS President
Location: Virtual Ballroom

8:15am – 9:15am PDT
Norman Cousins Award Lecture
Location: Virtual Ballroom
Intro from Raz Yirmiya


9:15am – 9:30am PDT Break (Move to SwapCard)

9:30am – 10:45am PDT
Member-Sponsored Symposia 1 & 2
Location: SwapCard

Symposium 1: Neuroimmune Signaling in Neurodevelopmental Disorders
Chairs: Staci Bilbo and Caroline Smith

In vivo imaging of neuroimmune mechanisms in autism spectrum disorder. Nicole Zurcher

Early life neural-immune processes and executive function: A potential role in neurodevelopmental disorders. Teresa Reyes

Prenatal C-reactive protein is associated with brain microstructural tissue organization and metabolites in neonates. Marisa Spann

Effects of environmental toxins and stress during development: Key roles for microglia and microbiota. Caroline Smith

Symposium 2: Biobehavioral Interventions in Subjects with Cancer: Moving PNI to the Forefront of Oncology
Chair: Derek Wainwright

Social disparities in cancer: Biobehavioral implications in hematopoietic stem cell transplantation. Jennifer Knight

(continued on next page)
Estrogen modulation of mammary tumor-induced neuroinflammation and cognitive dysfunction in mice. Leah Pyter

The use of preclinical models to examine the role of cognitive processes in recovery from cancer-related fatigue. Elisabeth Vichaya

Overall survival of glioblastoma patients treated with psychosocial modifiers and standard of care or simultaneous radiation, anti-PD-1 mAb (nivolumab), and an IDO1 enzyme inhibitor. Derek Wainwright

10:45 am – 11:00 am PDT

Break

11:00 am – 12:00 pm PDT

**Oral Sessions 1, 2, & 3**

**Location:** SwapCard

**Oral Session 1: Neuroimmunoology of Stress and Depression**

Moderator: Aric Prather

Peripheral inflammation is associated with micro-structural and functional connectivity changes in depression-related brain networks. Neil Harrison

Elimination of stress-associated microglia reverses behavioral deficits by restoring endothelial homeostasis and synaptic- and LTP-related genes in neurons. Damon DiSabato

Association between dysconnectivity of a resting-state functional network and peripheral inflammation in depression. Athina Aruldass

Microglial P2RY12 mediates stress-induced structural remodeling of neurons in the prefrontal cortex and associated behavioral deficits. Justin Bollinger

Systematic review and meta-analysis of cancer related inflammation and depression. Daniel McFarland

**Oral Session 2: PsychoNeuroImmunoology Across the Lifespan**

Moderator: Jude Carroll

Maternal opioid exposure heterogeneously impairs offspring cognition in mice. Brittany Smith

A brief reflective functioning intervention predicts reduced pro-inflammatory gene expression in mothers and children: ATTACH randomized controlled trial. Kharah Ross

Mechanisms of Maternal High-Fat Diet-Induced Brain and Behavior Changes. Alexis Ceasrine

Early life adversity and systemic, cellular, and genomic responses to acute psychosocial stress among adolescents. Kate Kuhlman

Astrocyte immunosenescence in IL-10 and cholesterol signaling in the aged brain impairs microglial regulation following peripheral immune activation. Shane O’Neil
Oral Session 3: Gut-brain axis, sex differences, and psychopathology
Moderator: Peter Grace

Leaky gut syndrome, body mass and inflammation during pregnancy and postpartum. Anna Strahm


The gut connection: Gut leakiness as a pathway from breast cancer survivors’ relationship satisfaction to inflammation across treatment. Rosie Shrout

Perinatal sex hormones induce male-biased microglial mitochondrial dysfunction. Evan Bordt

Converging evidence for immune dysregulation in the frontal cortex in schizophrenia. Clare Beasley

12:00pm – 12:30pm PDT
Break

12:30pm – 1:45pm PDT
Member-Sponsored Symposia 3 & 4
Location: SwapCard

Symposium 3: Stress-Related Transcriptome and Psychoneuroimmunology of Stress and Depression: Integration of Animal and Human Experimental Models
Chair: Joshua Cho

Adolescent stress increases neuroimmune reactivity and perivascular immune cells. Gretchen Neigh

Microglia are necessary for recall of anxiety-like behavior. John Sheridan

The metabolic basis of inflammation-induced depression. Robert Dantzer

Transcriptomic predictors of inflammation-induced symptoms of depression and anxiety. Joshua Cho

Symposium 4: Ageing-Related Cognitive Decline: Causes and Consequences
Chairs: Sarah Spencer and Ruth Barrientos

Microglial phenotype in ageing and disease. Jenna Zeibell

Ageing, high-fat diet, and precipitous cognitive decline: Potential mechanisms. Ruth Barrientos

The microglial contribution to ageing-related cognitive decline. Sarah Spencer

The relationship between gut microbiota and longitudinal cognitive function: A potentially modifiable factor in brain ageing and dementia risk. Barbara Bendlin
1:45pm – 2:00pm PDT

**Break** (Move to Ballroom)

2:00pm – 3:00pm PDT

**Ronald Glaser Frontiers in PNI Lecture**

*Location: Virtual Ballroom*

Intro from **Steve Cole**

“**Crosstalk Connecting Inflammation, Marrow, and the Nervous System**” from **Matthias Nahrendorf**

3:00pm – 4:00pm PDT

**Poster Session 1**

*Location: Virtual Ballroom*

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**Friday, May 21st, 2021**

*Open Networking Time Available Online Before the Meeting in the Virtual Meeting Hub*

7:00am – 8:00am PDT

**Poster Session 2**

*Location: Virtual Ballroom*

8:00am – 9:00am PDT

**Welcome Back** from **Julienne Bower**, PNIRS President

*Location: Virtual Ballroom*

**George Solomon Memorial Lecture**

*Location: Virtual Ballroom*

Intro from **Jennifer Felger**

“**Beyond Depression: The Expanding Role of Inflammation in Psychiatric Disorders**” from **Andrew Miller**

9:00am – 9:15am PDT

**Break** (Move to SwapCard)

9:15am – 10:30am PDT

**Presidential Symposium & Member-Sponsored Symposium 5**

*Location: SwapCard*

**Presidential Symposium: PNI Perspectives on COVID-19**

Chair: **Julienne Bower**

*Could psychological factors influence COVID-19 outcomes? **Kavita Vedhara** and **Lucy Fairclough**

*SARS-CoV-2 infection of the CNS. **Thomas Lane*

(continued on next page)
The landscape of humoral immunity in the cerebrospinal fluid of COVID-19 patients with neuropsychiatric impairment. Christopher Bartley

Post-COVID depression: A provocative testing of the immunopsychiatry of mood disorders. Francesco Benedetti

Symposium 5: The Sleep-Brain-Immune Interface: Role of Sleep Disturbances in Pain, Fatigue, Emotional Processing, and Cognitive Health
Chair: Judith Carroll

Sleep disruption and inflammation: Co-conspirators in chronic pain. Mark Opp

Sex differences to prolonged experimentally induced sleep disturbances: Pain, fatigue, and pro- and counter-inflammatory responses. Monika Haack

Sleep disturbance and reward and emotion processing mechanisms of depression: Moderating role of sex and inflammation. Michael Irwin

Biological aging in breast cancer survivors, cognitive symptoms, and the protective role of good sleep. Judith Carroll

Non-REM sleep response during recovery sleep counteracts impaired inflammatory resolution due to sleep disturbance in healthy humans. Larissa Engert

10:30am – 10:45am PDT  Break

10:45am – 11:45am PDT  Oral Sessions 4, 5, & 6  Location: SwapCard

Oral Session 4: Neuro-immune Risk and Resilience Factors
Moderator: Kate Kuhlmann

Social support and perceived stress buffer caregiving’s link with antibody responses to hepatitis A vaccine: A test of the stress-buffering hypothesis. Annelise Madison

The value of cultivating multiple resilience factors: effects of resilience factors on inflammation-related depression in the context of stress. Andrew Manigault

Sleep fragmentation enhances inflammation and compromises stress-responsive neuronal activity following traumatic brain injury. Zoe Tapp

Effects of insomnia and inflammation on spatial memory: a randomized controlled trial of endotoxin in older adults. Dominique Piber

Non-REM sleep response during recovery sleep counteracts impaired inflammatory resolution due to sleep disturbance in healthy humans. Larissa Engert
Oral Session 5: Cancer PsychoNeuroImmunology
Moderator: Jackie Schwarz

_Toward a clinical perioperative systemic use of CpG-C to prevent postoperative metastases._ **Elad Sandbank**

_Do extent of breast cancer surgery impact inflammation and fatigue? More is not better._ **Arielle Radin**

_Doxorubicin sensitizes breast cancer cells to stress signaling._ **Aeson Chang**

_Effects of perioperative beta-blockade and COX2-inhibition on 5-year disease-free-survival in colorectal cancer patients undergoing curative surgery: A pilot randomized controlled trial._ **Itay Ricon-Becker**

_Voluntary exercise reduces hypoxia gene expression and inhibits mammary tumor growth through alteration of mononuclear phagocytes._ **Donald Lamkin**

Oral Session 6: Signaling Molecules in Health and Disease
Moderator: Asya Rolls

_Spinal interleukin-10 maintains remission of neuropathic pain via delta opioid receptor upregulation in dorsal root ganglia._ **Geoffrey Laumet**

_Between the brain and the heart: Effects of mood-regulating networks on immune and healing process following heart attack._ **Hedva Haykin**

_Airway inflammation leads to microstructural brain changes in asthma._ **Melissa Rosenkranz**

_Microglial BDNF regulates susceptibility to the behavioral and synaptic effects of chronic stress._ **Samuel Woodburn**

_Corticosterone activity regulation by hepatic sympathetic innervation._ **Eden Avishai**

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11:45am – 12:15pm PDT  **Break**

12:15pm – 1:15pm PDT

Discussion Groups 1 & 2

**Discussion Group 1: New Approaches for Studying Behavior in PNI Research**

*Location: Virtual Ballroom*

Leader: Robert Dantzer  
Speakers: Jan Pieter Konsman, Jennifer Felger, and Catherine Dulac

**Discussion Group 2: Advantages and Methodological Considerations of Experimental Endotoxemia in Humans: Towards a Standardized Procedure for its Application in PNI**

*Location: Virtual Meeting Hub*

Leader: Julie Lasselin  
Speakers: Joshua Cho, Mats Lekander, Jonathan Savitz, and Manfred Schedlowski
1:15pm – 2:00pm PDT

**Robert Ader Award Lecture**

*Location: Virtual Ballroom*

Intro from Teresa Reyes

“Neuron-Microglia Interactions Shape Synapses and Behavior in Chronic Stress” from Eric Wohleb

2:00pm - 2:30pm PDT

**Closing and Awards**

*Location: Virtual Ballroom*

Meeting Close and Award Announcements from Julienne Bower

*BBI Impact Award* announced by Carmine Pariante

*Michael Irwin Equity, Diversity, and Inclusion Awards* announced by Deborah Hodgson and Sarah Spencer

*Robert Ader New Investigator Award and Norman Cousins Award* announced by Julienne Bower

2:30pm - 3:00pm PDT

**Member Meeting and Cocktails**

*Location: Virtual Ballroom*