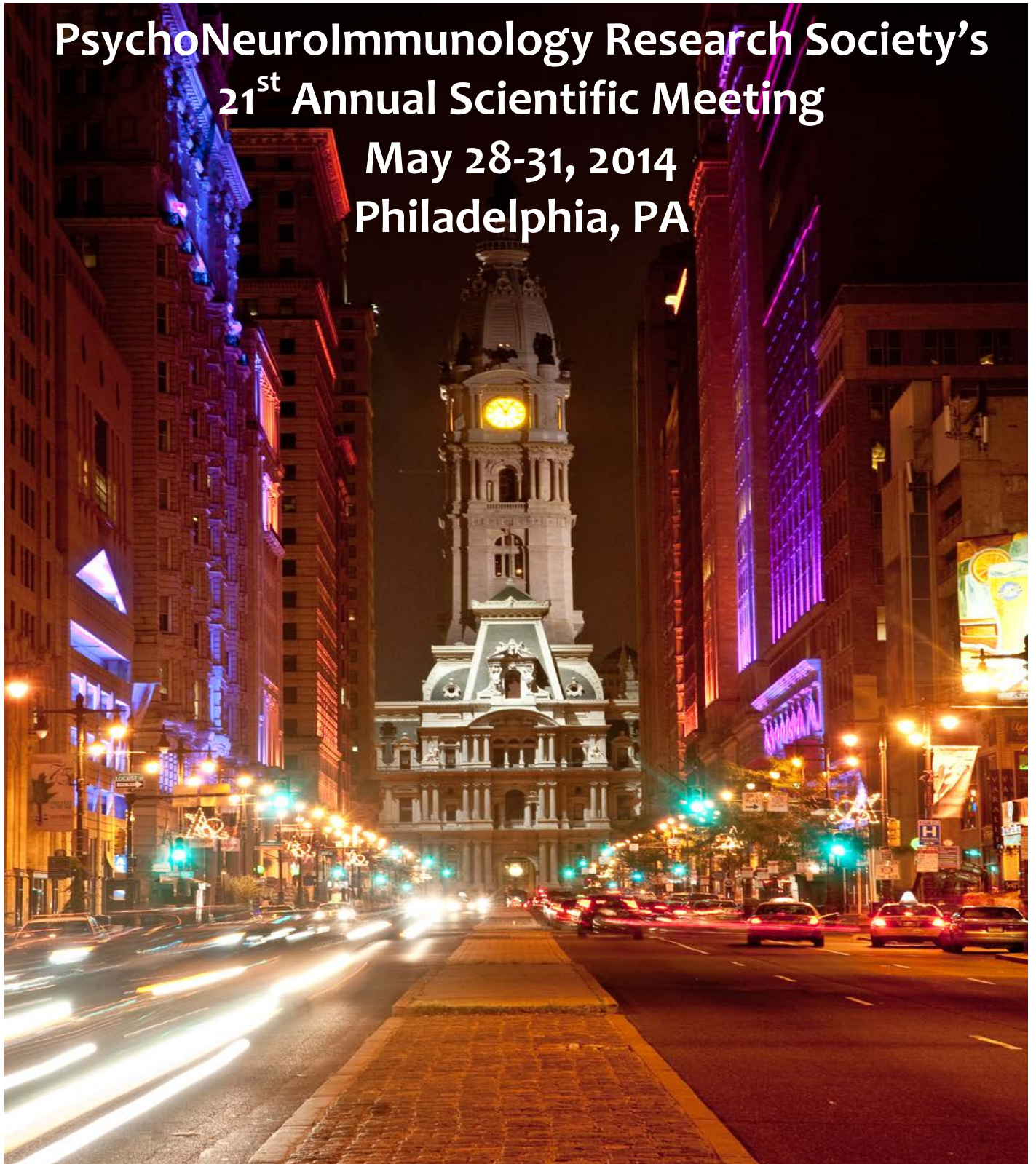




PsychoNeuroImmunology
Research Society



**PsychoNeuroImmunology Research Society's
21st Annual Scientific Meeting
May 28-31, 2014
Philadelphia, PA**



Message from the President of the PNIRS



It is my pleasure to welcome you to the 21st meeting of the PsychoNeuroImmunology Research Society in Philadelphia, PA.

The PNIRS Executive Committee and Scientific Affairs Committee have developed a program that is exciting and diverse. As usual the meeting features the popular Educational Short Course, Presidential Symposium, the Cousins Award Lecture, and the Robert Ader New Investigator Award Lecture. In addition, we are thrilled to include in this meeting the inaugural George Solomon Memorial Lecture. A generous pledge from Susan Keran Solomon will support this special lecture series for years to come. We also offer a keynote lecture in the newly titled Frontiers in PNI series. This lecture is reserved for outstanding non-PNIRS member scientists and is supported by the PNIRS Excellence Fund. By supporting outstanding invited lectures, we aim to further increase the visibility of our Society and to inspire the next generation of scientists exploring brain, behavior, and immunity.

To give PNIRS members a significant role in shaping the scientific program, last fall we announced the plan to feature two member-sponsored symposia at this meeting and issued a call for proposals. The response was overwhelming as a total of eight proposals were received. The two member-sponsored symposia that will be presented at this meeting were selected after careful evaluation by the Scientific Affairs Committee. Supplementing the special lectures and symposia are four oral sessions and two poster sessions. In all, 180 abstracts were submitted.

Finally, we are pleased to continue the tradition of offering a robust program for trainees. The Scientific Affairs Committee and the Training Committee evaluated and scored abstracts submitted by trainees; and after taking into account other factors to ensure geographic diversity, 18 scholars were selected. These scholars receive funds to partially support their travel and participate in the Mentor-Trainee Colloquium.

Finally, I would be remiss not to thank several people for helping make this meeting a great success. Many thanks to the Scientific Affairs Committee; the local organizers Alex Kusnecov and Doina Ganea; our Secretary/Treasurer Jan Moynihan; our President-elect Mark Opp; and the Trainee Committee headed by Alex Kusnecov. Special thanks go to our Executive Director Susan Solomon for her continuous support and passion for our Society and to Maggie Brewer for just about everything! Last, but not least, I thank our company partners and PNIRS members for the financial support.

I look forward to seeing you in Philadelphia!

Rodney W. Johnson
PNIRS President, 2013-2014



Follow us on Twitter @PNIRS
#PNIRS2014

Table of Contents

Page	
1	Message from the President
2	Acknowledgements & Sponsors
3	Officers & Committees
4	2015 Meeting
5	General Meeting Information
6	Awards
8	Trainee Scholars
9	Schedule at a Glance
10	Wednesday Schedule
11	Thursday Schedule
15	Friday Schedule
18	Saturday Schedule
21	Poster Sessions
31	Maps & Floor Plans

Acknowledgements and Sponsors

We also gratefully appreciate the support of Elsevier, Inc. for sponsoring the Brain, Behavior, and Immunity Editorial Board luncheon and providing the complimentary copies of *Brain, Behavior, and Immunity* for non-member registrants.

The PNIRS Trainee Scholar Program is partially supported by gifts from:

Rodney Johnson, University of Illinois at Urbana-Champaign

Keith W. Kelley, University of Illinois at Urbana-Champaign, Editor-in-Chief of *Brain, Behavior, and Immunity*,

Andrew Miller, Emory University, and

Virginia Sanders, The Ohio State University

We also acknowledge sponsorship from the Mead Johnson Pediatric Nutrition Institute.



About PNIRS

The PsychoNeuroImmunology Research Society is an international organization for researchers in a number of scientific and medical disciplines, including psychology, neurosciences, immunology, physiology, pharmacology, psychiatry, behavioral medicine, infectious diseases, endocrinology and rheumatology, who are interested in interactions between the nervous and immune systems, and the relationship between behavior and health. An important goal is to conduct basic research that can be translated into clinically relevant health applications.

The PsychoNeuroImmunology Research Society (PNIRS) was incorporated in the state of Pennsylvania in 1993 after a meeting in April of that year and is a nonprofit organization. During the meeting the founding members determined that the purpose of the Society is to promote the study of interrelationships among behavioral, neural, endocrine and immune processes and to encourage collaborations among immunologists, neuroscientists, clinicians, health psychologists and behavioral neuroscientists.

Officers

Rodney Johnson (President)
Manfred Schedlowski (Past President)
Mark Opp (President-Elect)
Jan Moynihan (Secretary/Treasurer)
Susan Solomon (Executive Director)

PNIRS Staff

Maggie Brewer

PNIRS Trainee Scholars Program Coordinator

Alexander Kusnecov

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Alexander Kusnecov
Leonardo Tonelli
Kimberly Kelley

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Michael Irwin
Linda Janusek
Margaret Kemeny
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John Sheridan

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Staci Bilbo
Steve Cole
Jonathan Godbout
Ning Quan
Edward Suarez
Rohan Walker

2015 Meeting



PNIRS 22nd Annual Scientific Meeting

Seattle, Washington
June 3-6, 2015

Conference Hotel: Hyatt @ Olive 8 Seattle
Banquet Location: Chihuly Garden and Glass



www.chihulygardenandglass.com



General Information

Registration Desk

The registration desk is located in the *Commonwealth Foyer/Pre-Function area on the second floor*. Please check in to receive your name badge and conference materials. Name badges are required at all times in order to access sessions and events. The registration desk will be open during the following hours:

Wednesday, May 28: 11:00 am – 5:00 pm
Thursday, May 29: 8:00 am – 4:00 pm
Friday, May 30: 8:00 am – 4:00 pm
Saturday, May 31: 8:00 am – 4:00 pm

The registration desk will be closed Thursday, Friday, and Saturday from 1:00-2:00 for staff lunch.

Chairs/Co-Chairs

Chairs of the sessions should be in the designated room at least 10 minutes before the session starts in order to assist the speakers. Every effort should be made to keep the session on schedule.

Symposium and Oral Session Speakers

Speakers should go to the designated room a minimum of 10 minutes before the session starts. Please introduce yourself to the Chair of your session. Speakers must strictly adhere to the allocated time.

Poster Presenters

The Poster Sessions will be held in *Millennium Hall*. Push pins for mounting the posters will be provided. Look for your poster number in this Program Book. Remaining posters may be discarded if they are not taken down promptly.

Poster Session 1: Please hang your poster the morning of Thursday, May 29th, after 9:00am. Remove your posters no later than the morning of Friday, May 30th.

Poster Session 2: You may begin to hang your posters after lunch on Friday, May 30th. Please remove your posters immediately at the end of your poster session as we will need to break down the room to set-up for the closing banquet.

Poster Data Blitz

The Poster Data Blitz talks will take place in *Commonwealth Hall*. All Data Blitz participants will give a 3-minute oral presentation with a maximum of 2 slides. Given their brevity, please upload all files in advance before the 30-minute Data Blitz begins. After your presentations, please re-join everyone in *Millennium Hall*.

Guests

Guests accompanying registrants are welcome to attend the Opening Reception and Banquet as long as they have registered. Guest tickets for both events can be purchased at the registration desk.

Phones

As a courtesy to presenters, speakers, and attendees, please switch cell phones to silent mode during all sessions and speakers. Please leave the session when answering calls.

Lost and Found

If you find articles left behind by other conference attendees, please bring items to the PNIRS registration desk for safe-keeping.

Certificates of Attendance and Participation

Please e-mail pnirs@pnirs.org to request a certificate. It will be e-mailed to you after the conference.

The Norman Cousins Award Lecture



The Norman Cousins Award is the highest honor given by the *PsychoNeuroImmunity Research Society* to an individual for outstanding contributions to research in psychoneuroimmunology. Norman Cousins was an articulate spokesman and advocate for psychoneuroimmunology, whose support and generosity has facilitated the career development of many investigators in this interdisciplinary field of endeavor. To contribute to the advancement of knowledge in psychoneuroimmunology, Ellen Cousins, Norman's wife, created the Norman Cousins Memorial Fund, and the California Wellness Foundation provided the endowment for the Norman Cousins Memorial Award and Lecture to be delivered as a highlight of the annual meeting of the *PsychoNeuroImmunity Research Society*.

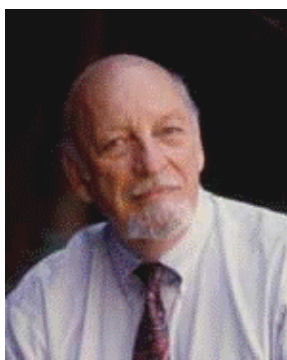
2014 Norman Cousins Award Lecture

*The blood-brain barrier:
A vital part of the neuroimmune axis*

William Banks, M.D.

Department of Internal Medicine and Associate Director
for the Geriatric Research & Education Clinical Center,
University of Washington

The Robert Ader New Investigator Award



In honor of Dr. Robert Ader, a pioneer in the field of psychoneuroimmunology, the *PsychoNeuroImmunity Research Society* presents the Robert Ader New Investigator Award. This prestigious award is presented to an outstanding new research scientist who has made exciting basic science or clinical contributions to the field of PNI. The award honors Dr. Ader's innovation and creativity as a scientist and recognizes his contributions to the instantiation of PNI as a meaningful endeavor dedicated to the betterment of health and the prevention of disease.

2014 Robert Ader New Investigator Award Lecture

*Stress-glia interactions: New opportunities and directions
in understanding central control of complex behavior*

Rohan Walker, Ph.D.

School of Biomedical Sciences and Pharmacy, Hunter
Medical Research Institute,
University of Newcastle, Australia

2015 COUSINS AND ADER AWARDS

The winners of the 2015 Norman Cousins Award Lecture and the Robert Ader New Investigator Award will be announced at the Closing Banquet on Saturday, May 31st.

The George Solomon Memorial Lecture



The George Solomon Memorial Lecture is newly established in 2014 and is named for a most prominent figure in the history of PNI. George Solomon was truly a visionary; very early in his career, he came to believe that certain diseases, such as autoimmune diseases, were modified by psychological factors. His formal investigations into the connections between the mind and body, as well as their implications for health and disease date back to his first published reports in the early 1960's. Throughout his illustrious career, Dr. Solomon was a strong leader of our field, an outspoken advocate for our science, and a warm and generous collaborator, mentor and friend. This lecture has been endowed by his wife, Susan Keran Solomon, to honor the history of PNI and the Society, and to provide an annual forum for discussion of the important interconnections between psychological and physical processes for health and illness.

2014 George Solomon Memorial Lecture

Risk and resilience: Neural mechanisms affecting emotion and health

Richard J. Davidson, Ph.D.

Department of Psychology and Psychiatry, University of Wisconsin-Madison

The Frontiers in PNI Lecture



PsychoNeuroImmunology
Research Society

The *Frontiers in Psychoneuroimmunology* lecture is supported by generous donations to the PNIRS Excellence Fund. The PNIRS Excellence Fund was established in 2011 to recruit outstanding non-PNIRS member scientists to participate in our annual meetings. By supporting outstanding invited lectures, we aim to further increase the visibility of our Society and to inspire the next generation of scientists exploring brain, behavior, and immunity.

2014 Frontiers in PNI Lecture

*Prenatal stress and epigenetic programming:
A role for inflammation*

Tracy Bale, Ph.D.

Department of Animal Biology and Director, Neuroscience Center, University of Pennsylvania

PNIRS Trainee Scholars

Trainee Scholar	Presentation
Lida Beninson	Oral Session 2
Caroline Bull	Data Blitz and Poster Session 2; Poster # 10
Erin Cvejic	Data Blitz and Poster Session 2; Poster # 17
Ryan Dawes	Data Blitz and Poster Session 1; Poster # 29
RoseMarie DiMatteo	Data Blitz and Poster Session 2; Poster # 28
Peter Grace	Data Blitz and Poster Session 2; Poster # 11
Richa Hanamsagar	Data Blitz and Poster Session 1; Poster # 47
Cara Hueston	Data Blitz and Poster Session 2; Poster # 36
Seung Jung	Oral Session 4
Emily LaVoy	Oral Session 1
Christine McInnis	Data Blitz and Poster Session 1; Poster # 53
Daniel McKim	Data Blitz and Poster Session 2; Poster # 26
Christina Nemeth	Oral Session 2
Naghmeh Nikkheslat	Oral Session 4
Robin Ortiz	Data Blitz and Poster Session 2; Poster # 16
Kimberly Page	Data Blitz and Poster Session 2; Poster # 19
Timothy Sannes	Oral Session 1
Elisabeth Vichaya	Oral Session 1

◇ Indicates a Trainee Scholar throughout the program

***Congratulations to our
2104 Trainee Scholars!***

Schedule at a Glance

Time	Wednesday May 28	Thursday May 29	Friday May 30	Saturday May 31	Time
8:00-8:30		Breakfast Available	Breakfast Available	Breakfast Available	8:00-8:30
8:30-9:00	Financial Committee Meeting	Robert Ader New Investigator Lecture	Member Sponsored Symposium	Oral Session 4	8:30-9:00
9:00-9:30					
9:30-10:00	Scientific Affairs Committee Meeting	Presidential Symposium	Glial-Immune Mechanisms in Neurodevelopment and Neuro- developmental Diseases	Oral Session 4	9:30-10:00
10:00-10:30					
10:30-11:00	Membership Committee Meeting	Nutrition: Implications for PNI	Break	Break <i>Commonwealth Foyer</i>	10:30-11:00
11:00-11:30					
11:30-12:00	Nominating Committee Meeting	Lunch- On Your Own	Oral Session 2	Member Sponsored Symposium	11:30-12:00
12:00-12:30					
12:30-1:00	Board of Directors Meeting	Concurrently: Leader Luncheon	Lunch- On Your Own	Integrating the Microbiome into PNI Paradigms and Mind/Body Science	12:30-1:00
1:00-1:30					
1:30-2:00	Board of Directors Meeting	Poster Data Blitz 1	Concurrently: BBI Editorial Board Luncheon	Lunch- On Your Own	1:00-1:30
2:00-2:30					
2:30-3:00	Educational Short Course	Poster Session 1	Oral Session 3	Poster Session 2	2:00-2:30
3:00-3:30					
3:30-4:00	Learning, Memory, and Inflammation: Behavioral and Brain	Oral Session 1	Break	Frontiers in PNI Lecture by Tracy Bale	2:30-3:00
4:00-4:30					
4:30-5:00	Assessments in Humans and Animals	Oral Session 1	Break	Frontiers in PNI Lecture by Tracy Bale	3:00-3:30
5:00-5:30					
5:30-6:00		Break	Richard J. Davidson	PNIRS Business Meeting <i>All are invited</i>	3:30-4:00
6:00-6:30	Publishing in Highly Regarded Journals	Norman Cousins Memorial Lecture			5:00-5:30
6:30-7:00					
7:00-7:30	Trainee-Mentor Colloquium	Welcome Reception		Closing Banquet and Dancing	5:30-6:00
7:30-8:00					
8:00-8:30	Trainee Social Offsite	Welcome Reception		Closing Banquet and Dancing	6:00-6:30
9:00-					

Wednesday, May 28

8:00-3:00 COMMITTEE MEETINGS

Roberts Board Room, 33rd floor

- 8:30 Financial Committee
- 9:30 Scientific Affairs Committee
- 10:30 Membership Committee
- 11:30 Nominating Committee
- 12:30 Board of Directors Meeting (lunch included)

3:00-5:30 EDUCATIONAL SHORT COURSE

Commonwealth Hall, Second floor

Chair: Raz Yirmiya

Learning, Memory, and Inflammation: Behavioral and Brain Assessments in Humans and Animals

Relevance of inflammation to learning and memory.

Raz Yirmiya

Department of Psychology, The Hebrew University, Israel

Rodent models of memory: Do rats remember like people?

Howard Eichenbaum

Department of Psychology and Director of Center for Memory and Brain, Boston University

Assessing learning and memory in humans.

Neal Cohen

Department of Psychology and Neuroscience Program, and Director of Center for Nutrition, Learning, and Memory, University of Illinois at Urbana

A translational perspective on the human hippocampus in spatial cognition and anxiety.

Brian Cornwell

Brain and Psychological Sciences Research Centre, Swinburne University of Technology, Melbourne, Australia

6:00-7:00 PUBLISHING IN HIGHLY REGARDED JOURNALS: WHAT DOES IT TAKE?

Commonwealth Hall, Second floor

(All trainees, members and non-members, are encouraged to attend)

Keith Kelley, Editor-in-Chief, *Brain, Behavior, and Immunity*

Toby Charkin, Elsevier

7:00-9:00 TRAINEE/MENTOR COLLOQUIUM (Trainee Scholars only, dinner provided)

Roberts Board Room, 33rd Floor

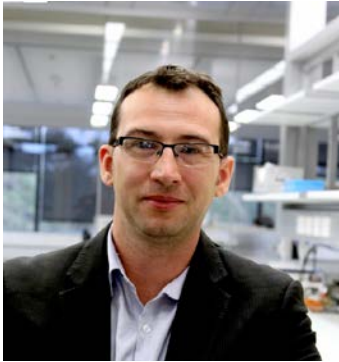
9:00- TRAINEE SOCIAL (All trainees, members and non-members, are welcome)

Offsite, Brü Craft & Wurst, 1318 Chestnut Street

Thursday, May 29

8:00-9:00 **BREAKFAST**
Millennium Foyer, Second floor

9:00-9:30 **ROBERT ADER LECTURE**
Commonwealth Hall, Second floor
Nominator: Raz Yirmiya



Stress-glia interactions: New opportunities and directions in understanding central control of complex behavior.

Rohan Walker

School of Biomedical Sciences and Pharmacy, Hunter Medical Research Institute,
University of Newcastle, Australia

9:30-11:30 **SYMPOSIUM 2: PRESIDENTIAL SYMPOSIUM**
Commonwealth Hall, Second floor
Chair: Rodney W. Johnson

Nutrition: Implications for Psychoneuroimmunology

Nature, nurture or nutrition? Impact of maternal nutrition on fetal development and stress resilience later in life.

Deborah Sloboda

Department of Biochemistry and Biomedical Sciences, McMaster University

Early nutrition and immune-mediated childhood disorders.

Sharon Donovan

Department of Food Science and Human Nutrition, University of Illinois

The interplay between the intestinal microbiota and the brain.

Premysl Bercik

Department of Medicine, McMaster University

Infection, iron bioavailability and neuro-behavioral development.

Jonathan Godbout

Department of Neuroscience, The Ohio State University

11:30-1:00 **LUNCH (On Your Own)**
Concurrently: Leader Luncheon (Invitation only)

1:00-1:30

POSTER DATA BLITZ 1

Commonwealth Hall, Second floor

Chair: Alex Kusnecov

Poster Number	Title
29◇	<i>A Novel Combined Psychosocial Stress Paradigm Alters Tumor VEGF and Circulating Exosomes in a Spontaneous, Metastatic Model of Breast Cancer.</i> R. P. Dawes, D. K. Byun, E. B. Brown, K. S. Madden [1368]
47◇	<i>Sex differences in microglial morphology and number: implications for function and behavior.</i> R. Hanamsagar, J. Schwarz, L. Williamson, S. Bilbo [1428]
53◇	<i>Sensitization of pro-inflammatory, and habituation of anti-inflammatory gene expression responses to repeated acute stress.</i> C. McInnis, M. Thoma, D. Gianferante, L. Hanlin, X. Chen, D. Wang, B. Gross, N. Rohleder [1438]
65	<i>Dietary prebiotics increase Bifidobacterium spp. and Lactobacillus spp. in the gut and promote stress resistance.</i> A. Mika, B. N. Greenwood, M. Chichlowski, D. Borchert, K. A. Hulen, B. M. Berg, M. Paton, M. Fleshner [1474]
67	<i>Prenatal Depressive Symptoms, Oxytocin and Birth-weight in Urban African American Women.</i> L. Garfield, C. Giurgescu, R. White-Traut, C. Carter, D. Holditch-Davis, B. L. McFarlin, J. S. Seng, D. Schwertz [1477]
72	<i>Early life stress and perinatal glucocorticoid exposure produce complex immune system alterations, including accelerated T cell immunosenescence, in adolescent rhesus macaques.</i> J. Kohn, B. R. Howell, C. C. Ibegbu, M. M. Sanchez [1496]
74	<i>High levels of aerobic fitness are associated with fewer senescent T-cells and a lower prevalence of latent cytomegalovirus infection in healthy men.</i> N. H. Agha, A. B. Bigley, G. Spielmann, E. C. LaVoy, M. Pistillo, H. E. Kunz, M. Hussain, R. J. Simpson [1501]

1:30-3:30

POSTER SESSION 1

Millennium Hall, Second floor

See poster number list in back of program. The number in bracket [nnnn] indicates the abstract number in the booklet.

The abstract booklet was e-mailed to all participants. To have another copy e-mailed to you please stop by the registration desk.

3:30-5:30

ORAL SESSION 1

Commonwealth Hall, Second floor

Chair: Jason O'Connor

- 3:30 *β 2-Adrenergic Agonist Treatment Inhibits 4T1 Breast Tumor Metastasis to the Lung.*
K. S. Madden, R. P. Dawes, D. K. Byun, E. B. Brown [1299]
- 3:45 *Tumor Progression Increases Neuroinflammation, Fatigue and Depressive-like Behavior without Altering Muscle Function.*
D. M. Norden, S. Bicer, R. Jing, C. J. Henry, L. E. Wold, P. J. Reiser, D. O. McCarthy, J. P. Godbout [1306]
- 4:00 *Chronic stress promotes lymph node metastasis through beta-adrenergic regulation of lymphangiogenesis.*
C. P. Le, C. Kim-Fuchs, M. A. Pimentel, M. G. Chai, C. J. Nowell, T. Karnezis, M. Herald, S. A. Stacker, E. K. Sloan [1323]
- 4:15 *Is caregiver sleep related to allogeneic hematopoietic stems cell transplant engraftment?*
T. S. Sannes, S. J. Phillips, C. L. Natvig, S. K. Mikulich-Gilbertson, B. Brewer, T. L. Simoneau, M. L. Laudenslager [1336] \diamond
- 4:30 *Can indoleamine 2,3-dioxygenase (IDO) be targeted to improve tumor clearance as well as attenuate cancer-related symptoms?*
E. G. Vichaya, D. W. Vermeer, A. Kavelaars, J. H. Lee, R. Dantzer [1396] \diamond
- 4:45 *CD8+ T cells are Important for Recovery from Chemotherapy-Induced Neuropathy in Mice.*
K. Krukowski, N. Eijkelkamp, H. Wang, M. Qi-Lang, R. Dantzer, C. J. Heijnen, A. Kavelaars [1419]
- 5:00 *A single bout of exercise improves the expansion of cytotoxic T-cells specific to melanoma antigens in healthy humans: Implications for adoptive transfer immunotherapy.*
E. C. LaVoy, J. Blaney, P. Hanley, C. M. Bollard, R. J. Simpson [1423] \diamond
- 5:15 *Social isolation and gene expression tumor profiles in breast cancer patients.*
J. Bower, S. Cole [1447]

5:30-6:00

BREAK

Millennium Foyer, Second floor

Friday, May 30

8:00-9:00 **BREAKFAST**
Millennium Foyer, Second floor

9:00-11:00 **MEMBER SPONSORED SYMPOSIUM**
Commonwealth Hall, Second floor
Co-Chairs: Staci Bilbo and Jonathan Kipnis

Glial-Immune Mechanisms in Neurodevelopment and Neurodevelopmental Diseases

Biome reconstitution with "old friends" prevents long-term glial-immune sensitization and behavioral abnormalities induced by early-life infection.

Staci Bilbo
Duke University

Synaptic pruning by microglia in early and late stages of neurodevelopment.

Dori Schafer
Children's Hospital, Harvard University

Control of synaptic connectivity by astrocytes in health and disease.

Cagla Eroglu
Duke University

Microglia malfunction in pathogenesis of Rett syndrome.

Jonathan Kipnis
University of Virginia

Discussant: Keith Kelley, Professor Emeritus, University of Illinois, Urbana-Champaign

11:00-11:30 **BREAK**
Millennium Foyer, Second floor

11:30-1:00 **ORAL SESSION 2**
Commonwealth Hall, Second floor
Chair: Jaclyn Schwartz

11:30 *Exposure to acute stress modifies plasma exosomes capable of improving host defense to bacterial challenge.*

L. A. Beninson, J. Campisi, P. N. Brown, A. B. Loughridge, J. Saludes, A. Hills, T. Woodworth, W. Craig, H. Yin, M. Fleshner [1289] ◇

11:45 *Neuroinflammation mediates the delayed behavioral effects of microembolism.*

C. L. Nemeth, C. J. Barnum, M. G. Tansey, G. N. Neigh [1309] ◇

12:00 *A role for high mobility group box-1 protein as an endogenous inflammatory mediator in the rat brain.*

J. Damm, L. M. Harden, F. Aslani, D. Ott, J. Roth, R. Gerstberger, C. Rummel [1350]

12:15 *Social Stress Enhances Immature Neutrophil Release from Bone Marrow in Murine Aspergillus Fumigatus-induced Allergic Airway Inflammation.*

B. F. Reader, P. D. Nicole, T. J. Andrew, A. C. Juan, M. T. Bailey, J. P. Godbout, J. F. Sheridan [1369]

12:30 *Acute neonatal immune challenge: Implications for the programming of later life female sub-fertility.*
E. A. Fuller, L. Sominsky, K. T. Rolfe, J. M. Sutherland, E. A. McLaughlin, D. M. Hodgson [1402]

12:45 *Infiltrating monocytes contribute to neuroinflammation in obese mice with latent herpes simplex virus-1.*
A. Monroy, P. A. Sheridan [1424]

1:00-2:30 **LUNCH** (On Your Own)

Concurrently: BBI BOARD MEETING (Invitation only)
Lescaze Room, 33rd floor

2:30-4:30 **ORAL SESSION 3**
Commonwealth Hall, Second floor
Chair: Lisa Christian

2:30 *Decreased delta sleep ratio and elevated alpha power predict vulnerability to depression during interferon-alpha treatment.*
F. Lotrich, A. Germain [1276]

2:45 *Methylene Blue Infusion for Treatment of Traumatic Brain Injury-associated Neuroinflammation and Depressive-like behavior.*
A. M. Fenn, J. Skendelas, D. Moussa, M. M. Muccigrosso, P. G. Popovich, J. Lifshitz, D. S. Eiferman, J. P. Godbout [1294]

3:00 *Infectious and Inflammatory Markers in Schizophrenia.*
F. Dickerson, R. Yolken [1298]

3:15 *Immunogenetic and phenotypic explorations of the acute sickness response to common infections.*
U. Vollmer-Conna, B. Piraino, A. Lloyd [1327]

3:30 *Endocannabinoid alterations in interferon-alpha induced depression.*
Z. Zajkowska, A. Cattaneo, P. A. Zunszain, N. Hepgul, A. Russell, A. Borsini, C. M. Pariante [1364]

3:45 *Increased glucose metabolism during acute stress in emotional neural circuitry, assessed with FDG-PET, predicts airway inflammation and psychological symptoms in asthma.*
M. A. Rosenkranz, W. W. Busse, B. T. Christian, S. Esnault, A. T. Higgins, L. Gresham, R. J. Davidson [1377]

4:00 *T cell Malfunction and a Pro-inflammatory Skew in Autism Spectrum Disorders.*
A. J. Filiano, S. P. Gadani, A. Huberts, R. Marsh, J. Kipnis [1393]

4:15 *Peripheral inflammation impairs motivation through modulation of fundamental gain and loss associated prediction error signals in ventral striatum and anterior insula.*
N. A. Harrison, V. Voon, E. Cooper, M. Cercignani, M. Pessiglione, H. Critchley [1412]

4:30-5:00 **BREAK**
Millennium Foyer, Second floor

5:00-5:20

THE LIFE AND TIMES OF GEORGE SOLOMON: FORGING THE FUTURE

Commonwealth Hall, Second floor

Margaret Kemeny

Department of Psychiatry, University of California-San Francisco

Suzanne Segerstrom

Department of Psychology, University of Kentucky

5:20-6:00

GEORGE SOLOMON MEMORIAL LECTURE

Commonwealth Hall, Second floor

Risk and resilience: Neural mechanisms affecting emotion and health.

Richard J. Davidson

Department of Psychology and Psychiatry, University of Wisconsin-Madison



Dr. Richard J Davidson is the William James and Vilas Professor of Psychology and Psychiatry, Director of the Waisman Brain Imaging Lab, Founder of the Center for Investigating Healthy Minds, Waisman Center at the University of Wisconsin-Madison. Ph.D. from Harvard in Psychology, at UW-Madison since 1984. He has published more than 320 articles, many chapters and reviews and edited 14 books. Author (with Sharon Begley) of "The Emotional Life of Your Brain" published by Penguin in 2012. Received a NIMH Research Scientist Award, a MERIT Award from NIMH, and the William James Fellow Award from the American Psychological Society. He is Past-President of the Society for Research in Psychopathology and of the Society for Psychophysiological Research. He was the year 2000 recipient of the most distinguished award for science given by the American Psychological Association - the Distinguished Scientific Contribution Award. He was named one of the 100 most influential people in the world by Time Magazine in 2006. In 2011, he was given the Paul D. MacLean Award for Outstanding Neuroscience Research in Psychosomatic Medicine. He serves on the Scientific Advisory Board at the Max Planck Institute for Human Cognitive and Brain Sciences from 2011-2017 and as Chair of the Psychology section of the American Association for the Advancement of Science from 2011-2013.

Notes

Saturday, May 31

8:00-9:00

BREAKFAST

Millennium Foyer, Second floor

9:00-10:30

ORAL SESSION 4

Commonwealth Hall, Second floor

Chair: Matt Conrad

- 9:00 *Inflammation as Target in Treatment of Depression in CHD Patients: Evidence from an In Vitro Study.*
N. Nikkheslat, P. A. Zunszain, A. T. Tylee, L. A. Carvalho, C. M. Pariante [1291] ◇
- 9:15 *Galectin-9 is increased during cuprizone intoxication and promotes remyelination.*
A. J. Steelman, J. Li [1303]
- 9:30 *Roles of glucocorticoid receptor and microRNA in repeated social disruption stress-induced glucocorticoid resistance in splenic macrophages.*
S. H. Jung, Y. Wang, A. Tarr, B. F. Reader, J. F. Sheridan [1358] ◇
- 9:45 *The AMP-kinase inhibitor metformin inhibits chemotherapy-induced peripheral neuropathy.*
Q. Mao-Ying, A. Kavelaars, K. Krukowski, X. Huo, T. J. Price, C. Cleeland, C. J. Heijnen [1362]
- 10:00 *Inflammation in the visceral adipose tissue of obese subjects: relationship with circulating inflammation and association with bariatric surgery outcomes.*
J. Lasselin, S. Dexpert, A. Aubert, C. Beau, P. Ledaguenel, E. Magne, S. Layé, L. Capuron [1410]
- 10:15 *Aberrant dopamine transporter function in kynurenine 3-monooxygenase knockout mice: implications for psychosis.*
J. C. O'Connor, S. Perez, W. A. Owens, A. Green, L. Redus, J. M. Parrott, J. N. Delgado, L. C. Daws, D. J. Lodge [1464]

10:30-11:00

BREAK

Millennium Foyer, Second floor

11:00-1:00

MEMBER SPONSORED SYMPOSIUM

Commonwealth Hall, Second floor

Co-Chairs: Christopher Coe and Michael Bailey

Integrating the Microbiome into PNI Paradigms and Mind/Body Science

The microbiome-gut-brain axis regulates neurodevelopment and behavior.

John Cryan

University of College Cork, Ireland

Intestinal microbiota-induced regulation of mucosal immunity is disrupted during stressor exposure.

Michael Bailey

The Ohio State University Medical Center

Exercise-evoked increases in gut Lactobacillus rhamnosus are associated with programming. serotonergic circuits for emotional behavior.

Monika Fleshner
University of Colorado

Maternal and social determinants of the gut microbiome in infant primates.

Christopher Coe
University of Wisconsin

Discussant: Lita Proctor, Program Director, Human Microbiome Project, NHGRI/NIH, Program Director, Division of Genome Sciences

1:00-2:00 LUNCH (On Your Own)

2:00-2:30 POSTER DATA BLITZ 2
Commonwealth Hall, Second floor
Chair: Alex Kusnecov

Poster Number	Title
10◇	Perceived stress and poor nutrition in individuals caring for family members with dementia, and controls, is associated with elevated serum cortisol and increased chromosomal instability. C. F. Bull, T. Almond, H. Christensen, M. F. Fenech [1311]
11◇	Therapeutic morphine prolongs neuropathic pain in rats: a role for TLR4 and inflammasome signaling in the lumbar spinal cord. P. M. Grace, K. A. Strand, E. L. Galer, Y. Zhang, D. Berkelhammer, L. I. Greene, K. C. Rice, S. F. Maier, L. R. Watkins [1314]
16◇	The association between childhood abuse and pain sensitivity in fibromyalgia. R. Ortiz, B. Walitt, E. D. Ballard, R. Machado-Vieira, C. A. Zarate, L. N. Saligan [1326]
17◇	Neurocognitive disturbances associated with acute infections: an investigation of inflammatory and genetic correlates. E. Cvejic, A. Lloyd, U. Vollmer-Conna [1329]
19◇	Exposure to environmental mold affects interleukin-1beta expression and survival of newborn neurons. K. Page, A. Lopez, E. Normand, L. Blachorsky, N. Nassimi, N. Adams, T. Roa, C. Pytte, C. Harding [1338]
26◇	Sympathetic innervation initiates myeloid cell trafficking from the spleen to the brain that causes the re-establishment of anxiety in stress-sensitized mice. D. B. McKim, J. M. Patterson, E. S. Wohleb, B. Jarrett, J. F. Sheridan, J. P. Godbout [1366]
28◇	Does Moderate In Utero Alcohol Exposure Result in Inflammation in the Developing Brain? R. M. DiMatteo, J. M. Schwarz [1378]
36◇	Lentiviral over-expression of interleukin-1 beta in the hippocampus induces cognitive deficits: Selective reversal by voluntary exercise throughout adolescence. C. M. Hueston, B. R. Amels, J. D. O'Leary, S. M. Ryan, J. F. Cryan, Y. M. Nolan [1406]

2:30-4:30

POSTER SESSION 2

Millennium Hall, Second floor

See poster number list in back of program. The number in bracket [nnnn] indicates the abstract number in the booklet.

The abstract booklet was e-mailed to all participants. To have another copy e-mailed to you please stop by the registration desk.

4:30-5:30

FRONTIERS IN PSYCHONEUROIMMUNOLOGY

Commonwealth Hall, Second floor

Chair: Annemieke Kavelaars

Prenatal stress and epigenetic programming: A role for inflammation.

Tracy Bale

Department of Animal Biology and Director, Neuroscience Center, University of Pennsylvania



Dr. Tracy Bale holds a dual appointment at the University of Pennsylvania as a Professor of Neuroscience in the Department of Animal Biology in the School of Veterinary Medicine and in Psychiatry in the School of Medicine, and is the Director of the Neuroscience Center. Dr. Bale earned her Ph.D. in pharmacology and neurobiology from the University of Washington, and completed her postdoctoral training with Dr. Wylie W. Vale at the Salk Institute in La Jolla, CA. Her research interests are centered on the role of stress dysregulation in disease, and the sex differences that underlie disease vulnerability. Her lab has developed mouse models relevant to neuropsychiatric diseases and obesity, and studies the interaction of genes and the environment, assessing epigenetic mechanisms involved in sex-specific programming in the brain and other tissues. Dr. Bale is the recent recipient of the Society for Women's Health Research Medtronic Award for scientific contributions to women's health and the Endocrine Society's Richard E. Weitzman Memorial Laureate Award for contributions and achievements of an exceptionally promising young scientist.

5:30-6:30

BUSINESS MEETING (All attendees are encouraged to attend)

Commonwealth Hall, Second floor

7:00-

CLOSING BANQUET (Included)

Millennium Hall, Second floor

Presentation of the 2015 Norman Cousins and Robert Ader New Investigator Awards

Poster Session 1, Thursday, May 29

*Indicates participation in the Data Blitz; Number in brackets is abstract number in abstract booklet.

◇ Indicates a Trainee Scholar

1	Extending the Scientific Legacy of Candace Pert, Ph.D.: Toward a Model Linking Homeodynamic Behavioral, Physiological, and Immune Mechanisms with Implications for Disease Progression. L. Temoshok, M. R. Ruff [1270]
2	Central mechanisms of neuroimmune interactions and main questions to the future. H. Korneva, S. Perekrest, K. Shainidze [1275]
3	The role of microglia in stress-induced depression. T. Kreisel, M. G. Frank, T. Licht, R. Reshef, O. Ben-Menachem-Zidon, M. V. Baratta, S. F. Maier, R. Yirmiya [1283]
4	Stress, Insomnia and Influenza Vaccine Response. K.S. Kelly, D.J. Taylor, M.L. Kohut, J. Hallam, K. Song [1284]
5	The transcriptional impact of IFN-alpha: Relationship with depression. A. Borsini, A. Cattaneo, P. A. Zunszain, N. Hepgul, A. Russell, Z. Zajkowska, C. M. Pariante [1286]
6	Transcriptomic analyses in the blood of HCV infected patients during IFN-a therapy: identification of mechanisms underlying depression development. A. Cattaneo, N. Hepgul, V. Mondelli, A. Russel, A. Borsini, M. Hotopf, C. M. Pariante [1288]
7	No sex differences in endotoxin-mediated hyperalgesia. S. Benson, A. Wegner, L. Rebernik, T. Roderigo, E. Engelbrecht, H. Engler, M. Schedlowski, S. Elsenbruch [1293]
8	Stress, Pain and Monocytes in Fibromyalgia. L. E. Goehler, T. G. Fischer-White, K. E. Adelstein, M. Murugesan, J. Denomme, S. Mensah, M. Scott, R. P. Gaykema, J. E. Lewis, J. G. Anderson, A. G. Taylor [1297]
9	The relationship between cognitive overload, sensorimotor gating and immunogenetic markers. R. Sher-Glass, S. A. Norton, J. Juan, A. W. Kusnecov [1308]
10	The Effects of the Spaceflight Environment on Stress Pathways. M. J. Pecaut, D. L. Bellinger, X. W. Mao, L. S. Stodieck, V. L. Ferguson, T. A. Bateman, P. S. Gifford, E. J. Bayeta, T. A. Jones, D. S. Gridley [1310]
11	Biome reconstitution as a novel mechanism of preventing neonatal infection-induced cognitive dysfunction. L. Williamson, E. McKenney, W. Parker, S. Bilbo [1312]
12	Polarization to M1 microglia in high-anxiety inbred mice in response to LPS challenge. Z. Li, L. Ma, N. Kuleskaya, V. Võikar, L. Tian [1315]
13	Longitudinal Changes in Serum Proinflammatory Markers across Pregnancy and Postpartum: Effects of Maternal Body Mass Index. L. M. Christian, K. Porter [1316]
14	Chronic stress regulates pancreatic cancer progress: A critical role for beta-adrenergic signaling. C. Kim-Fuchs, C. P. Le, M. A. Pimentel, E. Angst, F. Holland, E. K. Sloan [1325]
15	Post-infective fatigue syndrome: immunological and autonomic findings. U. Vollmer-Conna, E. Cvejic, U. Gunawardane, D. Hadzi-Pavlovic, B. Cameron, A. Lloyd [1328]
16	Cohabitation with a sick-cage mate exacerbates allergic lung inflammatory response in mice. E. K. Hamasato, A. Nascimento de Lima, A. Ligeiro de Oliveira, A. Lino dos Santos Franco, W. Tavares de Lima, J. Palermo-Neto [1330]

17	Examining Differences in Serum Pro- and Anti-Inflammatory Cytokine Profiles Across Behavioral and Physical Health in Healthy Adolescent Girls. J. G. Gayles, L. D. Dorn, C. G. Engeland [1331]
18	Odor Cues Released by Ehrlich Tumor Bearing Mice are Aversive and Induces Psychological Stress. J. Palermo-Neto, G. J. Alves [1334]
19	Identification of a Rapid, High-capacity Influx Transporter for CCL11 at the Blood-brain Barrier in Young and Aged Mice. M. A. Erickson, Y. Morofuji, J. B. Owen, W. A. Banks [1337]
20	Developing a novel animal model of depression to study the role of inflammation in disease progression and in the mechanism of antidepressant action. K. Musaleyan, M. T. Egeland, P. A. Zunszain, C. M. Pariante, S. Thuret, C. Fernandes [1339]
21	Maternal obesity is associated with alternations in the gut microbiome in toddlers. J. Galley, M. Bailey, C. Kamp-Dush, S. Schoppe-Sullivan, L. M. Christian [1342]
22	Dissociation between sickness behavior and emotionality during lipopolysaccharide challenge in lymphocyte deficient mice. S. Clark, K. C. Michael, J. Klaus, A. Mert, A. Romano-Verthelyi, J. Sand, L. Tonelli [1343]
23	Milk Oligosaccharides Attenuate Stressor-Induced Anxiety-Like Behavior in C57BL/6 Mice. A. J. Tarr, M. Chichlowski, B. M. Berg, M. T. Bailey [1346]
24	Impact of neonatal nutrition on long-term programming of neuroimmune function. L. Sominsky, I. Ziko, S. De Luca, G. Cai, J. M. Barwood, L. Stokes, T. A. Jenkins, S. J. Spencer [1349]
25	Toxoplasma gondii seropositivity is positively associated with anxiety and burnout-syndrome. C. Bay-Richter, H. Buttenschøn, H. Kolstad, L. Kærlev, N. Mors, G. Wegener [1352]
26	GRK2 phosphorylates Epac1 to inhibit signaling and prevent chronic inflammatory pain. P. Singhmar, H. Wang, N. Eijkelkamp, X. Huo, C. Murga, X. Cheng, F. Major, C. J. Heijnen, A. Kavelaars [1354]
27	Probiotic treatment alters behavior in rats on control and high-fat diet. A. Abildgaard, G. Wegener, M. Hokland, S. Lund [1360]
28	Exposure to maternal prenatal depression predicts offspring inflammation at 25 years. D. T. Plant, S. Pawlby, C. M. Pariante [1363]
29*◇	A Novel Combined Psychosocial Stress Paradigm Alters Tumor VEGF and Circulating Exosomes in a Spontaneous, Metastatic Model of Breast Cancer. R. P. Dawes, D. K. Byun, E. B. Brown, K. S. Madden [1368]
30	Effect of acute stress on T cells and plasmatic cells IgA+ in Peyer's patches of duodenum and ileum of BALB/c mice. A. Resendiz Albor, I. Arciniega-Martínez, J. Pacheco-Yepez, R. Campos-Rodríguez [1371]
31	Effect of forced swimming on B and CD4+ T cells of NALT. A. Resendiz Albor, I. Arciniega-Martínez, J. Pacheco-Yepez, R. Campos-Rodríguez [1372]
32	The influence of running volume on CD4+ T cell subpopulations and the role of stress. K. E. Rehm, G. D. Marshall, Jr. [1373]
33	Mechanical processing of tissue suppresses NK cytotoxicity of resident leukocytes through the release of humoral factors. L. Sorski, R. Melamed, S. Ben-Eliyahu [1376]
34	Minocycline attenuates stress-induced changes in leukocyte activation and anxiety-like behavior. B. Jarrett, J. Godbout, D. McKim, J. Sheridan [1379]

35	The acute restraint stress cause changes in the phenotype of splenic lymphocytes, but no in dendritic cells. A. N. de Lima, E. K. Hamasato, D. G. da Cruz, J. Palermo-Neto, C. O. Massoco [1382]
36	Renal Clearance Efficiency is associated with Proinflammatory Biomarkers and Age in Older Human Adults. R. Costello-White, C. L. Coe [1389]
37	The impact of workload and training status on salivary antimicrobial proteins following acute exercise. H. E. Kunz, G. Spielmann, M. Pistillo, J. Reed, T. Ograjsek, R. J. Simpson [1394]
38	Early-Life LPS Administrations Induce Cognitive Decline and Changes in NMDA Receptor Subunit Gene Expression in the Rodent Brain. K. J. Fomalont, E. A. Veniaminova, S. V. Kalemenev, A. N. Trofimov, A. P. Schwarz, O. E. Zubareva [1397]
39	The involvement of orexin (hypocretin) in the formalin-induced inflammatory pain response in adulthood following a neonatal bacterial immune challenge. D. M. Hodgson, E. J. Campbell, I. Zouikr, S. M. Watters, M. H. James, C. V. Dayas [1403]
40	Adrenocortical regeneration following complete adrenalectomy. N. Gotlieb, E. Albaz, L. Shaashua, L. Sorski, P. Matzner, E. Rosenne, A. Benbenishty, R. Melamed, B. Weiman-Kelman, E. Golomb, S. Ben-Eliyahu [1405]
41	Consequences of toll-like receptor 4 deletion on behavior, immune responses to stress, and age-related pathology in mice. C. E. Hagan, A. C. Ericsson, D. J. Davis, M. H. Udawatta, C. G. Alvarado, P. M. Treuting [1408]
42	Enriched maternal care decreases opioid self-administration in adulthood and alters neuroimmune signaling in the nucleus accumbens. M. J. Lacagnina, G. M. Houtz, C. Wells, S. Slade, E. D. Levin, S. D. Bilbo [1413]
43	Enhanced Glucocorticoid Sensitivity Coupled with Reduced Microglial Activation in a Genetically Predisposed Animal Model of Depression. E. Sherwin, S. Gormley, B. McGuinness, A. Harkin [1417]
44	Peri-adolescent High Fructose Diet Remodels the Hypothalamic Transcriptome and Increases Hypothalamic and Hippocampal Complement Gene Expression. C. S. Harrell, Z. P. Johnson, G. N. Neigh [1420]
45	Induction of Leukocyte Adhesion Mediators in the Neurovascular Unit after Repeated Social Defeat. C. M. Sawicki, D. McKim, E. Wohleb, B. Jarrett, J. Godbout, J. Sheridan [1422]
46	Social influences on the gut microbiome of developing monkeys. W. Z. Amaral, G. R. Lubach, C. L. Coe [1426]
47*◇	Sex differences in microglial morphology and number: implications for function and behavior. R. Hanamsagar, J. Schwarz, L. Williamson, S. Bilbo [1428]
48	The interplay between psychological well-being, pain and inflammation in a rat model of spinal cord injury. S. Maldonado Bouchard, K. L. Peters, S. Woller, S. Patel, M. A. Hook [1431]
49	Psychological stressors significantly speed the development of primary mammary tumors in the HER-2/neu mouse transgenic breast cancer model. J. D. Henning, F. J. Jenkins, D. H. Bovbjerg [1433]
50	Epinephrine-induced DNA damage in a human epithelial breast cell line. F. J. Jenkins, B. Zeher, B. Van Houten, D. H. Bovbjerg [1434]
51	Early postnatal respiratory viral infection alters hippocampal neurogenesis, cell fate, and neuron morphology in the neonatal piglet. M. S. Conrad, S. Harasim, R. W. Johnson [1435]

52	An investigation into the impact of pregnancy and stress on neuroimmune function and whether there is a link to postpartum depression. J. M. Schwarz, C. K. Posillico [1436]
53*◇	Sensitization of pro-inflammatory, and habituation of anti-inflammatory gene expression responses to repeated acute stress. C. McInnis, M. Thoma, D. Gianferante, L. Hanlin, X. Chen, D. Wang, B. Gross, N. Rohleder [1438]
54	Characterizing Global Behavioral Deficits and Response to TLR4 Stimulation in a Murine Model of Wilson's Disease. N. W. Fox, J. Divito, A. W. Kusnecov, A. Rossi-George [1440]
55	Kynurenine 3-monooxygenase mediates inflammation-induced behavioral despair behavior in mice. J. M. Parrott, L. Redus, J. C. O'Connor [1446]
56	Inflammatory Markers and Depression in Pregnancy: Results of the Viral Immunity in Pregnancy Study. L. M. Osborne, K. Fei, T. Kraus, T. Moran, C. Monk, R. Sperling [1448]
57	Effects of the Bacterial T Cell Superantigen Staphylococcal Enterotoxin A on Learning and Memory. Q. Chang, S. G. Patel, M. R. Steinfeld, M. J. Butler, A. W. Kusnecov [1449]
58	Deficits in Circadian Function in an Animal Model of Fatigue. D. R. Bonsall, C. E. Tocci, G. B. McKay-Corkum, P. C. Molyneux, T. L. Leise, M. E. Harrington [1450]
59	Dietary prebiotics modulate gut microbiota and improve cognitive functions in developing rodents. R. V. Waworuntu, M. Chichlowski, T. Hanania, S. Cox, B. M. Berg [1455]
60	Vendor-specific commensal gut microbiota differentially affect immune function and behavior in mice. A. C. Ericsson, D. J. Davis, C. L. Franklin, C. E. Hagan [1460]
61	A neonatal piglet model for investigating brain and cognitive development in small for gestational age human infants. E. C. Radlowski, M. S. Conrad, S. Lezmi, R. N. Dilger, B. Sutton, R. Larsen, R. W. Johnson [1462]
62	Glucocorticoids and the Chromatin Landscape: A Role of Epigenetics and Nuclear Architecture Proteins. M. S. Misale, L. Janusek, H. L. Mathews [1465]
63	Disruption of the gut microbiome with oral antibiotic reduces core body temperature and disrupts diurnal rhythms of locomotor activity, but not sleep, in rats. S. J. Bowers, R. S. Thompson, A. Mika, B. N. Greenwood, M. Fleshner [1467]
64	Latent cytomegalovirus infection enhances baseline anti-tumor cytotoxicity but impairs NK-cell responses to acute exercise through preferential expansion of NKG2C+ NK-cells in healthy humans. A. B. Bigley, G. Spielmann, E. C. LaVoy, M. Pistillo, H. Kunz, N. Agha, R. J. Simpson [1470]
65*	Dietary prebiotics increase Bifidobacterium spp. and Lactobacillus spp. in the gut and promote stress resistance. A. Mika, B. N. Greenwood, M. Chichlowski, D. Borchert, K. A. Hulen, B. M. Berg, M. Paton, M. Fleshner [1474]
66*	The relation between depression symptoms and cardiovascular disease associated inflammatory markers varies across race, sex, and poverty status. F. J. Grant, A. B. Zonderman, M. K. Evans, S. R. Waldstein [1475]
67*	Prenatal Depressive Symptoms, Oxytocin and Birth-weight in Urban African American Women L. Garfield, C. Giurgescu, R. White-Traut, C. Carter, D. Holditch-Davis, B. L. McFarlin, J. S. Seng, D. Schwertz [1477]

68	Cytomegalovirus serostatus and antibody response to influenza vaccination in older adults . S. C. Segerstrom, R. N. Greenberg [1481]
69	Inflammation and Post-Stroke Depression: Preliminary Progress. S. A. Norton, R. Sher-Glass, S. Mann, M. Moccio, A. M. Zimmerman, M. Menza, R. Contrada, N. L. Fiedler, H. Leventhal, D. McCarthy, J. McKinney, A. W. Kusnecov [1482]
70	Aging-Related Increases in CNS Glutamate Following Chronic Administration of Interferon-alpha. E. Haroon, MD, B. J. Woolwine, LCSW, X. Chen, PhD, X. P. Hu, PhD, A. H. Miller, MD [1488]
71	Heat stress and avian necrotic enteritis modulates c-fos activation in the brain: a brain-gut axis approach. A. S. Calefi, J. G. Fonseca, C. Costola-de-Souza, D. W. Cohn, B. T. Honda, W. M. Quinteiro-Filho, L. E. Tsugiyama, A. J. Piantino-Ferreira, J. Palermo-Neto [1491]
72*	Early life stress and perinatal glucocorticoid exposure produce complex immune system alterations, including accelerated T cell immunosenescence, in adolescent rhesus macaques. J. Kohn, B. R. Howell, C. C. Ibegbu, M. M. Sanchez [1496]
73	Early Life Adversity, Depressive Symptoms, and Endothelial Dysfunction in Women Veterans. K. L. Saban, H. L. Mathews, E. Collins, L. W. Janusek [1499]
74*	High levels of aerobic fitness are associated with fewer senescent T-cells and a lower prevalence of latent cytomegalovirus infection in healthy men. N. H. Agha, A. B. Bigley, G. Spielmann, E. C. LaVoy, M. Pistillo, H. E. Kunz, M. Hussain, R. J. Simpson [1501]
75	Immune cell phenotypes and NK-cell function in astronauts and controls 5 months before a 6-month mission to the International Space Station. G. Spielmann, A. B. Bigley, B. E. Crucian, S. Mehta, D. Pierson, H. Kunz, N. Agha, E. C. LaVoy, R. J. Simpson [1502]

Poster Session 2, Saturday, May 31

*Indicates participation in the Data Blitz; Number in brackets is abstract number in abstract booklet.

◇ Indicates a Trainee Scholar

1	Dysregulation of Psychoneuroimmune Function in Women Symptomatic of Postpartum Depression. E. J. Corwin, S. Paul, K. Pajer, D. McCarthy, M. Weber, N. Lowe [1274]
2	Perineal Injury during Childbirth Increases Inflammatory Response and Risk of Postpartum Depression. A. Dunn, S. Paul, E. Corwin [1281]
3	Adaptive reproduction: How timing of psychosocial stimulus affects birth outcome. D. L. Schminkey, T. von Oertzen, L. Bullock [1282]
4	Gene expression in Interferon-alpha (IFN-alpha) induced persistent fatigue. A. E. Russell, A. Cattaneo, N. Hepgul, A. Borsini, Z. Zajkowska, D. Baumeister, P. Zunszain, C. M. Pariante [1287]
5	The Effect of Chronic Stress on T Cell Function: An Epigenetic and Transcriptional Assessment from Bench to Bedside. C. Slota, N. Weng [1292]
6	Probiotic Lactobacillus abrogates stressor-induced increases in colonic inflammation and shifts to commensal microbe abundance during pathogen challenge. J. Galley, A. Mackos, N. Parry, B. Ahmer, M. Bailey [1295]
7	Inflammation, Wound Healing, and Periodontal Disease. C. G. Engeland, A. P. Monestero, J. M. de Rocha, M. A. Manos, P. K. Gajendrareddy [1300]
8	Prenatal Stress, Depressive and Fatigue Symptoms in Women with CMV Seropositive Titers. P. Hsu, M. W. Groer, S. Wang, B. P. Kane [1307]
9	Allostatic Associations in Women Veterans with Histories of Childhood Sexual Assault. M. E. Groer, E. Kostas-Polston, C. Dillahunt-Aspilliga, V. Johnson-Mallard, A. R. Duffy [1304]
10*◇	Perceived stress and poor nutrition in individuals caring for family members with dementia, and controls, is associated with elevated serum cortisol and increased chromosomal instability. C. F. Bull, T. Almond, H. Christensen, M. F. Fenech [1311]
11*◇	Therapeutic morphine prolongs neuropathic pain in rats: a role for TLR4 and inflammasome signaling in the lumbar spinal cord. P. M. Grace, K. A. Strand, E. L. Galer, Y. Zhang, D. Berkelhammer, L. I. Greene, K. C. Rice, S. F. Maier, L. R. Watkins [1314]
12	Gene polymorphisms of stress hormone receptors and cytokine receptors associate with immunomodulatory profile and psychological measurements. L. Xiang, K. Rehm, I. Sunesara, M. Griswold, G. D. Marshall, Jr. [1317]
13	Differential effects of endocannabinoid catabolic enzyme inhibition on thermal homeostasis following environmental or immunological stressors. S. G. Kinsey, S. R. Nass, B. F. Cravatt, A. H. Lichtman [1320]
14	Prenatal zinc prevents BDNF disturbance in a rat model of autism induced by prenatal lipopolysaccharide. T. B. Kirsten, N. Queiroz-Hazarbassanov, M. M. Bernardi, L. F. Felício [1321]
15	Prenatal zinc prevents mTOR disturbance in a rat model of autism induced by prenatal lipopolysaccharide. G. P. Chaves-Kirsten, C. Scavone, M. M. Bernardi, L. F. Felício, T. B. Kirsten [1324]
16*◇	The association between childhood abuse and pain sensitivity in fibromyalgia. R. Ortiz, B. Walitt, E. D. Ballard, R. Machado-Vieira, C. A. Zarate, L. N. Saligan [1326]

17*◇	Neurocognitive disturbances associated with acute infections: an investigation of inflammatory and genetic correlates. E. Cvejic, A. Lloyd, U. Vollmer-Conna [1329]
18	Intraindividual Cortisol Variability and Psychological Functioning in Caregivers of Hematopoietic Stems Cell Transplant Patients. T. S. Sannes, P. A. Benitez, S. J. Phillips, S. K. Mikulich-Gilbertson, C. L. Natvig, M. L. Laudenslager [1335]
19*◇	Exposure to environmental mold affects interleukin-1beta expression and survival of newborn neurons. K. Page, A. Lopez, E. Normand, L. Blachorsky, N. Nassimi, N. Adams, T. Roa, C. Pytte, C. Harding [1338]
20	Developmental Programming of Body Weight, Microglial Development, and Behavior by High-Fat and BCAA-Supplemented Diets. J. L. Bolton, L. A. Simmons, M. Wiley, B. Ryan, S. Truong, S. D. Bilbo [1340]
21	Association of novel brain immune genes with cognitive functions and brain morphology of inbred mice: novel biomarker for neuropsychiatric diseases. L. Ma, Z. Li, L. Tian [1345]
22	Changes in profiles of brain cytokines associated with enhanced recruitment of bone marrow-derived cells into the brain in senescence-accelerated mice. S. Hasegawa-Ishii, S. Ikehara, M. Inaba, M. Li, M. Shi, S. Takei, A. Shimada [1348]
23	Nuclear factor interleukin 6 deficient mice show alterations in the stress-axis and the serotonin metabolism. J. Schneiders, F. Fuchs, J. Damm, J. Bredehöft, R. Gerstberger, D. M. Soares, J. Roth, C. Rummel [1351]
24	Chronic LPS administration induces prolonged sickness behavior in rats. C. W. Fischer, B. Elfving, S. Lund, G. Wegener [1353]
25	Environmental conditions perceived by the brain alter CD8+ T cells responses. M. M. Canali, J. A. Soria, M. Guyot, E. Murriss, D. Daudlarian, J. Chabry, E. Mougneau, P. Blancou, N. Glaichenhaus [1361]
26*◇	Sympathetic innervation initiates myeloid cell trafficking from the spleen to the brain that causes the re-establishment of anxiety in stress-sensitized mice. D. B. McKim, J. M. Patterson, E. S. Wohleb, B. Jarrett, J. F. Sheridan, J. P. Godbout [1366]
27	Cell type-specific Interleukin-1 receptor 1 mediates distinct downstream effects in the central nervous system following an intracerebralventricular injection of Interleukin-1 beta. X. Liu, Q. Chen, V. Coppola, N. Quan, J. Zuo [1370]
28*◇	Does Moderate In Utero Alcohol Exposure Result in Inflammation in the Developing Brain? R. M. DiMatteo, J. M. Schwarz [1378]
29	Kinetic Characteristics of Euflammation: The Induction of Controlled Inflammation Without Overt Sickness Behavior . A. J. Tarr, X. Liu , N. Belevych , N. S. Reed, N. Quan [1387]
30	Targeting the kynurenine blood-to-brain transport system to treat inflammation-induced fatigue and depression. A. K. Walker, E. Wing, W. A. Banks, R. Dantzer [1390]
31	Environmental mold, brain inflammation, cognitive deficits, and increased anxiety and fear. C. F. Harding, C. Pytte, K. Page, E. Normand, L. Blachorsky, T. Roa, N. Adams [1391]
32	The relation between body weight, brain inflammation, cognitive and emotional changes in response to an immune challenge. C. F. Harding, E. Shtridler, G. Glazman, M. Nagai, T. Roa, G. Manes, C. Pytte [1392]
33	Lipopolysaccharide reduces incentive motivation while boosting preference for high reward in mice.

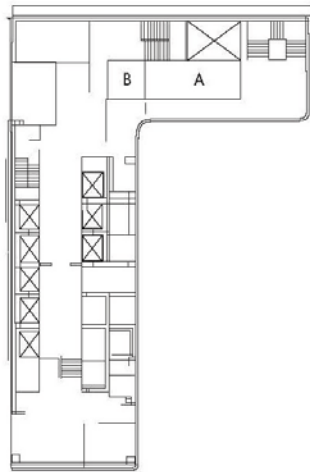
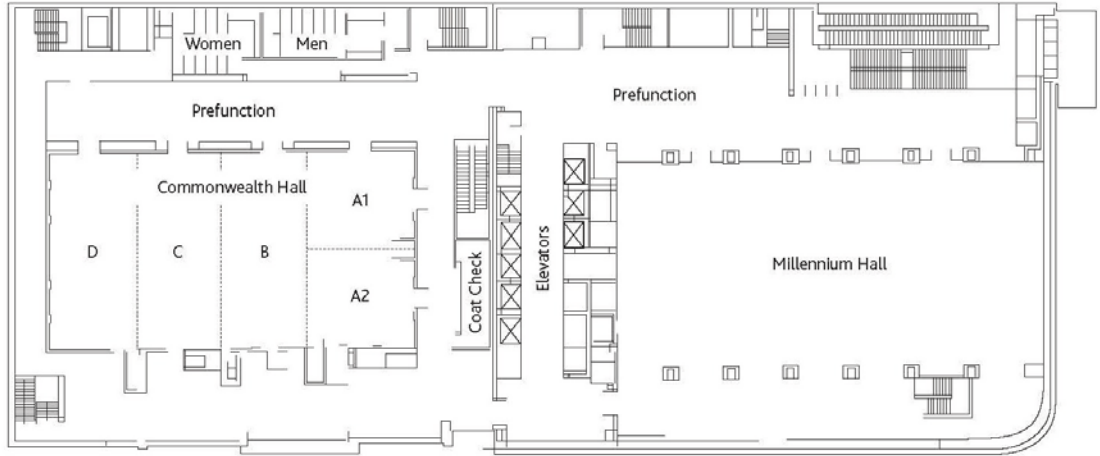
	E. G. Vichaya, S. C. Hunt, R. Dantzer [1395]
34	Improving the quantitative analysis of immunohistochemically and immunofluorescently labelled glia. F. R. Walker, S. J. Johnson [1398]
35	Altered dynamics of the peripheral immune system in mice exposed to an early life inflammatory insult. M. Egeland, K. Musaelyan, P. Zunszain, C. Fernandes, S. Thuret, C. M. Pariante [1404]
36*◇	Lentiviral over-expression of interleukin-1 beta in the hippocampus induces cognitive deficits: Selective reversal by voluntary exercise throughout adolescence. C. M. Hueston, B. R. Amels, J. D. O'Leary, S. M. Ryan, J. F. Cryan, Y. M. Nolan [1406]
37	The serum levels of n-3 fatty acids and IL-6 were independently associated with depressive symptoms in female population. H. TSUBOI, H. Sakakibara, A. Tatsumi, K. Yamakawa-Kobayashi, H. Kaneko, M. Mataunaga, K. Shimoi [1409]
38	Maternal perinatal high-fat diet increases anxiety-like behavior in male offspring. G. Winther, S. Lund, H. K. Müller, G. Wegener [1415]
39	Overcrowding stress decreases macrophage activity and increases Salmonella Enteritidis invasion in broiler chickens. J. Palermo-Neto, W. M. Quinteiro-Filho, A. Ribeiro, V. Ferraz-de-Paula, E. Baskeville, M. L. Pinheiro, A. T. Akamine, C. S. Astolfi-Ferreira, A. J. Ferreira, A. V. Gomes [1416]
40	Reduced cortical astroglial cell numbers coupled to reduced cortical cerebral blood perfusion in a genetically predisposed model of depression as assessed by magnetic resonance bolus tracking arterial spin labelling (MR-btASL). S. Gormley, C. Kerskens, A. Harkin [1418]
41	Pifithrin-mu prevents paclitaxel-induced peripheral neuropathy in a mouse model. K. Krukowski, X. J. Huo, M. Ozcan, C. H. Nijboer, C. J. Heijnen, A. Kavelaars [1421]
42	Maternal inflammation during pregnancy and symptom profiles of offspring diagnosed with schizophrenia. L. M. Ellman, A. L. Cook, C. A. Schaefer, M. A. Bresnahan, E. S. Susser, A. S. Brown [1425]
43	"Inflammaging" and Psychosocial Stress in a Murine Orthotopic Prostate Cancer Model. D. L. Bellinger, C. Molinaro, P. Gifford, M. S. Dulcich, R. E. Hartman, M. J. Pecaut, D. Lorton, D. S. Gridley [1427]
44	Imipramine attenuates neuroinflammation and reverses stress-induced social avoidance. K. Ramirez, D. T. Shea, D. B. McKim, J. C. Avalon, B. F. Reader, J. P. Godbout, J. F. Sheridan [1429]
45	Childhood Adversity Increases Risk for Depressive Symptoms and Elevated Proinflammatory Cytokines During Pregnancy. K. J. Kotz Fishe, D. Tell, H. Mathews, L. Witek Janusek [1441]
46	Inflammatory Effects of Napping in the Midus II Biomarker Study. J. K. Devine, J. M. Wolf [1442]
47	B2- and B3-adrenergic receptors drive the development of COMT-dependent pain by increasing release of NO and innate immune cytokines. J. E. Hartung, A. G. Nackley [1443]
48	The Relationship between Inflammation and Fatigue Development in Patients with Head and Neck Cancer Receiving IMRT. C. Xiao, J. J. Beitler, K. A. Higgins, J. Felger, J. Bruner, T. Flynn, D. W. Bruner, A. H. Andrew [1444]

49	Blockade of L-type voltage dependent calcium channels or ryanodine receptors during chronic neuroinflammation improves spatial memory and reduces expression of inflammatory markers. S. C. Hopp, S. E. Royer, H. M. D'Angelo, R. M. Kaercher, L. Adzovic, A. M. Crockett, G. L. Wenk [1445]
50	Comparison of Multiplex Immunoassays and ELISAs for the Determination of Circulating Levels of Inflammatory Cytokines. E. C. Breen, C. Perez, R. Olmstead, N. Eisenberger, M. R. Irwin [1451]
51	Region-specific differences of high-fat diet induced cognitive impairments between the amygdala and hippocampus. S. J. Gainey, K. A. Kwakwa, J. K. Bray, M. M. Pillote, G. G. Freund [1452]
52	Acute calorie restriction as a modulator of anxiety-like behavior. A. E. Towers, G. G. Freund [1453]
53	Short bouts of voluntary wheel running reduce the inflammatory insult of ulcerative colitis in C57Bl/6j mice. J. M. Allen, J. Wang, B. D. Pence, M. D. Cook, K. Whitlock, M. Molitor, J. A. Woods [1454]
54	Inflammation and sickness induced by lipopolysaccharide in adult and aged mice are not mitigated by dietary broccoli. B. Townsend, Y. Chen, E. Jeffery, R. Johnson [1457]
55	Perceived Stress and Salivary Cortisol in Educators: Comparison Among Three Stress Reduction Activities. V. D. Wagner, S. M. Pearcey, G. Karakayali [1458]
56	Development of the enteric nervous system and intestinal neuroendocrine systems in small for gestational age (SGA) and average for gestational age (AGA) piglets during the first month of life. E. C. Radlowski, K. Le Boedec, X. Zhang, R. N. Dilger, R. W. Johnson, S. Lezmi [1459]
57	Heavy drinking may attenuate elevated inflammatory cytokine levels of major depression in alcohol disorders. P. Martinez, S. Neupane, L. Lien, P. Aukrust, T. Ueland, T. Mollnes, K. Hestad, J. Bramness [1461]
58	Effects of low-dose LPS on resting-state fMRI network activity. M. Lekander, B. Karshikoff, G. Nilsson, M. Ingvar, E. Johansson, J. Lundström, T. Åkerstedt, C. Olgart Höglund, J. Axelsson [1463]
59	Lowering Splenic Sympathetic Activity by Chronic Rilmenidine Treatment Fails to Restore Sympathetic Neurotransmission in Spleens from Aging Brown Norway Rats. D. Lorton, S. D. Perez, C. Molinaro, S. Thyagarajan, M. Ghamsary, C. L. Lubahn, D. L. Bellinger [1466]
60	Day-to- Day Dynamics of Associations Between Childhood Adversity and Cortisol Diurnal Rhythm in Women Diagnosed with Breast Cancer. D. Tell, H. H. Mathews, L. Witek Janusek [1468]
61	Effect of adrenalectomy on the secretion of IgA in the small intestine under acute stress. A. Resendiz Albor, I. Arciniega-Martinez, J. Pacheco-Yopez, R. Campos-Rodríguez [1469]
62	Neurotrophin and indoleamine/tryptophan 2,3-dioxygenase regulation in murine organotypic striatal slice cultures. R. H. McCusker, R. A. Smith, M. A. Lawson, K. W. Kelley [1472]
63	Absence of relation between mental well-being and red blood cell distribution width in a racially and socioeconomically diverse sample. F. J. Grant, A. B. Zonderman, M. K. Evans, S. R. Waldstein [1476]

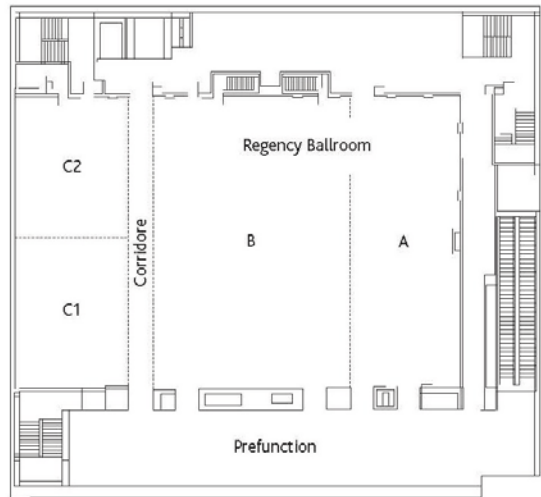
64	Modulation of mucosal immunity by the enteric nervous system. F. A. Costa-Pinto, L. Feighery, I. Gabanyi, D. Mucida [1478]
65	Prebiotic-associated changes in gut microbiota affect the stress-induced inflammatory response. M. M. Paton, L. Beninson, M. Chichlowski, A. Mika, D. Borchert, K. Hulen, B. M. Berg, M. Fleshner [1479]
66	Effects of MAGL inhibition and the CB1 and CB2 cannabinoids receptors participation in the neutrophils recruitment and activity in a murine model of acute lung injury induced by LPS. C. Costola-de-Souza, A. S. Calefi, L. B. Vitoretti, J. A. Gimenes-Júnior, F. R. Greiffo, V. Ferraz-de-Paula, A. Ribeiro, A. P. Ligeiro-Oliveira, J. Palermo-Neto [1480]
67	Negative Affectivity Predicts Increased Pain Tolerance During Low-grade Inflammation in Healthy Women. T. E. Lacourt, C. J. Heijnen, J. H. Houtveen, J. J. Veldhuijzen van Zanten, J. A. Bosch, M. T. Drayson, C. Cleeland, L. J. Van Doornen [1483]
68	High number of mucosal eosinophils in colon is associated with higher depression scores in a general population. A. Andreasson, M. P. Jones, M. M. Walker, N. Powell, N. J. Talley, H. Nyhlin, L. Agreus [1485]
69	Positive Personality Traits, Subjective Well-Being and Natural Killer Cell Activity . M. García-Martín, C. Vida, S. Limonche, F. Colmenares, M. De la Fuente [1486]
70	Inflammation and Depression in Pregnant Adolescents with Asthma. S. Kuzava, C. Doyle, H. Gustafsson, E. Werner, C. Monk [1487]
71	Experimental endotoxemia alters neural processing of visceral stimuli: A brain imaging study in healthy volunteers. S. Benson, L. Rebernik, A. Wegner, J. Kleine-Borgmann, M. Schlamann, H. Engler, M. Schedlowski, S. Elsenbruch [1494]
72	The neurocircuitry of increased inflammation in depression: preliminary results. J. C. Felger, Z. Li, E. Haroon, B. Woolwine, X. Hu, A. H. Miller [1495]
73	Weight dissatisfaction is associated with low-grade inflammation and self-reported chronic stress for women but not men. A. M. Geiger, M. Wing, K. M. Rene, N. J. Sabik, J. M. Wolf [1498]
74	A single bout of exercise augments the expansion of multi-virus specific T-cells in healthy humans. R. J. Simpson, G. Spielmann, P. Hanley, C. M. Bollard [1503]
75	Association between immune response and the physiological and psychosocial factors that may predict development of Type 2 diabetes in African American women. M. Kohut, J. Hallam, S. Hodgkins, T. Hurt, D. Russell, L. Lannginham-Foster, C. Cutrona, W. T. Abraham [1504]

Maps and Floor Plans

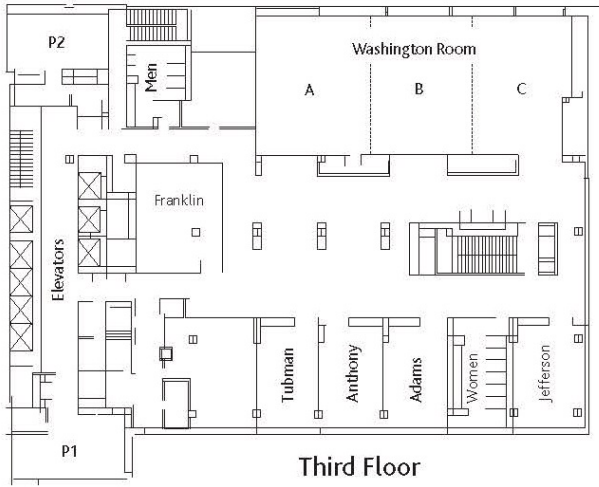
Second Floor



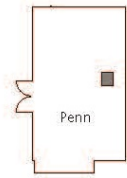
First Floor Mezzanine



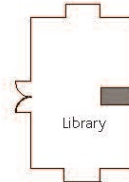
Second Floor Mezzanine



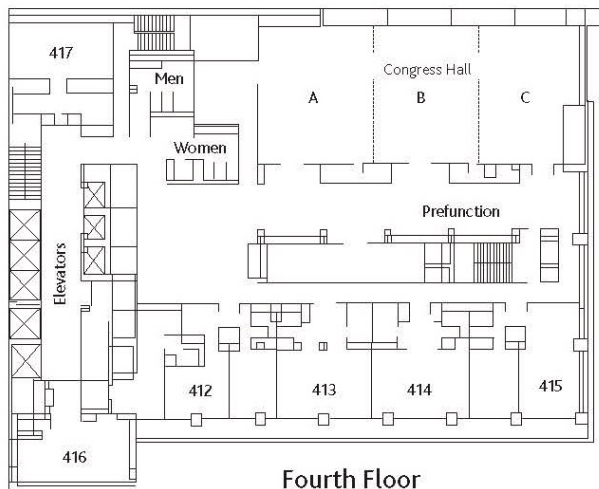
Third Floor



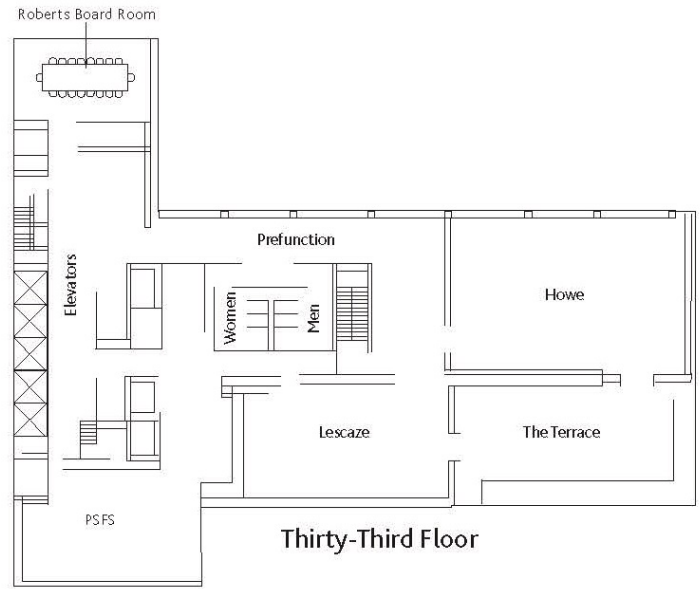
Fifth Floor



Thirty-First Floor



Fourth Floor



Thirty-Third Floor