



PsychoNeuroImmunology  
Research Society



***PNIRS 2018  
25th ANNUAL SCIENTIFIC MEETING  
MIAMI BEACH, FLORIDA, USA  
JUNE 6-9, 2018***



[pnirs.org](http://pnirs.org)

# Message from the President of the PNIRS

Welcome to the **25<sup>th</sup> Anniversary** Meeting of the Psychoneuroimmunology Research Society! Yes, how time flies, it was in 1993 that we held our first meeting in Boulder, Colorado! Many of you, including those on the Executive, Program, and Local Organizing Committees, have worked diligently to put together a very exciting meeting. Below are some of the highlights of the meeting that I want to be sure and bring to your attention. Some of these are innovations or alternatives to the way we have done things in the past, such as a trial of consecutive sessions and a return to a free afternoon. Be sure and voice to the President (Deb Hodgson, good luck Deb!) or the Past President (that's me) what you thought went better and what went worse. In the meantime, here are some meeting highlights:



**The Educational Short Course:** We intend this to have a “how to/first approach” feel to three fields that are transforming PNI. The methods in these fields are being used in clinical and basic science and so are truly translational: Exosomes; the Microbiome; iPSCs in modeling the blood-brain barrier and neurovascular unit. We have asked the speakers to address five aspects in their talks: 1) theory, 2) major approaches & techniques, 3) difficulties/pitfalls of the area, 4) stats/data handling, 5) an application with a PNI theme.

**Early Career Issues (Concurrent Sessions) & PNIRS Mentoring Colloquium:** Rachael Engels (Elsevier) will host a workshop on writing and publishing scientific papers. Christoph Rummel will lead a workshop on Networking and developing a research group oriented towards the needs and problems of junior scientists. Immediately following these concurrent sessions, Teresa Reyes will hold her wildly successful **PNIRS Mentoring Colloquium**. Especially popular last year was the Speed Mentoring sessions. I understand those are back due to critical acclaim! And don't forget the **PNIRS Trainee Social** Friday starting at 6 PM!

**Free Afternoon:** Placed in the center of our meeting like the eye of a scientific hurricane, we have brought back the free afternoon to help you digest all the great science while enjoying the beach, shopping, food, and local color.

**Free 25<sup>th</sup> Anniversary T-shirts:** My gift to the first 200 desk registrants! Be sure to wear this at the 50<sup>th</sup> Anniversary Meeting.

**Glaser-Frontiers in Psychoneuroimmunology:** This is our newest special Award Lecture in honor of Ron Glaser. It will continue the precedent of the ancestral Frontiers lecture in being the “cutting edge special lecture” of our meeting. Bill Malarkey will introduce our speaker: Annamaria Vezzani. We also have our full line up of other special lectures/awards and presentations: *The Norman Cousins Memorial Lecture* (Rodney Johnson), *The Robert Ader Lecture* (Peter Grace), *The BBI Impact Award*, and *the George Solomon Memorial Lecture* (Michael Irwin). And don't miss the **PNIRS Asia-Pacific** breakfast on Friday, June 8<sup>th</sup>.

**Concurrent Oral Sessions:** We have three sets of concurrent oral sessions. This means we have six total as opposed to our typical 4. Our society has long debated whether we should have concurrent sessions or not, so here (along with the Early Career Issues Sessions) is our foray into that area. The result is we have 50% more talks in 75% of the time (contributing to our having a free afternoon), but you can only go to half the talks. Last year, the majority opinion was that we should try to mix clinical/basic, junior/senior, P/NI, etc/YadaYada. This randomization means that there are no themes to the individual oral sessions and so we should think about whether we want to continue mixing or separate sessions thematically.

**Presidential Symposium:** No surprise that it has a blood-brain interface theme, right? But in addition to three really great talks, Jan-Pieter Konsman will have a short historical/philosophical introduction and I will have a short conclusion on the future of the field.

**Finally:** Thanks to the Executive Committee (Staci Bilbo, Past-President Susan Lutgendorf, President-Elect Deb Hodgson, Executive Director Susan Solomon), Jackie and Karl Newman, the Program Committee, the Local Organizing Committee (Andy Miller, Jennifer Felger, and Ebrahim Haroon), and to the many other PNIRS members who either through committee work or as individuals have contributed to this meeting and to the vitality of our organization. Lots of excitement and science packed into 4 days. Don't forget to attend the **Business Meeting** on the 9<sup>th</sup> right after the Solomon Lecture.

**Finally, Finally:** It has been a profound pleasure and honor to serve as your President. This is an organization for its members and I hope I have in some small measure served well. See you at the Banquet!!!

Sincerely,

*WilliamABanksMD*

William A Banks, President - PNIRS



Follow us on Twitter @PNIRS #PNIRS2018

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## ***Acknowledgements and Sponsors***

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We gratefully appreciate the support of Elsevier, Inc. for sponsoring the Brain, Behavior, and Immunity Editorial Board luncheon, providing the complimentary copies of Brain, Behavior, and Immunity for registrants as well as additional financial support for the trainee scholar awards.



We gratefully appreciate the support of Janssen Research and Development, Pfizer and Bentham Science for providing support at various levels for PNIRS 2018.

### **BRONZE LEVEL**



### **CONTRIBUTOR LEVEL**



# 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.

## **Executive Committee (Officers)**

Bill Banks (President)  
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Deb Hodgson (President-Elect)  
Staci Bilbo (Secretary/Treasurer)  
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Jackie Newman

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Andy Miller  
Ebrahim Harroon  
Staci Bilbo  
Bianka Karshikoff (Trainee Member)  
Geoffroy Laumet (Trainee Member)  
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Jeanette Bennett  
Manfred Schledowski  
Michael Irwin  
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Quentin Pittman  
Jan-Pieter Konsman  
Steve Cole  
Steven Maier  
Andrea Danese  
Erin Costanzo  
Matt Jefferson (Trainee Member)

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Julie Lasselin (Trainee Member)  
Luba Sominsky (Trainee Member)

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Peter Grace  
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Martin Pospichal (Trainee member)

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Cobi Heijnen  
Michelle Erickson  
Ning Quan  
Jeff Woods  
Wolfgang Langhans  
Suzi Hong  
Catherine Walsh (Trainee Member)

## **Local Organizing Committee**

Andy Miller, Co-chair  
Jennifer Felger, Co-chair  
Ebrahim Harroon

**2019 Meeting**

*PNIRS 2019  
26<sup>th</sup> Annual Scientific Meeting  
Together with the  
German Endocrine-Brain-Immune Network (GEBIN)*

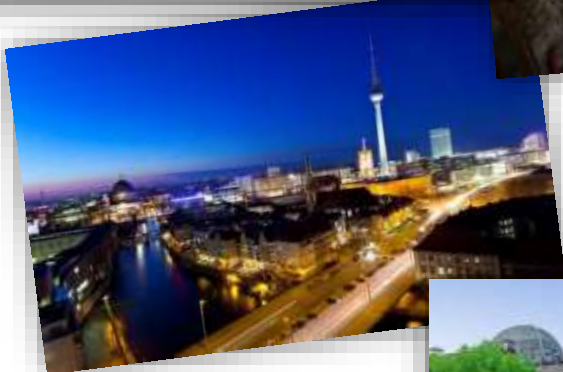


PsychoNeuroImmunology  
Research Society



*Berlin Germany  
June 4-8, 2019*

*Conference Location:  
Langenbeck-Virchow-Haus  
Luisenstraße 58/59, 10117 Berlin*



# ***General Information***

## **Registration Desk**

The registration desk is located outside of the *Pompeii Ballroom*. 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, June 7: 9:00 am – 5:00 pm  
Thursday, June 8: 8:00 am – 5:00 pm  
Friday, June 9: 8:00 am – 1:00 pm  
Saturday, June 10: 8:00 am – 2:00 pm

The registration desk will be closed Friday, and Saturday during 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 the *Eden Roc I, Salon A & B*. 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: You may begin to hang your posters the morning of Thursday, June 7<sup>th</sup>. Please remove your posters no later than the morning of Friday, June 8<sup>th</sup>.

Poster Session 2: You may begin to hang your posters the evening of Friday, June 8<sup>th</sup>. Please remove your posters after the session on Saturday, June 9<sup>th</sup>.

## **Poster Data Blitz**

The Poster Data Blitz talks will take place in the *Pompeii Ballroom*. All Data Blitz participants will give a 2-minute oral presentation with a maximum of 2 slides. Given their brevity, please upload all files the day before your talk at the registration desk. ***If you do not upload your talk in time, we cannot include your presentation.***

## **PNIRS Trainee Social**

PNIRS Trainee Social is on **Friday, June 8** from 6-8 pm at the **Sweet Liberty** 237-B 20th St., Miami Beach, FL. Directions will be available at the registration desk. Nametag will be required for entrance.

## **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 and WiFi**

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. WiFi will be available at the meeting.

## **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](mailto: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 *PsychoNeuroImmunology 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 *PsychoNeuroImmunology Research Society*.

### **2018 Norman Cousins Award Lecture**

*Cells for all Ages: Microglia*

**Rodney Johnson, Ph.D.**

Professor

University of Illinois, Urbana, Illinois

Department of Animal Sciences

## ***The Robert Ader New Investigator Award***



In honor of Dr. Robert Ader, a pioneer in the field of psychoneuroimmunology, the *PsychoNeuroImmunology 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.

### **2018 Robert Ader New Investigator Award Lecture**

*Neuroimmune Crosstalk and Chronic Pain*

**Peter Grace, Ph.D.**

Assistant Professor

University of Texas, MD Anderson Cancer Center

Department of Critical Care Research

### **2019 COUSINS AND ADER AWARDS**

The winners of the 2019 Norman Cousins Award Lecture and the Robert Ader New Investigator Award will be announced at the Closing Banquet on Saturday, June 9<sup>th</sup>.

## ***The George Solomon Memorial Lecture***



The George Solomon Memorial Lecture was 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.

### **2018 George Solomon Memorial Lecture**

*Psychoneuroimmunology: A Bridge of Innovation from  
Medicine to Public Health*

**Michael Irwin, M.D.**

Professor of Psychiatry and Biobehavioral Sciences  
University of California Los Angeles

Director, Cousins Center for Psychoneuroimmunology

## ***The Glaser Frontiers in PNI Lecture***



**PsychoNeuroImmunology**  
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The Glaser Frontiers in Psychoneuroimmunology lecture, formerly the Frontiers in Psychoneuroimmunology lecture, is supported by generous donations to the Ronald Glaser Fund. The Ronald Glaser Fund was established in 2017 to honor Ron for all his contributions to the field of psychoneuroimmunology. As a pioneer in our field, Ron made contributions that have advanced psychoneuroimmunology in many ways. His efforts provided exemplary support for colleagues, trainees and patients around the world with stress-associated illnesses. The "Frontiers" lecture will serve as recognition of Ron's influence across a broad spectrum of biology and medicine and honor those contributions. To make a donation, please visit <https://www.pnirs.org/portal/donations/>.

### **2018 Frontiers in PNI Lecture**

*Targeting Neuroinflammation in Epilepsy:  
New Opportunities for Disease Modifications*

**Annamaria Vezzani, Ph.D.**

Laboratory of Experimental Neurology  
Department of Neuroscience  
Mario Negri Institute

## ***PNIRS Trainee Scholars***

<b>Trainee Scholar</b>	<b>Presentation</b>
Sarah Rosen	Oral Session #1
Karen Krukowski	Oral Session #1, Oral Session #3
Leonie Balter	Oral Session #2, Data Blitz #2, Poster Session #2 (poster 4 & 5)
Avelina Padin	Oral Session #2
Aric Logsdon	Oral Session #1 (Pres Sym Time)
Mandakh Bekhbat	Oral Session #2
Annelise Madison	Oral Session #2, Data Blitz #1, Poster Session #1 (poster 23)
Shane O'Neil	Oral Session #1
Jordan Kohn	Oral Session #3, Poster Session #2 (poster 41)
Caroline Smith	Data Blitz #1, Poster Session #1 (poster 37)
Karen Giles	Data Blitz Session #2, Poster Session #2 (poster 18)
Stephanie Wilson	Data Blitz Session #2, Poster Session #2 (poster 37)

◇ Indicates a Trainee Scholar throughout the program

***Congratulations to our  
2018 Trainee Scholars!***

# PNIRS 2018 Schedule at a Glance

Time	Wednesday June 6	Thursday June 7	Friday June 8	Saturday June 9	Time	
7:30-8:00			Breakfast Provided PNIRS <sup>ASIA-PACIFIC</sup> Speaker Both Starting at 7:30	Breakfast Provided Starting at 7:30		
8:00-8:30					8:00-8:30	
8:30-9:00	<b>Financial Committee</b> 8:30-9:30  <b>Scientific Affairs Committee</b> 9:30-10:30  <b>Membership Committee</b> 10:30-11:15  <b>Nominating Committee</b> 11:15-12:00  <b>Communications Committee</b> 12:00-12:30	<b>President's Welcome</b> Bill Banks, MD	<b>Presidential Symposium</b>  <i>The Blood-Brain Interface in Brain, Behavior and Immunity</i>	<b>Concurrent Oral Sessions 3</b>	8:30-9:00	
9:00-9:30		<b>Member Sponsored Symposium 1</b>  <i>Immune Response in Alzheimer's Disease: Role of Microglia</i>				9:00-9:30
9:30-10:00						9:30-10:00
10:00-10:30				Break	10:00-10:30	
10:30-11:00				Break	<b>Member Sponsored Symposium 2</b>	10:30-11:00
11:00-11:30			Break	<b>Concurrent Oral Sessions 2</b>	<i>Early Life Events and Immune Trajectories to Adult Psychopathology</i>	11:00-11:30
11:30-12:00						11:30-12:00
12:00-12:30			<b>Glaser-Frontiers in PNI Lecture</b> Annamaria Vezzani, PhD			12:00-12:30
12:30-1:00	<b>Board of Directors Meeting</b> (Lunch included)	<b>Poster Data Blitz 1</b>	<b>Ader Lecture</b> Peter Grace, PhD	<b>Poster Data Blitz 2</b>	12:30-1:00	
1:00-1:30		Lunch Provided Concurrently: Leader Lunch	Free Afternoon	BBI Editorial Board Lunch	1:00-1:30	
1:30-2:00					1:30-2:00	
2:00-2:30						2:00-2:30
2:30-3:00	<b>Educational Short Course</b> <i>Transforming Technologies for PNI: Translational Methodologies from Microbes to Microvesicles in Mouse and Man</i>	<b>Poster Session 1</b>			<b>Poster Session 2</b>	2:30-3:00
3:00-3:30						3:00-3:30
3:30-4:00				<b>Concurrent Oral Sessions 1</b>	<b>George Solomon Memorial Lecture</b> Michael Irwin, MD	
4:00-4:30						4:00-4:30
4:30-5:00					<b>PNIRS Business Meeting</b>	4:30-5:00
5:00-5:30	<b>Concurrent Session</b> <i>PNIRS Young Investigator Symposium</i>	<b>Norman Cousins Lecture</b> Rodney Johnson, PhD			5:00-5:30	
5:30-6:00					5:30-6:00	
6:00-6:30	<i>Elsevier Publishing Workshop</i>		<b>Trainee Mixer Social</b>  <i>Sweet Liberty Drinks and Supply Company</i>		6:00-6:30	
6:30-7:00	<b>Trainee-Mentor Colloquium</b>					6:30-7:00
7:00-7:30		<b>Welcome Reception</b>			<b>Closing Banquet</b>	7:00-7:30
7:30-8:00				7:30-8:00		
8:00-8:30				8:00-8:30		
9:00-			9:00-			

# Wednesday, June 6

## 8:30-2:30 COMMITTEE MEETINGS

*Executive Boardroom*

- 8:30 Financial Committee
- 9:30 Scientific Affairs Committee
- 10:30 Membership Committee
- 11:15 Nominating Committee
- 12:00 Communications Committee
- 12:30 Board of Directors Meeting (lunch included)

## 2:30-5:00 EDUCATIONAL SHORT COURSE

*Pompeii Ballroom*

Chair: Bill Banks and Jennifer Felger

### **Transforming Technologies for PNI: Translational Methodologies from Microbes to Microvesicles in Mouse and Man**

*Human Blood-Brain Barrier Modeling in Health and Disease*

**Eric Shusta**

University of Wisconsin, Madison, WI

*Harvesting from the Microbiome: The Role of Gut Symbionts in CNS Pathogenesis and Regulation*

**Lloyd Kasper**

Dartmouth Medical School, Lebanon, NH

*Neurally Derived Exosomes: Translational Research and Clinical Potential*

**Laura Goetzl**

Temple University, Philadelphia, PA

## 5:00-6:30 CONCURRENT SESSIONS

*Promenade B (South)*

### **PNIRS Young Investigator Symposium**

How do you start your own lab? How do you get good PhD students? How to deal with group dynamics and with motivation of employees? This symposium will foster discussion, in a peer teaching format, such questions and will also encourage networking between labs and young upcoming PIs. Please join us for a wonderful session.

*Pompeii Ballroom*

### **Elsevier Publishing Workshop**

**Background:** Knowing the best way of structuring your paper when writing it, and the most appropriate journal to send it to, really helps in getting your paper accepted. Also understanding how Editors and Publishers think, what they expect, and knowing how the peer review process works, are invaluable insights into the publishing process.

**Results:** After attending this workshop, one in the Elsevier Publishing Connect Workshop series, participants should have a clear idea of the steps to be taken before starting to write a paper. They will be able to plan writing manuscripts using the logical step sequence – not the sequence in which the paper will be read. Authors are also made aware of what aspects of their papers Editors, Reviewers and Publishers look at critically: in taking care of these areas, their papers are much more likely to be

accepted. Sensitive areas such as publishing ethics, plagiarism, duplicate publishing, etc. are also explained such that participants will be given an understanding of what their responsibilities are, what is allowed, and what is not permitted. These insights into the publishing process will enable the participants to be more confident as authors in the world of publishing science, and thus help ensure their papers are more likely to be published. Participants will be able to download a certificate of proof of attendance using a specific PNIRS workshop code at the conclusion of the workshop.

**6:30-8:30**     **PNIRS TRAINEE MENTOR COLLOQUIUM**  
(All Trainees, refreshments will be provided)  
*Promenade A (North)*

6:30            **President's Welcome**  
Bill Banks  
PNIRS President

6:40            **"Networking: the why, what and how"**  
Peter Grace  
Assistant Professor, Department of Critical Care Research  
University of Texas, MD Anderson Cancer Center, Houston, TX

7:00-8:30     **Speed mentoring**  
The goal is to facilitate interactions between trainees and more senior members of the PNIRS community through a series of brief small group meetings

# Thursday, June 7

**8:30-9:00 WELCOME**  
*Pompeii Ballroom*  
Bill Banks, President PNIRS

**9:00-11:00 MEMBER SPONSORED SYMPOSIUM**  
*Pompeii Ballroom*  
Chair: Elizabeth Rhea

## **Immune Response in Alzheimer's disease: Role of Microglia**

*High-fat Diet and Microglial Response in Alzheimer's Disease*

**Fiona Harrison**

Vanderbilt University

*Exploring the Critical Roles of Microglia in the Development of Alzheimer's Disease Pathology*

**Kim Green**

University of California, Irvine

*Amyloid-mediated Microglial Activation in Alzheimer's Disease*

**Colin Combs**

University of North Dakota

*Using Human iPSC-derived Microglia and Chimeric Mouse Models to Study Alzheimer's Disease*

**Mathew Blurton-Jones**

University of California, Irvine

**11:00-11:30 BREAK**  
*Promenade A (North)*

**11:30-12:30 GLASER-FRONTIERS IN PSYCHONEUROIMMUNOLOGY**  
*Pompeii Ballroom*  
Chair: Bill Malarkey



*Targeting Neuroinflammation in Epilepsy:  
New Opportunities for Disease Modifications*

**Annamaria Vezzani**

Laboratory of Experimental Neurology,  
Department of Neuroscience, Mario Negri Institute

**12:30-1:00 POSTER DATA BLITZ I***Pompeii Ballroom*

Chair: Barbara Stonestreet and Jennifer Felger

Poster Number	Title
29	Structural and Functional Cytoarchitecture of IL-1R1-Expressing System in the Brain X. Liu, D. Nemeth, D. McKim, L. Zhu, D. DiSabato, O. Berdysz, G. Gorantla, B. Oliver, K. Witcher, Y. Wang, J. Sheridan, J. Godbout, M. Robson, R. Blakely, P. Popovich, S. Bilbo, <b>N. Quan</b> [2075]
4	Dispositional Optimism Predicts Inflammation in Cross-Sectional and Longitudinal Analyses <b>J. A. Bosch</b> , R. M. Herr, B. Schmidt, W. Marz, A. Loerbroks, L. Pieper, H. U. Wittchen [3122]
13	Serum Amyloid A Inhibits the Clearance of Amyloid Beta from the Brain <b>M. A. Erickson</b> , E. G. Fernandez, S. Liang, E. M. Rhea, T. S. Salameh, W. A. Banks [2052]
16	High Social Strain and Physical Health: Examining the Roles of Anxious Arousal and IL-6 <b>J. E. Guevara</b> , K. W. Murdock [2040]
23 ◇	Yoga Intervention Protects Breast Cancer Survivors Against Fatigue and Poorer Quality of Life Associated with a Proinflammatory Diet <b>A. Madison</b> , J. Kiecolt-Glaser [3116]
30	Impaired Cognition and Fatigue; the Role of Sleep and Neuroinflammation for Non-Specific Symptoms in Allergy <b>S. Renberg Tamm</b> , S. Cervenka, A. Forsberg, J. Estelius, J. Grunewald, P. Gyllfors, B. Karshikoff, E. Kosek, J. Lampa, C. Lensmar, V. Strand, T. Å...kerstedt, C. Halldin, M. Ingvar, C. Olgart Höglund, M. Lekander [3081]
26	Anxiety, Pro-inflammatory Cytokines, and RAGE-Associated S100A8/A9 Levels in Breast Cancer Patients <b>E. R. Nahin</b> , M. E. Lippman, B. I. Hudson, L. C. Bouchard, C. Taub, C. S. Carver, A. Diaz, B. B. Blomberg, M. H. Antoni [3095]
37 ◇	Combined Exposure to Air Pollution and Maternal Stress Induces Sex-Specific, Autism-Like Social Behavior Deficits and Gut Dysbiosis in Mice <b>C. J. Smith</b> , P. K. Tran, K. E. Malacon, S. D. Bilbo [3108]
2	The Interaction between Trait Mindfulness and the Effect of a Single Yoga Session on the Response to an Acute Psychological Stress <b>M. J. Benvenuti</b> , E. d. Alves, L. M. Tomfohr-Madsen, S. Michael, E. Stamatakis, D. Ding, K. M. Edwards [3097]
27	Metabolic-Inflammatory Status as Predictor of Clinical Outcome at 1-Year Follow-Up in Patients with First Episode Psychosis <b>M. A. Nettis</b> , G. Pergola, A. Kolliakou, J. O'Connor, S. Bonaccorso, A. David, F. Gaughran, M. Di Forti, R. M. Murray, T. R. Marquez, G. Blasi, A. Bertolino, C. M. Pariante, P. Dazzan, V. Mondelli [3128]
36	Rat Model of Prenatal Zika Virus Infection <b>M. L. Sherer</b> , P. Khanal, M. Parcels, J. M. Schwarz [3084]
38	Acylated Ghrelin's Anti-Inflammatory Actions on Lipopolysaccharide (LPS)-Induced Cytokine Release <b>S. J. Spencer</b> , I. Ziko, L. Sominsky [3118]

*Bolded author indicates submitting author***1:00-2:00 LUNCH***Spa Garden***Concurrently: Leader Luncheon** (Invitation only)*Palm Room*



2:00-3:30

**POSTER SESSION 1**

*Eden Roc I, Salon A & B*

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

3:30-5:00

**CONCURRENT ORAL SESSION 1**

*Pompeii Ballroom*

Chair: Ning Quan and Shelly Erickson

- 3:30 *Novel Cytokine Pathways in Neuroinflammation*  
**Alexandre Prat**, University of Montréal, Montreal, Quebec
- 4:00 *Beta-Adrenergic Blockade Inhibits Stress-Related Transcriptome Profiles Associated with Worse Cancer Outcomes: A Randomized Controlled Study of Propranolol in Hematopoietic Cell Transplantation Recipients*  
**J. M. Knight**, J. D. Rizzo, P. Hari, K. E. Giles, M. C. Pasquini, A. D'Souza, B. R. Logan, M. Hamadani, S. Chhabra, B. Dhaka, N. Shah, S. W. Cole [2055]
- 4:15 *Microglia are Extrinsically Primed by the Aged Microenvironment*  
**S. M. O'Neil**, K. G. Witcher, J. P. Godbout [2060] ◇
- 4:30 *The Effect of Intranasal Insulin in the CNS in Alzheimer's Disease*  
**E. M. Rhea**, R. Beyer, T. Bammler, W. A. Banks [2050]
- 4:45 *Regional but not Systemic Immune Parameters Relate to Neuropsychiatric Morbidity in Patients with Genital Herpes Simplex Virus (HSV) Infection.*  
**U. Vollmer-Conna**, M. Chen, B. Donovan [2069]

*Promenade B (South)*

Chair: Andy Miller and Ebrahim Haroon

- 3:30 *Brief Stress Management Interventions After Surgery Improve Psychological Adaptation and Immune Cell Signaling in Breast Cancer Patients*  
**M. H. Antoni**, A. Diaz, C. Taub, H. Fisher, C. S. Carver, M. Lippman, B. Hudson, B. B. Blomberg [2061]
- 3:45 *Inhibition of the Integrated Stress Response Reverses Cognitive Deficits after Traumatic Brain Injury* ◇  
**K. Krukowski**, A. Chou, T. Jopson, P. Jun Zhu, M. Costa-Mattioli, P. Walter, S. Rosi [2056]
- 4:00 *P2X7R as Biomarker of Treatment Response in Depressed Patients*  
**N. Mariani**, A. Cattaneo, C. Malpighi, A. P. McLaughlin, N. Nikkheslat, C. Hastings, M. A. Nettis, Z. Zajowska, P. Cowen, J. Cavanagh, N. Harrison, E. Bullmore, V. Mondelli, C. Pariante [2072]
- 4:15 *Psychological Stress, Immune Reactivity, and Attention to Emotional Information*  
**V. Maydych**, M. Claus, C. Watzl, T. Kleinsorge [2079]
- 4:30 *Increased Pain Sensitivity and Decreased Opioid Analgesia in T Cell-Deficient Mice and Implications for Sex Differences*  
**S. F. Rosen**, B. Ham, M. Haichin, I. Walters, S. Sotocinal, J. Mogil [3146] ◇

4:45 *Chronic Stress-Induced Glucocorticoid Signaling Drives Microglia-Mediated Neuronal Remodeling and Depressive-Like Behaviors*  
M. Horchar, **E. S. Wohleb** [2066]

*Bolded author indicates submitting author*

**5:00-6:00**    **NORMAN COUSINS MEMORIAL LECTURE**

*Pompeii Ballroom*

Nominator: Keith Kelley



*Cells for all Ages: Microglia*

**Rodney Johnson**

Professor of Animal Sciences

University of Illinois, Urbana, Illinois

**6:00-10:00**    **WELCOME RECEPTION** (Included)

*Spa Terrace*

## Friday, June 8

7:30-8:30 **BREAKFAST**  
**PNIRS** Asia-Pacific **Speaker**

8:30-10:30 **PRESIDENTIAL SYMPOSIUM**  
*Pompeii Ballroom*  
Chair: Bill Banks and Jan-Pieter Konsman

### **The Blood-Brain Interface in Brain, Behavior and Immunity**

*2B or not 2B a Barrier, a Sigh of the Times*

**Jan-Pieter Konsman**  
University of Bordeaux, France

*Macrophage-derived Exosomes for Targeted Drug Delivery to the Brain*

**Elena Batrakova**  
University of North Carolina, Chapel Hill, NC

*The Blood-Brain Barrier in Health and Disease in Perinatal Medicine*

**Barbara Stonestreet**  
Brown University, Providence, RI

*Chemobrain in Rats - Morphological, Oxidative and Behavioral Effects of Doxorubicin Administration*

**C. V. Cardoso**, P. S. Rodrigues, T. B. Kirsten, M. M. Bernardi, M. P. Barros, A. L. Bachi, M. M. Martins, E. F. Bondan [2051]

*Markers of Peripheral Immune Cells are Increased in Regions of Blood-Brain Barrier Disruption after Repetitive Blast Injury*

**A. Logsdon**, J. Meabon, M. Yagi, D. Cook, W. Banks [2065] ◇

*Future of the BBI in PNI*

**Bill Banks**  
University of Washington, Seattle, WA

10:30-11:00 **BREAK**  
*Promenade A (North)*

11:00-12:15 **CONCURRENT ORAL SESSION 2**  
*Pompeii Ballroom*  
Chair: Colin Combs and Suzi Hong

11:00 *Chronic Adolescent Stress Differentially Sensitizes Neuro-Immune Reactivity in Male and Female Rats*

**M. Bekhbat**, D. Mukhara, M. J. Dozmorov, J. C. Stansfield, S. D. Benusa, S. A. Rowson, S. D. Kelly, G. K. Tharp, M. G. Tansey, G. N. Neigh [3111] ◇

11:15 *Sympathetic-Inflammatory Responses in Operated Nude Mice Prevent Transformation into Dormancy of Human Breast Cancer Metastases: Multiple Mediating Mechanisms through Immunity and Tumor Secretion of IL-6, IL-8, and VEGF*

R. Haldar, L. Shaashua, E. Rosenne, E. Sloan, **S. Ben-Eliyahu** [3082]

- 11:30 *Exposure to Early Life Stress (ELS) Sensitizes Individuals to the Behavioral Consequences of Mild Fluctuations in Circulating Inflammation*  
**K. R. Kuhlman**, T. F. Robles, L. N. Dooley, C. C. Boyle, M. D. Haydon, J. E. Bower [3087]
- 11:45 *Inflammation is Associated with Decreased Amygdala to Ventromedial Prefrontal Functional Connectivity in Association with Symptoms of Anxiety in Patients with Depression*  
**N. D. Mehta**, Z. Li, B. J. Woolwine, E. Haroon, J. C. Felger [3091]
- 12:00 *Cytokine-Mediated Cell-Cell Interaction between Choroid Plexus Epithelium and Stroma in Response to Systemic Inflammation*  
**A. Shimada**, A. Miura, S. Hasegawa-Ishii [3098]
- Promenade B (South)*  
 Chair: Susan Lutgendorf and Jan-Pieter Kopsman
- 11:00 *Where is My Motivation? -- Experimentally Induced Inflammation Reduces Maintenance of Motivated Behavior and Goal-Directed Behavior*  
**L. J. Balter**, S. Hulsken, S. Aldred, M. T. Drayson, S. Higgs, J. J. Veldhuijzen van Zanten, J. A. Bosch, J. E. Raymond [3104] ◇
- 11:15 *Chemotherapy, Bacterial Translocation, Heart Rate Variability, and Depression in Breast Cancer Survivors*  
**A. Madison**, J. Kiecolt-Glaser [3115] ◇
- 11:30 *Childhood Adversity Predicts Changes in Inflammation, Fatigue, and Depression during Breast Cancer Survivorship*  
**A. C. Padin**, J. K. Kiecolt-Glaser [3112] ◇
- 11:45 *The Role of Gut-Brain Axis in Chemotherapy-Induced Behavioral Comorbidities*  
 K. R. Jordan, B. R. Loman, S. R. Bever, J. M. Allen, J. Kaur, M. T. Bailey, **L. M. Pyter** [3083]
- 12:00 *Microbiota-Neuroimmune Interactions in a Humanized Mouse Model of IBS: The Role of Diet and Mast Cells*  
**C. Shimbori**, G. De Palma, D. Reed, M. Pigrau, J. Lu, Y. Zhang, Y. Yu, N. Jimenez-Vargas, J. Sessenwein, C. Lopez-Lopez, J. Jaramillo-Polanco, E. Verdu, A. Lomax, M. Beyak, S. Collins, S. Vanner, P. Bercik [3094]

*Bolded author indicates submitting author*

**12:15 PRESENTATION OF THE BBI IMPACT AWARD**  
*Pompeii Ballroom*  
 Presenter: Keith Kelley, Carmine Pariante, and Rachael Engels

**12:30-1:00 ROBERT ADER LECTURE**  
*Pompeii Ballroom*  
 Chair: Mark Opp



*Neuroimmune Crosstalk and Chronic Pain*

**Peter Grace**

Assistant Professor, Department of Critical Care Research  
 University of Texas, MD Anderson Cancer Center, Houston, TX

**FREE AFTERNOON**

**6:00-8:00**

**PNIRS Trainee Social**

Sweet Liberty

237-B 20th St, Miami Beach, FL 33139

# Saturday, June 9

## 8:30-10:00 CONCURRENT ORAL SESSION 3

*Pompeii Ballroom*

Chair: Rod Johnson and Elena Batrakova

- 8:30 *Association between Complicated Grief and Inflammation among Bereaved Adults*  
**R. L. Brown**, A. S. LeRoy, C. J. Heijnen, C. P. Fagundes [3142]
- 8:45 *Beta-Adrenergic Receptor Mediated Inflammation Regulation and Cardiometabolic Risk Factors Interact to Influence Cognition in the Elderly*  
**J. Kohn**, L. Redwine, N. Guay-Ross, M. A. Pung, G. Lysach, A. Wilson, C. Spoon, C. Pruitt, M. Milic, S. Hong [3161] ◇
- 9:00 *I am Woman, Watch Me Soar: Females Protected from Cosmic Ray-Induced Behavioral Deficits, Microglia Activation and Synaptic Loss.*  
**K. Krukowski, K. Grue**, E. Frias, J. Pietrykowski, A. Rayasam, T. Jones, G. Nelson, S. Rosi [3119] ◇
- 9:15 *Positive Association of IL-6 and IL-6/IL-10 Ratio with Psychosocial Health and Well-Being in Highly Functional Nonagerians*  
**N. Rohleder**, R. Rupprecht, F. R. Lang [3139]
- 9:30 *Microglial Phagocytosis of Newborn Cells is Induced by Endocannabinoids and Sculpted Sex Differences in Social Play*  
**J. W. VanRyzin**, A. E. Marquardt, K. J. Argue, M. M. McCarthy [3153]
- 9:45 *Effects of Two-Week Smartphone-Based Mindfulness Training on Markers of Inflammation: A randomized Controlled Trial*  
**E. K. Lindsay**, A. L. Marsland, S. Young, J. M. Smyth, K. W. Brown, K. Gray, C. P. Walsh, J. D. Creswell [3160]

*Promenade B (South)*

Chair: Chris Coe and Jennifer Knight

- 8:30 *Sex-Biased Mitochondrial and Behavioral Alterations Following Early-Life Immune Activation*  
**E. A. Bordt**, K. H. Jiang, C. J. Smith, S. D. Bilbo [3106]
- 8:45 *Cytomegalovirus Amplifies CD8+ T Cell Mobilization to Psychological Stress in Humans, Via a Beta-Adrenergic Dependent Mechanism Linked to T-bet/Th1 Effector Cell differentiation*  
**J. A. Bosch**, N. E. Riddell, K. M. Edwards, S. Hong, P. J. Mills, A. N. Akbar, J. E. Fischer, R. A. van Lier, V. E. Burns, G. R. Wallace, M. T. Drayson, P. A. Moss [3159]
- 9:00 *Cytotoxic T cells May Induce Pain Hypersensitivity in Female but not Male Mice after Nerve Injury in an Interferon- $\gamma$ -Receptor-Dependent Manner*  
**B. Ham**, S. Rosen, S. Sotocinal, N. Boachi, Z. Harji, J. S. Austin, J. Mogil [3154]
- 9:15 *Mindfulness-Based Stress Reduction Training Improves Disease Control and Reduces Reactivity in Affective Neurocircuitry in Asthmatic Individuals.*  
**M. Rosenkranz**, W. Busse, J. Mumford, R. Davidson [3150]

- 9:30 *Perinatal Microglia: Essential for Long-Term Hippocampal Neuroimmune Interactions*  
**A. Soch**, S. N. De Luca, L. Sominsky, M. R. Di Natale, S. J. Spencer [3123]
- 9:45 *Rage-Associated S100a8/A9 Levels Associated with Circulating Proinflammatory Cytokines and Social Well-Being in Patients with Breast Cancer Over the First 12 Months of Treatment*  
**C. Taub**, H. Fisher, E. Nahin, B. Blomberg, M. Lippman, B. Hudson, A. Diaz, S. Lechner, T. Kwak, G. Hwang, C. Carver, M. Antoni [3145]

*Bolded author indicates submitting author*

**10:00-10:30 BREAK**  
 Promenade A (North)

**10:30-12:30 MEMBER SPONSORED SYMPOSIUM**  
 Pompeii Ballroom  
 Chair: Carmine Pariante

**Early Life Events and Immune Trajectories to Adult Psychopathology**

*Transgenerational and Epigenetic Effects of Prenatal Immune Activation in Mice*  
**Ulrike Weber-Stadlbauer**  
 University of Zurich, Zurich, Switzerland

*FoXO1 and Immune Related Pathways as Novel Vulnerability Signature for GXE Interaction in Depression*  
**Chiara Malpighi**  
 Biological Psychiatry Unit, IRCCS Brescia, Italy

*Interaction between Childhood Trauma and FKBP5 Genotype on HPA Axis Activity in Psychosis*  
**Valeria Mondelli**  
 Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK

*Perinatal Determinants of Immune Trajectories and Adult Psychopathology*  
**Carmine Pariante**  
 Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK

Discussant: **Carmine Pariante**, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK

**12:30-1:00 POSTER DATA BLITZ 2**  
 Pompeii Ballroom  
 Chair: Lisa Christian and Peter Grace

Poster Number	Title
33	The Mental Health and Wellbeing of Medical Trainees -- Autonomic, Immunological and Behavioural Considerations. <b>U. Vollmer-Conna</b> , S. Huang, C. Macnamara , J. Beilharz , P. Imants, E. Cvejic , G. Parker [2070]
3	Pathogenic Hippocampal Th17 Cells Linked to Depressive-Like Behavior in Mice <b>E. Beurel</b> , R. S. Jope [2067]
26	Biobehavioral Effects on Epithelial Mesenchymal Transition in Ovarian Cancer <b>S. K. Lutgendorf</b> , P. H. Thaker, M. J. Goodheart, S. Strack, G. M. Slavich, J. Arevalo, A. K. Sood, S. W. Cole [2041]

35	Kynurenine Pathway Metabolites are Longitudinally Related to Brain Atrophy, Cognitive Decline, and Negative Affect Across the Alzheimer's Disease Spectrum B. S. Klinedinst, A. Collazo-Martinez, R. Dantzer, <b>A. A. Willette</b> [3156]
5 ◇	Inflammation Decreases Emotion Recognition -- Evidence from the Vaccination Model of Inflammation <b>L. J. Balter</b> , S. Hulsken, S. Aldred, M. T. Drayson, S. Higgs, J. J. Veldhuijzen van Zanten, J. E. Raymond, J. A. Bosch [3105]
18 ◇	Tocilizumab Uncouples the Association between Baseline and Subsequent Fatigue in Allogeneic Hematopoietic Cell Transplant Recipients <b>K. E. Giles</b> , E. S. Costanzo, S. Singh, Z. Yin, A. Szabo, W. R. Drobyski, C. J. Hillard, J. D. Rizzo, A. D'Souza, C. L. Coe, J. M. Knight [3120]
24	Tocilizumab, an IL-6 Receptor Antagonist, is Associated with Worse Depression, Anxiety, Pain, and Sleep Following Hematopoietic Cell Transplantation <b>J. M. Knight</b> , E. S. Costanzo, S. Singh, Z. Yin, A. Szabo, C. J. Hillard, J. D. Rizzo, C. L. Raison, A. D'Souza, C. L. Coe, W. R. Drobyski [3080]
37 ◇	Loneliness and Telomere Length: Immune and Parasympathetic Function in a Pathway to Accelerated Aging <b>S. J. Wilson</b> , A. Woody, A. C. Padin, J. Lin, W. B. Malarkey, J. K. Kiecolt-Glaser [3133]
6	Rescue of Cytokines Induced Reduction of Human Neurogenesis and Increase in Apoptosis by Omega-3 Fatty Acids <b>A. Borsini</b> , C. M. Pariante, K. Su, P. A. Zunszain [3085]
17	Inflammatory Markers in Postpartum Depression--A Sign of an Exaggerated Stress Response? E. Bränn, <b>E. Fransson</b> , R. R. White , F. Papadopoulos , A. Edvinsson, J. L. Cunningham, I. Poromaa, A. Skalkidou [3143]
1	Diurnal Variation in Immune Markers Among Caregivers of Children Newly Diagnosed with Cancer <b>C. P. Walsh</b> , L. J. Ewing, J. L. Cleary, A. D. Vaisleib, C. H. Farrell, K. Gray, A. L. Marsland [3136]

*Bolded author indicates submitting author*

**1:00-2:00 LUNCH** (On Your Own)  
**Concurrently: BBI Editorial Board Meeting** (Invitation only)

**2:00-3:30 POSTER SESSION 2**  
*Eden Roc I, Salon A & B*

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

**3:30-4:30 GEORGE SOLOMON MEMORIAL LECTURE**  
*Pompeii Ballroom*  
Chair: Suzanne Segerstrom



*Psychoneuroimmunology: A Bridge of Innovation from  
Medicine to Public Health*

**Michael Irwin**

Professor of Psychiatry and Biobehavioral Sciences  
Director, Cousins Center for Psychoneuroimmunology  
University of California Los Angeles



**4:30-5:30**     **BUSINESS MEETING** (All attendees are encouraged to attend)  
*Pompeii Ballroom*

**7:00-**         **CLOSING BANQUET** (Included)  
*Mona Lisa*

Presentation of the 2019 Norman Cousins and Robert Ader New Investigator Awards

## Poster Session 1, Thursday, June 7

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

◇ Indicates a Trainee Scholar

Posters will be presented in Eden Roc I, Salon A & B	
1	Contributions of Inflammatory Cytokine Signaling to the Enduring Effects of Early-Life Stress: A Serotonin Connection? N. Baganz, J. Smith, L. Harbom, E. Castriz, M. Robson, R. Blakely [3078]
2 *	The Interaction between Trait Mindfulness and the Effect of a Single Yoga Session on the Response to an Acute Psychological Stress M. J. Benvenuti, E. d. Alves, L. M. Tomfohr-Madsen, S. Michael, E. Stamatakis, D. Ding, K. M. Edwards [3097]
3	The Neural, Genetic and Behavioural Effects of Intensive Meditation and Yoga on Prisoners with Personality Disorders I. Buric, M. Farias, V. van Mulukom, J. Jong, S. Kurtev, C. Mee, L. Gould, S. Rahman, B. Parker, I. Brazil [3099]
4 *	Dispositional Optimism Predicts Inflammation in Cross-Sectional and Longitudinal Analyses J. A. Bosch, R. M. Herr, B. Schmidt, W. Marz, A. Loerbroks, L. Pieper, H. U. Wittchen [3122]
5	Loneliness is Predictive of the Inflammatory Response to Standardized Antigen Exposure <i>In Vivo</i> J. A. Bosch, L. J. Balter, S. Hulsken, M. T. Drayson, S. Aldred, J. J. Veldhuijzen van Zanten, J. E. Raymond [3155]
6	Repairing Effects of Curcumin in the Rat Central Nervous System after Gliotoxic Damage E. F. Bondan, M. M. Martins, C. V. Cardoso [2058]
7	Targeted Modulation of Neurotransmitter Receptors on Specific Leukocyte Subpopulations in Rheumatoid Arthritis K. Wieber, X. Baraliakos, J. Braun, S. Capellino [3100]
8	Dopamine Receptor Modulation on Osteoblast as a Potential Therapy for Arthritis L. Salinas Tejedor, M. Rickert, J. Steinmeyer, S. Rehart, E. Neumann, U. Harre, G. Schett, U. Müller-Ladner, S. Capellino [3101]
9	Omega-3 Fatty Acids Improve Attention in Youth with Attention Deficit Hyperactivity Disorder J. Chang, K. Su, V. Mondelli, C. M. Pariante [3130]
10	The Effect of Acute and Sustained Beta 2-Adrenergic Receptor Stimulation on the Function of Natural Killer Cells M. Claus, S. Wingert, C. Watzl [3124]
11	Impact of Chronic and Acute Academic Stress on Lymphocyte Subsets and Monocyte Function M. Claus, V. Maydych, S. Diestel, O. Wolf, T. Kleinsorge, C. Watzl [3126]
12	Adrenergic Modulation of Inflammatory Cytokines in Ovarian Cancer C. B. Colon-Echevarria, T. Ortiz, L. Maldonado, M. J. Hidalgo-Vargas, P. Cruz-Rosa, A. Maldonado, G. N. Armaiz-Pena [3144]
13 *	Serum Amyloid a Inhibits the Clearance of Amyloid Beta from the Brain M. A. Erickson, E. G. Fernandez, S. Liang, E. M. Rhea, T. S. Salameh, W. A. Banks [2052]
14	Gut Microbial Modulatory Diets Modulate Stress-Evoked Sterile Inflammation M. Fleshner, M. Patton, A. Mika, R. S. Thompson, B. M. Berg, M. Chichlowski [3140]
15	Glucocorticoids Mediate Stress-Induced Upregulation of the Alarmin HMGB1 and Downregulation of the Inhibitory Receptor CD200R1 in Hippocampus and Amygdala: a Mechanism of Neuroinflammatory Priming. M. G. Frank, J. L. Annis, L. R. Watkins, S. F. Maier [2044]
16 *	High Social Strain and Physical Health: Examining the Roles of Anxious Arousal and IL-6 J. E. Guevara, K. W. Murdock [2040]
17	Nasal Inflammatory Stage-Associated Plastic Changes in the Olfactory Bulb Neurocircuit S. Hasegawa-Ishii, A. Shimada, F. Imamura [2045]

18	A Rodent Model of Anxiety: The Effect of Perinatal Immune Challenges on Gastrointestinal Inflammation and Integrity. S. L. Hollins, L. Brock, R. Barreto, L. Harms, A. Dunn, P. Garcia-Sobrinho, J. Bruce, P. W. Dickson, M. M. Walker, S. Keely, D. M. Hodgson [2071]
19	Neuroinflammation and Chemotherapy-Related Fatigue K. R. Jordan, J. C. Santos, B. Haynes, J. Kaur, S. Vickery, L. M. Pyter [3114]
20	Longitudinal Analysis of Inflammatory, Psychological, and Sleep-Related Factors Following an Acute Low Back Pain Episode--the Good, the Bad, and the Ugly. D. M. Klyne [3121]
21	The Development of Novel Approaches for Diagnostics and Pre-Clinical Therapy for Tauopathies Using Transport Peptides for Drugs and Antibodies Into the Brain A. Kovac, P. Majerova, D. Olesova, J. Hanes [2080]
22	The Role of Estrogen in Tumor-Induced Cognitive Performance and Neuroinflammation. A. A. Lahoud, S. R. Bever, L. D. Strehle, L. M. Pyter [3113]
23 * ◇	Yoga Intervention Protects Breast Cancer Survivors Against Fatigue and Poorer Quality of Life Associated with a Proinflammatory Diet A. Madison, J. Kiecolt-Glaser [3116]
24	Cancer Caregiver PTSS Following Diagnosis Relates to Dysregulated Salivary Alpha Amylase and Cortisol at One-Year Follow-Up H. Mitchell, A. Mendez, A. Ting, Y. Kim [3151]
25	Oral Sensitization to a Milk Allergen Triggers Behavioral Changes and Neuroinflammatory Responses in Male C57BL/6 Mice. K. Nagamoto-Combs, N. A. Smith, D. L. Germundson [3086]
26 *	Anxiety, Pro-inflammatory Cytokines, and RAGE-Associated S100A8/A9 Levels in Breast Cancer Patients E. R. Nahin, M. E. Lippman, B. I. Hudson, L. C. Bouchard, C. Taub, C. S. Carver, A. Diaz, B. B. Blomberg, M. H. Antoni [3095]
27 *	Metabolic-Inflammatory Status as Predictor of Clinical Outcome at 1-Year Follow-Up in Patients with First Episode Psychosis M. A. Nettis, G. Pergola, A. Koliakou, J. O'Connor, S. Bonaccorso, A. David, F. Gaughran, M. Di Forti, R. M. Murray, T. R. Marquez, G. Blasi, A. Bertolino, C. M. Pariante, P. Dazzan, V. Mondelli [3128]
28	Sex Differences in the Consequences of Early-Life Immune Activation on Microglia-Neural Signaling and the Ontogeny of Hippocampal-Dependent Learning in the Juvenile Rat B. F. Osborne, J. M. Schwarz, Ph.D. [3149]
29 *	Structural and Functional Cytoarchitecture of IL-1R1-Expressing System in the Brain X. Liu, D. Nemeth, D. McKim, L. Zhu, D. DiSabato, O. Berdysz, G. Gorantla, B. Oliver, K. Witcher, Y. Wang, J. Sheridan, J. Godbout, M. Robson, R. Blakely, P. Popovich, S. Bilbo, N. Quan [2075]
30 *	Impaired Cognition and Fatigue; the Role of Sleep and Neuroinflammation for Non-Specific Symptoms in Allergy S. Renberg Tamm, S. Cervenka, A. Forsberg, J. Estelius, J. Grunewald, P. Gyllfors, B. Karshikoff, E. Kosek, J. Lampa, C. Lensmar, V. Strand, T. Åkerstedt, C. Halldin, M. Ingvar, C. Olgart Höglund, M. Lekander [3081]
31	Contributions of Astrocytic IL-1R1 Signaling in Blast-Induced Traumatic Brain Injury A. F. Logsdon, B. P. Lucke-Wold, J. G. Thome, R. C. Turner, M. J. Robson [3078]
32	LPS-Induced Sickness Behavior During Lactation Induces Predatory Behavior Instead of Maternal Behavior in Rats T. Mendes-Lima, P. S. Rodrigues, T. B. Kirsten, M. M. Bernardi [3132]
33	Blood-Brain Barrier Disruption in Animal Models of Type I And Type II Diabetes: the Role of Insulin and Leptin T. S. Salameh, W. G. Mortell, W. A. Banks [3152]
34	Prospective Effects of Latent Infection on Self-Regulation and Executive Function in Older Adults S. C. Segerstrom, R. Reed [3090]
35	Composition Of The "Energy Appeal Reaction" To Inflammation In Healthy Midlife And Older Women S. C. Segerstrom, J. L. Clasey and L. R. Crofford [3172]

36 *	Rat Model of Prenatal Zika Virus Infection M. L. Sherer, P. Khanal, M. Parcels, J. M. Schwarz [3084]
37 * ◇	Combined Exposure to Air Pollution and Maternal Stress Induces Sex-Specific, Autism-Like Social Behavior Deficits and Gut Dysbiosis in Mice C. J. Smith, P. K. Tran, K. E. Malacon, S. D. Bilbo [3108]
38 *	Acylated Ghrelin's Anti-Inflammatory Actions on Lipopolysaccharide (LPS)-Induced Cytokine Release S. J. Spencer, I. Ziko, L. Sominsky [3118]
39	Intraadrenal Dendritic Cells and Macrophages Inhibit Corticosterone Response during Collagen-induced Arthritis - a Role for IL-1b and CXC chemokines? H. Stangl, C. Wolff, M. Lesiak, A. Krammetsvoigl and R. H. Straub [2037]
40	Memory Impairment Following High-Fat Diet Refeeding is Related to Caspase-1 Activation and Oxidative Stress in the Amygdala A. Towers, S. Jain, M. L. Oelschlager, S. J. Gainey and G. G. Freund [3164]
41	Elucidating the Mechanisms of Post-Treatment Cancer-Related Fatigue Using a Preclinical Model E. G. Vichaya, A. J. Grossberg, J. Molkentine, D. J. Estrada, P. S. Gross, J. K. Darpolor, P. Raj, D. W. Vermeer, P. Vermeer, C. Taniguchi, R. Dantzer [3157]
42	Sex As A Biological Variable In Cancer-Related Fatigue E. G. Vichaya, D. J. Estrada, B. G. Ford, J. M. Molkentine, D. W. Vermeer, P. D. Vermeer, C. M. Taniguchi and R. Dantzer [3192]
43	Dysthyroidism : Is This One of Suicide Squads? H. Kim [2038]
44	Maternal Viral Infection Causes Global Changes in Fetal Microglia and Alters Gene Expression and Microglia Density in the Fetal Amygdala A. M. Antonson and R. W. Johnson [3178]
45	The TLR2/4 Antagonist (+)-Naltrexone Blocks Contextual Long-Term Memory Deficits in Experimental Autoimmune Encephalitis and Associated Neuroinflammation in Hippocampus A. J. Kwilas, L. S. Todd, L. C. Duran-Malle, A. E. Schrama, E. H. Mitten, A. M. Van Dam, S. F. Maier, K. C. Rice, L. R. Watkins and R. M. Barrientos [3170]
46	Central Immune Alterations in a Gestational Stress Animal Model of Postpartum Depression K. M. Lenz, C. Post, A. J. Castaneda, P. Banta, L. H. Nelson, A. I. Saulsbery and B. Leuner [3185]
47	Maternal Sleep Loss in Postpartum Associated with Accelerated Epigenetic Aging J. E. Carroll, K. M. Ross, S. Horvath, M. Okun, R. Mancuso, A. Sadek, C. Hobel, M. Coussons-Read and C. Dunkel Schetter [3196]
48	Stressful Life Events and Inflammatory Gene Expression in the Third Trimester of Pregnancy K. M. Ross, J. E. Carroll, C. Dunkel Schetter and S. W. Cole [3197]
49	Greater Chronic Stress Exposure and Accumulated Daily Stress Appraisals Relate to Cell Senescence Signal p16INK4a in Mid-Life Parents K. E. Rentscher, J. E. Carroll, S. W. Cole, R. L. Repetti and T. F. Robles [3194]
50	HIV Disease Duration and Endothelial Progenitor Cell Function Predict Subcortical Cerebral Blood Flow in Post-Menopausal Women J. C. Rutledge, J. Lobo, S. Goldstein, M. Hidalgo and R. McIntosh [3195]
51	Early Infant Institutionalization Leads to a Premature Accumulation of Terminally Differentiated CD57+ T Cells by Adolescence C. L. Coe, B. Donzella, D. Sheerar and M. Gunnar [3177]
52	The Effect of Cytokine Stimulation on Astrocyte Chemokine Production and Neutrophil Chemoattraction C. Walsh, M. Juda, S. Blackmore and A. Steelman [3187]
53	Weighted Gene Co-expression Network Analysis Suggests Interferon Activity is Associated with Depression Severity M. Toups and D. Arasappan [3189]

## Poster Session 2, Saturday, June 9

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

◇ Indicates a Trainee Scholar

Posters will be presented in Eden Roc I, Salon A & B	
1 *	Diurnal Variation in Immune Markers Among Caregivers of Children Newly Diagnosed with Cancer C. P. Walsh, L. J. Ewing, J. L. Cleary, A. D. Vaisleib, C. H. Farrell, K. Gray, A. L. Marsland [3136]
2	Affective Status and Immune Responses to Influenza Vaccine in Older Persons Living in South Florida M. H. Antoni, A. Diaz, M. Romero, D. Frasca, B. B. Blomberg [2062]
3 *	Pathogenic Hippocampal Th17 Cells Linked to Depressive-Like Behavior in Mice E. Beurel, R. S. Jope [2067]
4 ◇	Mediating Effects of Inflammation on Obesity- and Age-Related Psychomotor Slowing L. J. Balter, J. E. Raymond, S. Aldred, S. Higgs, J. A. Bosch [3102]
5 * ◇	Inflammation Decreases Emotion Recognition -- Evidence from the Vaccination Model of Inflammation L. J. Balter, S. Hulsken, S. Aldred, M. T. Drayson, S. Higgs, J. J. Veldhuijzen van Zanten, J. E. Raymond, J. A. Bosch [3105]
6 *	Rescue of Cytokines Induced Reduction of Human Neurogenesis and Increase in Apoptosis by Omega-3 Fatty Acids A. Borsini, C. M. Pariante, K. Su, P. A. Zunszain [3085]
7	Paradoxical Selenium Effect Induced by Stress on LPS-Induced Sickness Behavior in Rats T. R. Mazuco, M. M. Bernardi, E. P. Silva, T. F. Biondi, L. V. Bonamin, T. B. Kirsten [2063]
8	Hypercaloric Diet in Juvenile Rats Ameliorates Sexual Impairments and the Increased TNF-Alpha Levels Induced by Maternal Food Restriction M. M. Bernardi, D. J. Macrini, L. V. Bonamin, T. B. Kirsten, E. F. Bondan [2064]
9	Inflammation and Blood-To-Brain Transport of Tumor-Derived Exosomes K. M. Bullock, P. Sharma, T. L. Whiteside, W. A. Banks [2057]
10	Stress Management and Immune-Physiological Changes in Emergency Teams During Rescue Operations S. Capellino, M. Claus, V. Hagemann, M. Kühn, M. Owczarek, M. Pacharra, C. Peifer, H. Steffens, C. Watzl, E. Wascher [3129]
11	Neuroprotective and Antiinflammatory Effects of Propentofylline Following a Gliotoxic Lesion in the Rat Brainstem C. V. Cardoso, S. C. Poppe, M. P. Barros, M. M. Martins, E. F. Bondan [2077]
12	Hippocampal Astroglia in Obese Animals C. V. Cardoso, M. M. Martins, R. Otton, E. F. Bondan [2059]
13	Recent Stimulant Use and Leukocyte Gene Expression In Methamphetamine Users with Treated HIV Infection A. W. Carrico, A. Flentje, K. Kober, S. Lee, P. Hunt, E. D. Riley, S. Shoptaw, E. Flowers, S. E. Dilworth, S. Pahwa, B. E. Aouizerat [2036]
14	Association between Depression and Inflammation Among Bereaved Adults M. A. Chen, E. L. Wu, C. J. Heijnen, C. P. Fagundes [3141]
15	
16	Early Life Stress and Vulnerability to Viral Infection in Mood Disorders B. N. Ford, R. L. Aupperle, F. B. Dickerson, M. P. Paulus, T. K. Teague, R. H. Yolken, J. Savitz [3089]
17 *	Inflammatory Markers in Postpartum Depression-- A Sign of an Exaggerated Stress Response? E. Bränn, E. Fransson, R. R. White, F. Papadopoulos, A. Edvinsson, J. L. Cunningham, I. Poromaa, A. Skalkidou [3143]

18 * ◇	Tocilizumab Uncouples the Association between Baseline and Subsequent Fatigue in Allogeneic Hematopoietic Cell Transplant Recipients K. E. Giles, E. S. Costanzo, S. Singh, Z. Yin, A. Szabo, W. R. Drobyski, C. J. Hillard, J. D. Rizzo, A. D'Souza, C. L. Coe, J. M. Knight [3120]
19	Increased Iba1-Immunoreactive Microglia and Elevated Anti-Inflammatory Cytokine Interleukin-10 Expression in the Rat Frontal Cortex in Response to Chronic Sleep Restriction S. E. Hall, S. Deurveilher, K. Semba [3131]
20	Cytokine Expression and Sickness Behavior Following Lipopolysaccharide Stimulation in the <i>Fmr1</i> Knockout Mouse S. L. Hodges, S. Nolan, L. Tomac, I. Muhammad, J. Lugo [2073]
21	Additive and Interactive Associations of Optimism and Depressive Symptoms with Inflammation: Findings from the DETECT study cohort S. Hulsken, S. Aldred, J. J. Veldhuijzen van Zanten, R. Herr, W. März, B. Schmidt, L. Pieper, H. Wittchen, J. A. Bosch [3135]
22	Longitudinal Association between Inflammatory Markers and Somatic and Psychological Symptoms of Depression: a Prospective Birth Cohort Study G. Khandaker, A. Chu, P. Jones, J. Stochl, S. Zammit, G. Lewis [2046]
23	Stress Indirectly Links to Ex Vivo Inflammatory Responses via Depressive Symptoms and is Moderated by Gender E. L. Knight, M. Majd, J. E. Graham-Engeland, M. J. Sliwinski, R. B. Lipton, M. J. Katz, C. G. Engeland [3158]
24 *	Tocilizumab, an IL-6 Receptor Antagonist, is Associated with Worse Depression, Anxiety, Pain, and Sleep Following Hematopoietic Cell Transplantation J. M. Knight, E. S. Costanzo, S. Singh, Z. Yin, A. Szabo, C. J. Hillard, J. D. Rizzo, C. L. Raison, A. D'Souza, C. L. Coe, W. R. Drobyski [3080]
25	Reward Functioning Following an Acute Bout of Exercise among Healthy Adults E. C. LaVoy, P. Lopez-Gamundi, M. C. Wardle [3110]
26 *	Biobehavioral Effects on Epithelial Mesenchymal Transition in Ovarian Cancer S. K. Lutgendorf, P. H. Thaker, M. J. Goodheart, S. Strack, G. M. Slavich, J. Arevalo, A. K. Sood, S. W. Cole [2041]
27	Salivary Cortisol, DHEA-S, and Ethnicity in Quality of Life of Cancer Caregivers Y. Kim, H. Mitchell, A. Ting, A. Mendez, M. Antoni, C. Carver [3162]
28	The Acute and Long-Term Impact of Prenatal Dietary Supplementation with Omega-3 Fatty Acids on the Behavioral Phenotype of the <i>Fmr1</i> Knockout Mouse S. O. Nolan, S. L. Hodges, J. Okoh, M. Binder, S. Condon, J. N. Lugo [2076]
29	Sleep Deprivation, Inflammation and Facial Emotion Recognition in Older Adults D. Piber, R. Olmstead, N. I. Eisenberger, E. Karmarkar, N. Sadeghi, M. R. Irwin [3079]
30	Prenatal LPS Increases the Switch Selection of Maternal Behavior to Predatory Behavior in Rats Independently of Sickness Behavior T. Mendes-Lima, P. S. Rodrigues, T. B. Kirsten, M. M. Bernardi [3134]
31	Age Dependent Hypothalamic and Pituitary Responses to Novel Environment Stress or Lipopolysaccharide in Rats S. Koenig, J. Bredehöft, A. Perniss, F. Fuchs, J. Roth, C. Rummel [2049]
32	Norepinephrine (NE) Inhibits Chondrogenic Differentiation of Synovial Adipose-Derived Stem Cells (ASCs) K. El Bagdadi, F. Zaucke, A. Meurer, R. H. Straub, Z. Jenei-Lanzl [2078]
33 *	The Mental Health and Wellbeing of Medical Trainees -- Autonomic, Immunological and Behavioural Considerations. U. Vollmer-Conna, S. Huang, C. Macnamara, J. Beilharz, P. Imants, E. Cvejic, G. Parker [2070]
34	A Role for Hypocretin/Orexin in Metabolic and Sleep Abnormalities in a Mouse Model of Non-Metastatic Breast Cancer W. H. Walker II, J. C. Borniger, R. J. Nelson, A. C. DeVries [3107]
35 *	Kynurenine Pathway Metabolites are Longitudinally Related to Brain Atrophy, Cognitive Decline, and Negative Affect Across the Alzheimer's Disease Spectrum B. S. Klinedinst, A. Collazo-Martinez, R. Dantzer, A. A. Willette [3156]

36	Systemic Inflammation Mediates Associations between DEXA-Quantified Body Composition and Fluid Intelligence in 4,666 Middle-Aged Adults B. S. Klinedinst, S. M. Hoscheidt, S. Le, A. A. Willette [3186]
37 * ◇	Loneliness and Telomere Length: Immune and Parasympathetic Function in a Pathway to Accelerated Aging S. J. Wilson, A. Woody, A. C. Padin, J. Lin, W. B. Malarkey, J. K. Kiecolt-Glaser [3133]
38	Alterations in Microglia and their Interaction with Adult Newborn (Neurogenic) Cells in the Hippocampus Underlie the Anti-Depressive Effects of Electroconvulsive Therapy (ECT) N. Rimmerman, R. Reshef, E. Ashkenazi, H. Verdiger, L. Ayoun, M. Abaragil, C. Pienica, H. Goldenberg, I. Arad, K. Lazar, R. Yirmiya, [3109]
39	Systemic Lipopolysaccharide (LPS) Prevents Microglial Loss After CSF1 Receptor Blockade J. Grigoleit, W. A. Eckert, A. Bhattacharya [3176]
40	Treatment with Rapamycin Affects Behavioral and Brain Protein Expression in Rats with Experimentally Induced Glioblastoma M. Hadamitzky, M. Unterberdörster, A. Herring, L. Lückemann, E. M. Martinez-Gomez, I. Bendix, U. Sure, K. Keyvani, M. Schedlowski [3183]
41	Low Grade Inflammation Induces Negative Bias in Categorization of Emotional Information. S. Hulsken, L. Balter, S. Aldred, J. Veldhuijzen Van Zanten, S. Higgs, J. Bosch [3184]
42 ◇	Oral Microbiome Composition Associations with Neuroimmune Processes and Depressive Symptomatology in Healthy Adults J. Kohn, N. Guay-Ross, S. Hong [3193]
43	Behavioral Conditioning of Anti-Proliferative (RAPA) and Anti-Metabolic (MTX) Effects L. Lückemann, M. Hadamitzky, E. M. Martinez-Gomez, M. Schedlowski [3171]
44	IL-6 Production During Repeated Social Defeat Stress Primes Monocytes to Induce Anxiety-Like Behavior A. Niraula, J. F. Sheridan, J. P. Godbout [3200]
45	The Interaction of Benefit Finding and Behavioral Disengagement in Predicting Inflammatory Biomarkers A. W. Wang, M. A. Hoyt [3179]
46	Stress-Induced Inflammation and Dimensions of Reward Processing C. C. Boyle, J. E. Bower [3190]
47	<i>Mycobacterium Vaccae</i> Immunization Protects Aged Rats from Surgery-Elicited Neuroinflammation and Cognitive Dysfunction L. K. Fonken, M. G. Frank, H. M. D'Angelo, L. R. Watkins, C. A. Lowry, S. F. Maier [3175]
48	Spinal Cord Injury Perturbs Circadian Rhythms A. D. Gaudet, L. K. Fonken, M. T. Ayala, E. M. Bateman, W. E. Schleicher, E. J. Smith, H. M. D'Angelo, S. F. Maier, L. R. Watkins [3188]
49	Differences in Endothelial Progenitor Cell Outgrowth and Cardio-Autonomic Function with Hypertension and HIV Disease Comorbidity S. Goldstein, J. Lobo, O. Fajolu, A. Garcia, M. Hildago, R. C. Mcintosh [3199]
50	Neuroinflammation and Hypertension Interact in the Pathogenesis of White Matter Hyperintensity in Subjects with Mild Cognitive Impairment N. Kandiah, C. Guevarra, K. Ng [3182]
51	From Biomarkers to Targeted Treatment: The Myalgic Encephalomyelitis / Chronic Fatigue Syndrome (ME/CFS) and Gulf War Illness (GWI) Story N. G. Klimas, M. A. Fletcher, M. M. Abreu, K. Aenlle, T. Craddock, G. Broderick [3191]
52	An Investigation into the Impact of Neuroimmune Function After Pregnancy or Stress: Are There Potential Links to the Onset of Depression? J. Gomez, N. Haas, J. Schwarz [3173]
53	Patterns Of Resting Brain Activity, Mood Disturbance and Intermediate (CD14++ CD16+) Monocyte Expansion in Post-Menopausal Women Living with HIV J. D. Lobo, A. Griffin, M. Hidalgo, R. C. Mcintosh [3163]
54	Effect of Acute and Chronic Stress on the Expression of GPR43 and GPR41 Receptors in Murine Ileum and Colon Epithelial Cells A. Resendiz Albor, L. Gómez Hernández, I. Arciniega-Martínez, R. Rubio García, R. Campos-Rodríguez, R. Falfán-Valencia and E. Abarca-Rojano [3181]





# Welcome to Miami Beach!

Here is a link for food and beverage locations for the Miami area:

<http://www.miamiandbeaches.com/things-to-do/dining>

Here are a few food and beverage locations in the Mid Beach area:

Within walking distance of the hotel:

1. Malibu Farm Restaurant – in the Nobu Hotel Eden Roc – opening early June
2. Pizza and Burger by Michael Mina at Fontainebleau - located next door in the lobby of the Fontainebleau

Within 5-10 minutes away by car:

1. Broken Shaker (2727 Indian Creek Drive) - outdoor location, lots of specialty cocktails
2. Basement at Edition - bar food, bowling and ice skating, very cool basement bar
3. Sweet Liberty Drinks and Supply Company (237-B 20<sup>th</sup> Street) – world class cocktails and creative American food

**Sweet Liberty Drinks and Supply Company is the location of the Trainee Social on Friday, June 8<sup>th</sup>.**

