



PsychoNeuroImmunology
Research Society

**PNIRS 2017
24th ANNUAL SCIENTIFIC MEETING
GALVESTON, TEXAS, USA
JUNE 7-10, 2017**



pnirs.org

Message from the President of the PNIRS

I am happy to welcome you to PNIRS-2017, the annual meeting of the Psychoneuroimmunology Research Society in Galveston, Texas, USA. The program committee along with the local organizing committee headed by Annemieke Kavelaars and assisted by Susan Solomon have worked hard to put together an outstanding program and a wonderful local venue.

Highlights of the program include three award lectures and a Frontiers lecture: the Norman Cousins Award lecture by Dr. Carmen Pariante, the Robert Ader New Investigator Award lecture by Dr. Chris Fagundes, and the George Solomon Memorial lecture by Dr. Janice Kiecolt-Glaser, supported by a generous donation from Susan Keran Solomon. Dr. Martin Picard of Columbia University will be presenting the "Frontiers in PNI" lecture on his cutting-edge work in stress and mitochondria. This lecture is supported by the PNIRS Excellence Fund, an initiative that started in 2014 to invite a world-class researcher from outside PNIRS to present at the meeting.



This year's short course is innovative in focusing on positive behaviors/reward circuits and resilience and their effects on the immune response. We have outstanding speakers in the short course on Wednesday afternoon featuring both animal and human approaches to resilience. The short course is open to all attendees, not only to trainees.

Trainee news. The trainee committee chaired by Dr. Teresa Reyes has put together an exciting program for trainees in the Trainee-Mentor Colloquium. This will include a short introduction about the history of PNIRS, tips on effective writing, fostering a scientific network, and a speed mentoring session. We are very grateful to the National Cancer Institute for sponsoring trainee travel awards for the best-rated trainee abstracts and to Teresa Reyes and Mark Opp for writing the conference grant that enabled us to receive this award. This past year for the first time we have included trainees on all committees and the Board of Directors of PNIRS as non-voting members. The goal of this plan is to increase the input of trainees in shaping the society and to provide them with an opportunity to develop leadership skills. We look forward to feedback on this endeavor, and encourage any interested trainees to let us know they would like to participate on committees.

Special interest groups. This year we are again offering special interest groups around topics like PNI in aging and immunosenescence, lifestyle and behavioral factors and interventions, PNI in tumor biology and neurophysiology of symptoms, neuropsychiatric and neurodegenerative conditions, stress and neurohormonal pathways. This initiative is spearheaded by Dr. Suzi Hong, who is organizing round table sessions during lunch on Friday.

New Officers and Board of Directors. It is a pleasure to welcome Dr. Deb Hodgson who will assume her role as incoming president-elect at the end of the meeting. I am also happy to welcome the newly elected members of the Board of Directors: Drs. Teresa Reyes, Cobi Heijnen, Shamgar Ben Eliyahu, and Lisa Christian. On behalf of the entire society, many thanks to Annemieke Kavelaars, our past president and many thanks as well to the outgoing members of our Board of Directors, Anna Marsland, Julie Bower, and Kate Edwards, for their valuable service to PNIRS. We would also like to thank the sponsors of our meeting, Johnson and Johnson, Elsevier, Pfizer, and the Galveston Island Convention and Visitor's Bureau.

Primer of PsychoNeuroImmunology Research. For those who have not yet purchased the Primer of PsychoNeuroImmunology Research edited by Mark Opp, I'd like to call your attention to this Primer which provides a concise overview of the many aspects of ongoing research in the field of psychoneuroimmunology. We have received wonderful reviews of this volume (which is available from PNIRS) and recommend it for

students, newcomers to the field, people teaching PNI classes, and anyone who wants to get an updated view of the many aspects of this field. Limited copies will be available at the registration desk.

BBI Impact Award. This year we are pleased to include a new award, the BBI Impact Award, given to the manuscript published in BBI three years before the award which had the most citations in the year before the award (e.g., for this year the paper was published in 2014 and the citations are from 2016). This award is supported by a generous donation from the Kelley family, and selected by Elsevier according to citation counts. This year's winner will be announced on Friday. Also new this year is a PNIRS_{Asia} committee headed by Keith Kelley and Chris Coe to support intellectual interchange with colleagues in Asia and do outreach for PNI-related activities. Members of this committee will be speaking Saturday during lunch.

Finally, I would like to thank the Executive Committee, composed of Treasurer Staci Bilbo, President-Elect Bill Banks, Past-President Annemieke Kavelaars, and Executive Director, Susan Solomon for all their work during the past year. I would also like to thank the members of our .Program Committee for their work in selecting abstracts, trainee awardees, member-generated symposia, and their valuable contributions to all aspects of the program. A special thank you to our local Organizing Committee: Annemieke Kavelaars, Cobi Heijnen, and Robert Dantzer. The meeting and the society could not succeed without the guidance of our Executive Director, Susan Keran Solomon, and our administrator, Jackie Newman. Susan and Jackie, we appreciate all your hard work and your wisdom, including keeping all of us on track, your advice, suggestions, historical memory, and guidance.

I would like to extend a warm welcome to everyone and I hope you enjoy PNIRS-2017!

Sincerely,



Susan Lutgendorf, PNIRS president



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Table of Contents

Page	
1	Message from the President
3	Table of Contents
4	Acknowledgements & Sponsors
5	About PNIRS
6	2018 Meeting
7	General Meeting Information
8	Award Lectures
9	Solomon and Frontiers in PNI Lectures
10	Trainee Scholars
11	Schedule at a Glance
12	Wednesday Schedule
13	Thursday Schedule
17	Friday Schedule
20	Saturday Schedule
23	Poster Sessions
30	Maps & Floor Plans
31	Welcome to Galveston

Acknowledgements and Sponsors

We 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.



We gratefully appreciate the support of Janssen Research and Development, Galveston Island Visitors and Convention Bureau and Pfizer for providing support at various levels for PNIRS 2017.

GOLD LEVEL



SILVER LEVEL



BRONZE 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.

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Bill Banks (President-Elect)
Staci Bilbo (Secretary/Treasurer)
Susan Solomon (Executive Director)

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Jackie Newman

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Shamgar Ben-Eliyahu
Julienne Bower
Catherine Walsh (Trainee Member)

Local Organizing Committee

Annemieke Kavelaars, Chair
Cobi Heijnen
Robert Dantzer

*PNIRS 2018
25th Annual Scientific Meeting*



*Miami Beach, Florida
June 6-9, 2018*

*Conference and Banquet Hotel:
Nobu Hotel Eden Roc*



General Information

Registration Desk

The registration desk is located in the *Davidson Foyer, which is on the lower level of the Davidson Building*. 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: 10:00 am – 5:00 pm
Thursday, June 8: 8:00 am – 4:00 pm
Friday, June 9: 8:00 am – 4:00 pm
Saturday, June 10: 8:00 am – 2:00 pm

The registration desk will be closed Thursday, 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 *Davidson Annex*. 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 8th. Please remove your posters no later than the morning of Friday, June 9th.

Poster Session 2: You may begin to hang your posters the evening of Friday, June 9th. Please remove your posters no later than the evening of Saturday, June 10th.

Poster Data Blitz

The Poster Data Blitz talks will take place in the *Davidson North*. 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 9** from 6-8 pm at the **Stuttgarden Tavern on the Strand** 2110 Strand Street, Galveston, TX. 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 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*.

2017 Norman Cousins Award Lecture

Depression and inflammation: "What and Where and When, And How and Why and Who"

Carmine Pariante, M.D., Ph.D.
Professor of Biological Psychiatry
King's College London
Institute of Psychiatry

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.

2017 Robert Ader New Investigator Award Lecture

Contributions of Developmental Psychoneuroimmunology to Lifespan Models of Health

Chris Fagundes, Ph.D.
Assistant Professor
Rice University
Department of Psychology

2018 COUSINS AND ADER AWARDS

The winners of the 2018 Norman Cousins Award Lecture and the Robert Ader New Investigator Award will be announced at the Closing Banquet on Saturday, June 10th.

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.

2017 George Solomon Memorial Lecture

*New Vistas in Psychoneuroimmunology:
Explorations in Inflammation, Integrative Medicine,
and Diet*

Janice Kiecolt-Glaser, Ph.D.

Professor, Departments of Psychology & Psychiatry
The Ohio State University
Institute for Behavioral Medicine Research

The Frontiers in PNI Lecture



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. To support the PNIRS Excellence Fund, please see "Make a Donation" on the homepage of www.pnirs.org.

2017 Frontiers in PNI Lecture

*Mitochondria Communicate Stress Signals Between
Brain and Body*

Martin Picard, Ph.D.

Assistant Professor of Behavioral Medicine
Columbia University
Departments of Neurology and Psychiatry

PNIRS Trainee Scholars

Trainee Scholar	Presentation
Christina Boeck	Oral Session #1
Hila Ben Yehuda	Oral Session #1
Stephanie Wilson	Oral Session #1
Rebecca Reed	Oral Session #3, Poster Session #1 (poster 29)
Alexander Kertser	Oral Session #3
Chloe Boyle	Oral Session \$3
Rita Haldar	Oral Session #4
Jiacheng Ma	Oral Session #4
Jessica Armer	Data Blitz Session #1, Poster Session #1 (poster 1)
Tamara Lacourt	Data Blitz #1, Poster Session #1 (poster 5&6)
Amy Mackos	Data Blitz Session #1, Poster Session #1 (poster 7)
Anzela Niraula	Data Blitz Session #1, Poster Session #1 (poster 8)
Danielle Santana-Coelho	Data Blitz Session #1, Poster Session #1 (poster 3)
William Walker II	Data Blitz Session #1, Poster Session #1 (poster 12)
Avelina Padin	Data Blitz Session #1, Poster Session #1 (poster 9)
Matthew Robson	Data Blitz Session #2, Poster Session #2 (poster 8)
Jessica Hernandez	Data Blitz Session #2, Poster Session #2 (poster 3)
Brittany Osborne	Data Blitz Session #2, Poster Session #2 (poster 6)
Amanda Mitchell	Poster Session #2 (poster 17)
Allison Garrison	Poster Session #1 (poster 17)

◇ Indicates a Trainee Scholar throughout the program

Congratulations to our 2017 Trainee Scholars!

Thank you goes out to the National Cancer Institute at the National Institutes of Health for support of our program and trainees through a R13 award.

PNIRS 2017 Schedule at a Glance

Time	Wednesday June 7	Thursday June 8	Friday June 9	Saturday June 10	Time		
8:00-8:30					8:00-8:30		
8:30-9:00	Financial Committee Meeting	Welcome Susan Lutgendorf, PhD, President	Presidential Symposium <i>Frontiers in PNI and Cancer</i>	Oral Session 4 <i>Cancer and Microbiome</i>	8:30-9:00		
9:00-9:30		Member Sponsored Symposium 1 <i>Interactive Effects of Sleep and Inflammation on Depression</i>			9:00-9:30		
9:30-10:00	Scientific Affairs Committee Meeting				9:30-10:00		
10:00-10:30		Break		10:00-10:30			
10:30-11:00	Membership Committee Meeting	Break	Break	Member Sponsored Symposium 2 <i>Protective Effects of Exercise in Old Age: Mechanisms Explored</i>	10:30-11:00		
11:00-11:30		Break	Oral Session 2 <i>Depression, PTSD and Inflammation</i>		11:00-11:30		
11:30-12:00	Nominating Committee Meeting	Featured Local Speaker Anil Sood, MD		Ader Lecture Chris Fagundes PhD	Poster Data Blitz 2	11:30-12:00	
12:00-12:30		Poster Data Blitz 1	12:00-12:30				
12:30-1:00	Board of Directors Meeting (Lunch included)	Lunch Provided	Lunch Provided Special Interest Roundtable	Lunch Provided PNIRSC _{hina} Speaker	12:30-1:00		
1:00-1:30		Concurrently: Leader Lunch	Concurrently: BBI Editorial Board Luncheon		1:00-1:30		
1:30-2:00		Poster Session 1	Oral Session 3 <i>Neuroinflammation, Aging and Pain</i>	Poster Session 2	1:30-2:00		
2:00-2:30					2:00-2:30		
2:30-3:00		Educational Short Course <i>New Directions in Resilience and PNI: Animal and Human Models</i>	Oral Session 1 <i>Inflammation and Relationships Through the Lifespan</i>	Frontiers in PNI Lecture Martin Picard, PhD	George Solomon Memorial Lecture Janice Kiecolt- Glaser, PhD	2:30-3:00	
3:00-3:30						Norman Cousins Lecture Carmine Pariante, MD	PNIRS Business Meeting
3:30-4:00	3:30-4:00						
4:00-4:30					4:00-4:30		
4:30-5:00					4:30-5:00		
5:00-5:30					5:00-5:30		
5:30-6:00					5:30-6:00		
6:00-6:30	Trainee-Mentor Colloquium	Welcome Reception	Trainee Mixer Social <i>Stuttgarden Tavern on The Strand</i>	Closing Banquet	6:00-6:30		
6:30-7:00					6:30-7:00		
7:00-7:30					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 7

8:30-3:00 COMMITTEE MEETINGS

Cynthia Woods Mitchell Room

- 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)

3:00-5:30 EDUCATIONAL SHORT COURSE

Davidson North

Chair: Annemieke Kavelaars and Susan Lutgendorf

New Directions in Resilience and PNI: Animal and Human Models

Modulating brain circuits to boost Immunity

Asya Rolls

Technion-Israel Institute of Technology, Haifa, Israel

How do mindfulness interventions become biologically embedded?

J. David Creswell

Health & Human Performance Laboratory, Carnegie Mellon University, Pittsburgh, PA

Investigating Resilience as an Integrative Biopsychosocial Phenomenon

Carol Ryff

Institute on Aging, University of Wisconsin, Madison, WI

Immune cells play a role in resilience to depression

Miles Herkenham

National Institutes of Health, National Institute of Mental Health, Bethesda, MD

6:00-8:00 PNIRS Professional Development Workshop

(All Trainees, refreshments will be provided)

Davidson North

6:00-6:45

President's Welcome

Susan Lutgendorf, PNIRS President

Why PNIRS, a Brief History of the Society and its Impact

William Banks, PNIRS President-Elect

Tips on Effective writing

How to build and foster your scientific network

6:50-8:00

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 8

8:30-8:45 WELCOME
Davidson North
Susan Lutgendorf, President PNIRS

8:45-9:00 RECOGNITION OF DR. KEITH W KELLEY
Susan Lutgendorf and Rachel Engels

9:00-11:00 MEMBER SPONSORED SYMPOSIUM
Davidson North
Chair: Hyong Jin Cho

Interactive Effects of Sleep and Inflammation on Depression

Sleep Disturbance and Sleep Deprivation as Vulnerability Factors for Endotoxin-induced Depression

Hyong Jin Cho
University of California, Los Angeles

Shared Genetic Influences of Sleep Parameters and Inflammation-associated Depression Vulnerability

Francis E. Lotrich
University of Pittsburgh

Sleepiness and Motivational Changes in Endotoxemia

Julie Lasselín
University Hospital Essen, University of Duisburg-Essen

Insomnia Treatment Reverses Inflammation and Reduces Depression

Michael R. Irwin
University of California, Los Angeles

Discussant: **Robert Dantzer**, the University of Texas, MD Anderson Cancer Center

11:00-11:30 BREAK
Davidson Annex

11:30-12:00 FEATURED LOCAL SPEAKER
Davidson North
Chair: Susan Lutgendorf



Emerging Concepts in Stress, Inflammation, and Tumor Microenvironment

Anil Sood

Professor, Gynecologic Oncology and Reproductive Medicine and Cancer Biology, Vice Chair for Translational Research in the Departments of Gynecologic Oncology & Reproductive Medicine, Director of the Blanton-Davis Ovarian Cancer Research Program and Co-Director of the Center for RNA Interference and Non-Coding RNA at the University of Texas, MD Anderson Cancer Center

12:00-12:30 POSTER DATA BLITZ 1*Davidson North*

Chair: Deb Hodgson

Poster Number	Title
2	Intranasal Administration of Human Mesenchymal Stem Cells Promote Recovery from Chemoradiation-Induced Cognitive and Functional Deficit in Mice G. S. Chiu, S. R. Kesler, J. S. Wefel, E. Sulman, F. Lang Jr, D. Grosshans, R. Ezhilarasan, H. A. Liu, N. Boukelmoune, C. Kingsley, V. Rao, J. Gumin, S. Ahmed, E. J. Shpall, A. Kavelaars, C. J. Heijnen [1965]
1 ♦ *	Anxiety Levels Parallel Changes in Inflammation Over Time in Ovarian Cancer Patients J. S. Armer, A. Schrepf, M. G. Cuneo, D. Christensen, P. H. Thaker, G. M. Slavich, M. J. Goodheart, S. W. Cole, A. K. Sood, S. K. Lutgendorf [1973]
11	Aspirin Blocks Cancer-Associated Cognitive Impairment A. K. Walker, E. K. Sloan [1950]
12 ♦ *	Mammary Tumors Induce Neuroinflammation, but Not Behavioral Deficits in Balb/C Mice W. H. Walker II, J. C. Borniger, S. Gahlot, A. A. Zalenski, S. L. Muscarella, J. A. Fitzgerald, N. Zhang, M. M. Gaudier-Diaz, A. C. DeVries [1914]
5 ♦ *	Patient-reported fatigue and stress prior to chemotherapy for acute myeloid leukemia predict 2.5-year survival T. Lacourt, S. Shelburne, A. Futreal, D. Kontoyiannis, C. Heijnen [1997]
7 ♦ *	The colonic epithelial transcriptome and intestinal microbiome are significantly changed by social stressor exposure A. R. Mackos, P. White, M. T. Bailey [1932]
33	Seasonal variation in central and peripheral inflammation in allergic subjects: A PET study M. Lekander, S. Tamm, S. Cervenka, A. Forsberg, C. Lensmar, E. Kosek, J. Lampa, J. Estelius, B. Karshikoff, M. Ingvar, C. Olgart Höglund [2001]
8 ♦ *	Corticosterone mobilizes monocytes into circulation and induces endothelial adhesion molecule expression to cause monocyte recruitment to the brain during stress A. Niraula, J. P. Godbout, J. F. Sheridan [1938]
43	Tumor-associated fatigue develops independently of inflammation A. Grossberg, E. G. Vichaya, D. L. Christian, J. M. Molkentine, D. Vermeer, P. Vermeer, J. H. Lee, C. J. Heijnen, A. Kavelaars, R. Dantzer [1895]
3 ♦ *	Pathogenic Role for the Kynurenine Pathway in Maternal Immune Activation-Induced Autism-Like Behavior in Mice D. Santana Coelho, A. M. Garrison, K. Jimenez, L. Redus, J. C. O'Connor [2006]
9 ♦ *	Prolonged cancer-related distress is associated with elevated inflammation during breast cancer survivorship A. C. Padin, S. J. Wilson, R. Glaser, W. B. Malarkey, J. K. Kiecolt-Glaser [1886]
15	Cardiorespiratory fitness is associated with better control of latent herpesvirus infections in a large ethnically diverse community sample: evidence from the Texas City Stress and Health Study R. J. Simpson, M. Hussain, F. Baker, A. B. Bigley, M. K. Peek, R. P. Stowe [2004]

12:30-2:00 LUNCH*Davidson South***Concurrently: Leader Luncheon** (Invitation only)*Cynthia Woods Mitchell*

2:00-3:30

POSTER SESSION 1

Davidson Annex

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.

3:30-5:00

ORAL SESSION 1

Davidson North

Chair: Sarah Spencer and Chris Coe

Inflammation and Relationships Through the Lifespan

- 3:30 *Neonatal immune activation and a 'second hit' of adulthood psychological stress alters central inflammatory mediators: Implications for female fertility*
E. A. Fuller, M. C. Carey, L. Harms, D. M. Hodgson [1902]
- 3:45 *The involvement of mitochondria in chronic low-grade inflammation associated with maltreatment experiences during childhood*
C. Boeck, A. M. Koenig, K. Schury, M. L. Geiger, A. Karabatsiakos, S. Wilker, C. Waller, H. Gündel, J. M. Fegert, E. Calzia, I. T. Kolassa [1905]
- 4:00 *Maternal immune activation alters microglia proliferation in the developing brain*
H. Ben-Yehuda, O. Matcovitch-Natan, A. Spinrad, I. Amit, M. Schwartz [1884]
- 4:15 *A Dyadic MBSR Intervention for Parkinson's Disease Patients/Caregivers: Effects on Distress, Cortisol, and Inflammation*
K. Phillips, P. Salmon, C. Siwik, W. Rebholz, E. Cash, I. Litvan, J. V. Filoteo, K. Kayser, S. E. Sephton [1943]
- 4:30 *When couples' hearts beat together: Linkages in heart rate variability during conflict predict heightened inflammation throughout the day*
S. J. Wilson, L. M. Jaremka, C. P. Fagundes, B. E. Bailey, R. Andridge, W. B. Malarkey, M. A. Belury, J. K. Kiecolt-Glaser [1946]
- 4:45 *African American women with subsequent preterm versus term delivery exhibit enhanced prenatal proinflammatory gene expression*
L. M. Christian, O. Ramilo, B. Smith, A. Mejias, J. E. Carroll [1908]

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

Davidson North

Nominator: Raz Yirmiya



*Depression and inflammation: "What and Where and When,
And How and Why and Who"*

Carmine Pariante

Professor of Biological Psychiatry at the Institute of Psychiatry, Psychology and Neuroscience, King's College London, and Consultant Perinatal Psychiatrist at the South London and Maudsley NHS Trust.

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

Davidson South

Friday, June 9

8:30-10:30 PRESIDENTIAL SYMPOSIUM

Davidson North

Chair: Susan Lutgendorf

New Frontiers in PNI and Cancer

How Chronic Stress Exposure Alters Breast Cancer Biology

Suzanne Conzen

University of Chicago, Chicago, IL

Stopping Cancer in its Tracks: Beta-blockade to Stop Tumor Cell Dissemination

Erica Sloan

Monash University, Victoria, Australia

Principles of Cancer Immunotherapy

Satiro De Oliveira

University of California Los Angeles, Los Angeles, CA

From the Brain to the Tumor: Neuroimmune Interactions in Breast Cancer Survivors

Julie Bower

University of California Los Angeles, Los Angeles, CA

Discussant: **Susan Lutgendorf**, University of Iowa, Iowa City, IA

10:30-11:00 BREAK

Davidson Annex

11:00-12:15 ORAL SESSION 2

Davidson North

Chair: Erin Costanzo and Andy Miller

Depression, PTSD, and Inflammation

11:00 *Antidepressant Activity of Anti-Cytokine Treatment: a systematic review and meta-analysis of clinical trials of chronic inflammatory conditions*

N. Kappelmann, G. Lewis, R. Dantzer, P. Jones, G. Khandaker [1876]

11:15 *Microglial recruitment of monocytes to the brain underlies reoccurring anxiety in stress-sensitized mice.*

M. Weber, J. P. Godbout, J. F. Sheridan [1966]

11:30 *T cells are necessary for resolution of inflammation-induced depression-like behavior*

G. Laumet, R. Dantzer, J. D. Edralin, C. J. Heijnen, A. Kavelaars [1959]

11:45 *Interferon induced changes in amygdala emotional reactivity predispose to the development of depressive symptoms and normalise in patients treated with anti-TNF*

C. Clarke, E. Cooper, V. Voon, M. Keller, J. Tibble, K. Davies, N. A. Harrison [2011]

12:00 *PTSD patients in treatment show increasing cytokine levels despite symptom relief*

H. Toft, L. Lien, S. P. Neupane, T. Tilden, B. Wampold, J. G. Bramness [1918]

12:15-12:30 PRESENTATION OF THE BBI IMPACT AWARD

12:30-1:00 ROBERT ADER LECTURE
Davidson North
Nominator and Chair: Janice Kiecolt-Glaser



*Contributions of Developmental Psychoneuroimmunology to
Lifespan Models of Health*

Chris Fagundes
Assistant Professor, Rice University
Department of Psychology

1:00-2:30 LUNCH
Davidson South
Special Interest Round Table

Concurrently: BBI BOARD MEETING (Invitation only)
Ann Milligan Gray Room

2:30-4:30 ORAL SESSION 3
Davidson North
Chair: Bill Banks and Peter Grace

Neuroinflammation, Aging, and Pain

- 2:30 *Multimodal neural signature of inflammatory response in mood disorders.*
E. Haroon, MD, X. Chen, PhD, Z. Li, PhD, X. P. Hu, PhD, J. C. Felger, PhD, A. H. Miller,
MD [2018]
- 2:45 *Peripheral macrophage infiltration and complement-initiation lead to synaptic loss and
cognitive decline following traumatic brain injury.*
K. Krukowski, A. Chou, L. Riparip, J. Barron, E. Frias, M. Paladini, S. Rosi [1924]
- 3:00 *Mapping microglial reactivity in the brain after sciatic nerve injury*
T. J. Fabisiak, M. J. Lacagnina, P. M. Grace [1931]
- 3:15 *Prospective effects of perceived stress on immunosenescent principal components in
older adults*
R. G. Reed, S. R. Presnell, C. T. Lutz, S. C. Segerstrom [1964] ◇
- 3:30 *Severe psychological stress impairs choroid plexus gateway activity for leukocyte
trafficking*
A. Kertser, K. Baruch, I. Cooper, M. Schwartz [1912] ◇
- 3:45 *Neuroinflammation, Depression and Alzheimer's Disease: Insights from the Kynurenine
Pathway*
J. Webb, R. Dantzer, A. Willette [1937]
- 4:00 *Pain in the elderly and its association with latent Epstein-Barr virus reactivation*
A. J. Seiler, K. W. Murdock, D. A. Chirinos, L. M. Garcini, J. Ramirez, R. P. Stowe,
C. Heijnen, C. P. Fagundes [1892]

4:15 *Inflammation and Dimensions of Reward Processing*

C. C. Boyle, L. N. Dooley, K. R. Kuhlman, M. D. Haydon, P. Nootboom, T. F. Robles,
J. E. Bower [1975] ◇

4:30-5:30 FRONTIERS IN PSYCHONEUROIMMUNOLOGY

Davidson North

Chair: Susan Lutgendorf



Mitochondria Communicate Stress Signals Between Brain and Body

Martin Picard

Assistant Professor of Behavioral Medicine Columbia University Departments of
Neurology and Psychiatry

6:00-8:00 PNIRS Trainee Social

Stuttgarden Tavern on the Strand
2110 Strand Street
Galveston, TX

Saturday, June 10

8:30-10:00 ORAL SESSION 4

Davidson North

Chair: Ed Suarez and Shamgar Ben-Eliyahu

Cancer and Microbiome

- 8:30 *Stressor-induced immunomodulation is attenuated by prebiotics and milk oligosaccharides: role of the colonic metabolome*
M. Bailey, R. M. Jagers, A. R. Mackos, M. Chichlowski, B. M. Berg [1923]
- 8:45 *Perioperative beta-adrenergic blockade and COX2 inhibition in colorectal cancer patients improves pro-metastatic indices in the excised tumor: EMT, tumor infiltrating lymphocytes (TILs), and gene regulatory pathways*
R. Haldar, I. Ricon, S. Cole, O. Zmora, S. Ben-Eliyahu [1907] ◇
- 9:00 *Cancer Treatment and Behavioral Symptoms: Links to Aging Biology*
J. E. Carroll, J. E. Bower, K. Van Dyk, Z. Scuric, L. Petersen, R. Schiestl, P. A. Ganz [1887]
- 9:15 *HDAC6 Inhibition Effectively Reverses Chemotherapy-Induced Peripheral Neuropathy*
J. Ma, K. Krukowski, O. Golonzhka, G. Laumet, T. Gutti, J. van Duzer, R. Mazitschek, M. Jarpe, C. J. Heijnen, A. Kavelaars [2012] ◇
- 9:30 *Inflammation, circadian rest-activity rhythms, and behavioral sequelae of chronic graft-versus-host disease*
E. S. Costanzo, M. B. Juckett, C. L. Coe, D. A. Dickson, K. Morris, P. Hematti, M. E. Rumble [1870]
- 9:45 *Inflammation-associated CNS Pathways to Fatigue in Breast Cancer Patients*
J. C. Felger, M. T. Treadway, E. Haroon, Z. Li, M. A. Torres, A. H. Miller [2020]

10:00-10:30 BREAK

Davidson Annex

10:30-12:30 MEMBER SPONSORED SYMPOSIUM

Davidson North

Chair: Ruth M. Barrientos

Protective Effects of Exercise in Old Age: Mechanisms Explored

Inflammatory Challenge, Aging, and Exercise.

Ruth M. Barrientos, PhD

University of Colorado at Boulder

Exercise and the Gut-brain axis: A Potential Pathway for the Benefits of Exercise in Old Age?

Jeffrey A. Woods, PhD

University of Illinois at Urbana-Champaign

Exercise-induced Changes in Neurogenesis and Neurotrophic Factors in Aged Mice.

Rachel A. Kohman, PhD

University of North Carolina Wilmington

12:30-1:00 POSTER DATA BLITZ 2

Davidson North

Chair: Leah Pyter

Poster Number	Title
4	Serum C-Reactive Protein in Adolescence and Risk of Schizophrenia in Adulthood: A Prospective Birth Cohort Study from Finland S. Metcalf, P. Jones, T. Nordstrom, M. Timonen, P. Maki, J. Miettunen, E. Jääskeläinen, M. Järvelin, J. Stochl, G. Murray, J. Veijola, G. Khandaker [1878]
12	Development of glucocorticoid resistance over one year among mothers of children newly diagnosed with cancer C. P. Walsh, L. J. Ewing, J. L. Cleary, A. D. Vaisleib, C. Farrell, K. Gray, A. L. Marsland [1888]
11	Inflammation alters motivational processes in mice independently of its ability to activate indoleamine 2,3-dioxygenase E. G. Vichaya, G. Laumet, D. L. Christian, A. J. Grossberg, D. J. Estrada, C. J. Heijnen, A. Kavelaars, R. Dantzer [1995]
5	The Effects of Dietary Supplementation with n-3 Fatty Acids on the Behavioral and Neuroinflammatory Phenotype of the Fmr1 Knockout Mouse S. O. Nolan, S. L. Hodges, G. D. Smith, B. Escobar, T. Jefferson, A. Holley, J. N. Lugo [1986]
8 ♦ *	Do Neuroinflammatory Pathways Contribute to Serotonergic Alterations in Autism? p38alpha MAPK Signaling Drives Perturbed Serotonin Clearance, Receptor Hypersensitivity, and Social Behavior Deficits in the SERT Ala56 Mouse M. J. Robson, M. A. Quinlan, J. Veenstra-VanderWeele, D. M. Watterson, R. D. Blakely [2007]
3 ♦ *	The effect of upper-respiratory viral infection on leukocyte surveillance of the brain J. Hernandez, E. Ryder, A. Steelman [2010]
9	Sleep Duration and Quality are Associated with Immune Markers, Self-Rated Health, and Mortality in a Large Cohort (NHANES 2005-2014) E. C. Shattuck, C. Sparks [1874]
2	Serum amyloid A transport across the blood-brain barrier increases with inflammation and is regulated by HDL M. A. Erickson, E. Rhea, T. Salameh, E. Fernandez, W. Banks [1955]
10	A role for microglia in regulating feeding behaviour and weight S. N. De Luca, H. Wang, L. Sominsky, S. J. Spencer [1953]
6 ♦ *	Neonatal infection produces sex-specific changes in neuroimmune function with no associated deficits in spatial learning in juvenile rats B. Osborne, S. Solomotis, J. Schwarz, Ph.D. [1921]
1	Characterization of in vitro leukocyte maximal telomerase activity capacity (mTAC) in humans: Association with chronic stress exposure and stress-reactivity K. de Punder, C. Heim, I. Przesdzing, P. D. Wadhwa, S. Entringer [1933]
7	Maternal ER stress induces ASD-like behavior in mice through the IL-17a pathway A. Crider, M. Luo, T. Davis, B. Baban, A. Pillai [1958]

1:00-2:00

LUNCH

Davidson South

PNIRS *Asia Pacific* Speaker

2:00-3:30 POSTER SESSION 2

Davidson Annex

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.

3:30-4:30 GEORGE SOLOMON MEMORIAL LECTURE

Davidson North

Chair: Cobi Heijnen



New Vistas in Psychoneuroimmunology: Explorations in Inflammation, Integrative Medicine, and Diet

Janice Kiecolt-Glaser, Ph.D.

Professor, Departments of Psychology & Psychiatry
The Ohio State University, Institute for Behavioral Medicine Research

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

7:00- CLOSING BANQUET (Included)

Garten Verein

First Shuttle will depart at 6:00 PM to the Garten Verein from the front of the Tremont House.

Presentation of the 2018 Norman Cousins and Robert Ader New Investigator Awards

Poster Session 1, Thursday, June 8

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

◇ Indicates a Trainee Scholar

Posters will be presented in DAVIDSON ANNEX	
1 ◇*	Anxiety Levels Parallel Changes in Inflammation Over Time in Ovarian Cancer Patients J. S. Armer, A. Schrepf, M. G. Cuneo, D. Christensen, P. H. Thaker, G. M. Slavich, M. J. Goodheart, S. W. Cole, A. K. Sood, S. K. Lutgendorf [1973]
2	Intranasal Administration of Human Mesenchymal Stem Cells Promote Recovery from Chemoradiation-Induced Cognitive and Functional Deficit in Mice G. S. Chiu, S. R. Kesler, J. S. Wefel, E. Sulman, F. Lang Jr, D. Grosshans, R. Ezhilarasan, H. A. Liu, N. Boukelmoune, C. Kingsley, V. Rao, J. Gumin, S. Ahmed, E. J. Shpall, A. Kavelaars, C. J. Heijnen [1965]
3 ◇*	Pathogenic Role for the Kynurenine Pathway in Maternal Immune Activation-Induced Autism-Like Behavior in Mice D. Santana Coelho, A. M. Garrison, K. Jimenez, L. Redus, J. C. O'Connor [2006]
4	Neural Integrity of the Anterior Insula is Related to Autonomic Function in Postmenopausal Women with and without HIV J. D. Lobo, M. Hidalgo, O. Fajol, P. Concha, R. C. McIntosh [2000]
5 ◇*	Patient-reported fatigue and stress prior to chemotherapy for acute myeloid leukemia predict 2.5-year survival T. Lacourt, S. Shelburne, A. Futreal, D. Kontoyiannis, C. Heijnen [1997]
6 ◇	A new perspective on cancer-related fatigue: Negative affectivity, depression, and inflammation leading to increased effort expenditure T. Lacourt, E. Vichaya, C. Escalante, E. Manzullo, B. Gunn, C. Heijnen, R. Dantzer [1996]
7 ◇*	The colonic epithelial transcriptome and intestinal microbiome are significantly changed by social stressor exposure A. R. Mackos, P. White, M. T. Bailey [1932]
8 ◇*	Corticosterone mobilizes monocytes into circulation and induces endothelial adhesion molecule expression to cause monocyte recruitment to the brain during stress A. Niraula, J. P. Godbout, J. F. Sheridan [1938]
9 ◇*	Prolonged cancer-related distress is associated with elevated inflammation during breast cancer survivorship A. C. Padin, S. J. Wilson, R. Glaser, W. B. Malarkey, J. K. Kiecolt-Glaser [1886]
10	Paclitaxel Induces Memory Impairment and Anhedonia in Mice A. K. Walker, A. Chang, E. K. Sloan [1869]
11	Aspirin Blocks Cancer-Associated Cognitive Impairment A. K. Walker, E. K. Sloan [1950]
12 ◇*	Mammary Tumors Induce Neuroinflammation, but Not Behavioral Deficits in Balb/C Mice W. H. Walker II, J. C. Borniger, S. Gahlot, A. A. Zalenski, S. L. Muscarella, J. A. Fitzgerald, N. Zhang, M. M. Gaudier-Diaz, A. C. DeVries [1914]
13	Changes in self-rated health after endotoxin stimulation correlate with changes in cytokines and sickness behavior A. Andreasson, J. Lasselín, B. Karshikoff, M. J. Olsson, J. Axelsson, M. Lekander [1998]
14	Dose-Related Negative Affect Arousal following Intravenous Endotoxin in Humans: An Evaluation of a New Clinical Center Reference Endotoxin (CCRE) of Escherichia coli (E. coli group O 113:H10:K negative) in Healthy Volunteers E. C. Suarez, R. J. Noveck, A. F. Suffedini [1915]

15	Cardiorespiratory fitness is associated with better control of latent herpesvirus infections in a large ethnically diverse community sample: evidence from the Texas City Stress and Health Study R. J. Simpson, M. Hussain, F. Baker, A. B. Bigley, M. K. Peek, R. P. Stowe [2004]
16	HPV status is associated with fatigue and inflammation in patients with squamous cell carcinoma of the Head and Neck from pre to up to 3 Months Post IMRT C. Xiao, J. J. Beitler, K. A. Higgins, T. Glazer, L. Huynh, S. Paul, E. C. Wommack, N. F. Saba, D. M. Shin, D. W. Bruner, A. H. Miller [2009]
17 ◇	3-hydroxyanthranilic acid 3,4-dioxygenase mediates hippocampal dysfunction during chronic inflammation A. M. Garrison, G. A. Porter, A. Sharp, E. Flores, L. Redus, J. C. O'Connor [2005]
18	Associations Between Obesity, Mood, Inflammation, and Tryptophan Catabolism in Pregnancy M. W. Groer [1904]
19	Phospholipid species distribution patterns in the mouse vascular organ of the lamina terminalis during systemic inflammation. J. Bredehöft, D. R. Bhandari, V. Peek, B. Spengler, S. Schulz, K. Mayer, J. Roth, C. Rummel [1909]
20	Adolescent Stress Leads to Enduring Enrichment of Inflammatory Pathways in the Hippocampus without Peripheral Immune Consequences M. Bekhbat, S. A. Rowson, S. D. Kelly, G. K. Tharp, M. G. Tansey, G. N. Neigh [1925]
21	Effects of social isolation on LPS-induced hippocampal amyloid-beta expression and cognitive dysfunction in C57BL6/J mice J. L. Peterman, M. J. Eimerbrink, J. D. White, G. W. Boehm, M. J. Chumley [1920]
22	Euflammation attenuates central and peripheral inflammation and cognitive consequences of an immune challenge after tumor development L. M. Pyter, S. R. Bever, X. Liu, N. Quan [1930]
23	Tumors and tumor resection alter circadian rhythms S. R. Bever, P. Dib, L. D. Strehle, B. E. Haynes, A. M. Hilvert, D. McKim, J. P. Godbout, J. F. Sheridan, K. Obrietan, L. M. Pyter [1942]
24	Proximal and distal stress in myeloid cells in women with breast cancer K. R. Kuhlman, S. W. Cole, M. R. Irwin, P. A. Ganz, J. E. Bower [1945]
25	Ghrelin - a novel link between stress and infertility L. Sominsky, A. Soch, I. Ziko, S. N. De Luca, Di Natale MR, S. J. Spencer [1952]
26	A single exercise bout augments the ex vivo expansion and anti-tumor activity of Vdelta2 T-cells: Implications for allogeneic adoptive transfer immunotherapy F. L. Baker, A. B. Bigley, R. J. Simpson [1993]
27	Extramedullary monopoiesis underlies stress-sensitization and recurring anxiety D. B. McKim, J. P. Godbout, J. F. Sheridan [1968]
28	Developing a mathematical model of cytokine and adenosine effects on sleep A. J. Phillips, A. K. Walker [1980]
29 ◇	Principal component analysis of immunosenescent markers in older adults: The roles of age, sex, and cytomegalovirus R. G. Reed, S. R. Presnell, C. T. Lutz, S. C. Segerstrom [1969]
30	Sense of Coherence in Lung Cancer Patients: Association with Coping, Immune Function, and Fatigue. C. Siwik, W. Rebholz, K. Phillips, E. Cash, F. S. Dhabhar, S. Barve, L. Zimmaro, S. E. Sephton [1963]
31	Trajectories of C-Reactive Protein in the Year After Breast Cancer Treatment J. F. Wiley, J. E. Bower, L. Petersen, P. A. Ganz [1976]
32	Low cardiorespiratory fitness is associated with higher differentiation of CD8pos T-cells but not NK-cells in the elderly: preliminary evidence from the Texas City Stress and Health Study A. B. Bigley, D. M. Diak, F. L. Baker, P. L. Mylabathula, M. Hussain, M. K. Peek, R. P. Stowe, R. J. Simpson [2019]
33	Seasonal variation in central and peripheral inflammation in allergic subjects: A PET study M. Lekander, S. Tamm, S. Cervenka, A. Forsberg, C. Lensmar, E. Kosek, J. Lampa, J. Estelius, B. Karshikoff, M. Ingvar, C. Olgart Höglund [2001]

34	Central inhibition of DNA methylation improves lipopolysaccharide-induced sickness behavior in mice J. Zimmerman, S. Matt, M. Lawson, R. Johnson [2014]
35	Rat Model of Prenatal Zika Virus Infection. M. L. Sherer, P. Khanal, J. M. Schwarz [1913]
36	The relative contribution of beta2-adrenergic receptor signaling to the mobilization of lymphocyte and monocyte subsets in response to acute dynamic exercise in humans R. Graff, R. A. Bond, H. Kunz, N. H. Agha, F. L. Baker, R. Azadan, B. V. Rooney, P. L. Mylabathula, E. C. LaVoy, M. Laughlin, S. C. Gilchrist, C. M. Bollard, R. J. Simpson [1981]
37	Dysregulation of T Cell Immunity in Adopted Human Adolescents C. L. Coe, B. Donzella, M. Gunnar [2002]
38	Inhibition of DNA methylation with zebularine alters lipopolysaccharide-induced neuroinflammation in mice S. M. Matt, J. D. Zimmerman, M. A. Lawson, A. C. Bustamante, M. Uddin, R. W. Johnson [2013]
39	Cancer-Related Masculine Threat and Behavioral Symptoms in Prostate Cancer Survivors M. A. Hoyt [1960]
40	Pro-inflammatory, Chemotactic, and Anti-inflammatory Cytokine Responses Associate with HPA, but not SNS, Function in Lung Cancer Patients W. N. Rebholz, E. Cash, C. Siwik, K. Phillips, C. Albert, L. Zimmaro, F. S. Dhabhar, S. Barve, S. E. Sephton [1961]
41	Increased Measles Seronegativity in Adults with Major Depressive Disorder B. N. Ford, R. H. Yolken, F. B. Dickerson, T. K. Teague, M. R. Irwin, M. P. Paulus, J. Savitz [1936]
42	Characterization of the behavioral phenotype and neuroinflammatory profile of the Fmr1 knockout mouse S. L. Hodges, S. Nolan, C. Reynolds, G. Smith, A. Holley, T. Jefferson, J. Huebschman, M. Volquardsen, A. Pandian, J. Taube, J. Lugo [1988]
43	Tumor-associated fatigue develops independently of inflammation A. Grossberg, E. G. Vichaya, D. L. Christian, J. M. Molkentine, D. Vermeer, P. Vermeer, J. H. Lee, C. J. Heijnen, A. Kavelaars, R. Dantzer [1895]
44	The role of orexin in brain radiation-induced fatigue A. J. Grossberg, E. G. Vichaya, D. Zhang, W. Zhou, C. C. Weng, P. S. Gross, R. Dantzer, D. R. Grosshans [1897]
45	Maternal food deprivation in F0 generation and hypercaloric diet in F1 generation reduced GFAP expression after an immune challenge in F2 generation in several brain areas T. B. Ogassawara, P. D. Dossa, L. B. Viebig, L. V. Bonamin, M. F. Martins, A. O. Joaquim, T. B. Kirsten, M. M. Bernardi, E. F. Bondan [1944]
46	Quantitative analysis of the rat kynurenine-3-monooxygenase (KMO) gene mRNA expression reveals low copy numbers in the brain in normal conditions and after peripheral LPS challenge. L. Tonelli [1890]
47	Associations Between The Prognostic Indicators Rest/Activity Rhythm and Diurnal Cortisol Profiles in Patients with Lung Cancer E. Cash, W. Rebholz, C. Albert, O. Fields, L. Zimmaro, C. Siwik, K. Phillips, G. Kloecker, S. E. Sephton [1991]
48	Feasibility of a randomized controlled pilot study using propranolol to decrease beta-adrenergic signaling in hematopoietic stem cell transplant recipients J. M. Knight, J. D. Rizzo, P. Hari, M. P. Pasquini, S. Kerswill, A. d'Souza, B. R. Logan, M. Hamadani, S. Chhabra, B. Dhakal, N. Shah, M. M. Horowitz, S. W. Cole [1871]
49	Simulated microgravity 'disarms' human Natural Killer cells and suppresses cytotoxic activity against tumor target cells. P. L. Mylabathula, A. B. Bigley, L. Li, B. E. Crucian, D. L. Pierson, S. K. Mehta, K. Rezvani, R. J. Simpson [1897]
50	Modulation of innate immunity by amyloidogenic peptides: Systematic review of pattern recognition receptors and peptide aggregation state C. Westwell-Roper, B. Verchere [1927]

51	Prior exposure to repeated peripheral LPS injections prevents further accumulation of hippocampal beta- amyloid J. D. White, J. L. Peterman, A. Hardy, M. J. Eimerbrink, K. C. Paulhus, M. A. Thompson, M. J. Chumley, G. W. Boehm [1919]
52	Relationship Between Somatic Symptoms, Peripheral Inflammation, and Clinical Outcomes after Traumatic Injury A. Nader, T. A. deRoos-Cassini, T. B. Meier, J. B. Hoelzle, L. D. Nelson [1967]
53	Relation between depressive symptoms and cytokines associated with cardio-metabolic risk in African American women F. J. Grant, V. Mitchell, J. Rivers, A. Dey, A. A. Joshi, A. Chaturvedi, M. Playford, N. Mehta, T. Powell-Wiley [2023]
54	Role of metabolic hormones and inflammation in the association between obesity and somatic depression J. N. Kohn, Y. Cabrera, R. N. Guay-Ross, C. Pruitt, S. Hong [2029]
55	Biomarkers associated with risk and recovery in cancer patients after hematopoietic stem cell transplantation K. E. Rentscher, A. T. Broman, C. L. Coe, M. B. Juckett, P. J. Rathouz, P. Hematti, E. S. Costanzo [2033]
56	Benefit Finding and Diurnal Cortisol after Prostate Cancer: The Mediating Role of Affect A. W. Wang, M. A. Hoyt [2032]
57	Maltreatment is Associated with Elevated C-reactive Protein Levels in 3 to 5 Year-Old Children K. de Punder, J. Overfeld, P. Dörr, K. Dittrich, S. M. Winter, N. Kubiak, G. Karaboycheva, C. Heim [1935]

Poster Session 2, Saturday, June 10

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

◇ Indicates a Trainee Scholar

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1	Characterization of in vitro leukocyte maximal telomerase activity capacity (mTAC) in humans: Association with chronic stress exposure and stress-reactivity K. de Punder, C. Heim, I. Przesdzing, P. D. Wadhwa, S. Entringer [1933]
2	Serum amyloid A transport across the blood-brain barrier increases with inflammation and is regulated by HDL M. A. Erickson, E. Rhea, T. Salameh, E. Fernandez, W. Banks [1955]
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6 ◇ *	Neonatal infection produces sex-specific changes in neuroimmune function with no associated deficits in spatial learning in juvenile rats B. Osborne, S. Solomotis, J. Schwarz, Ph.D. [1921]
7	Maternal ER stress induces ASD-like behavior in mice through the IL-17a pathway A. Crider, M. Luo, T. Davis, B. Baban, A. Pillai [1958]

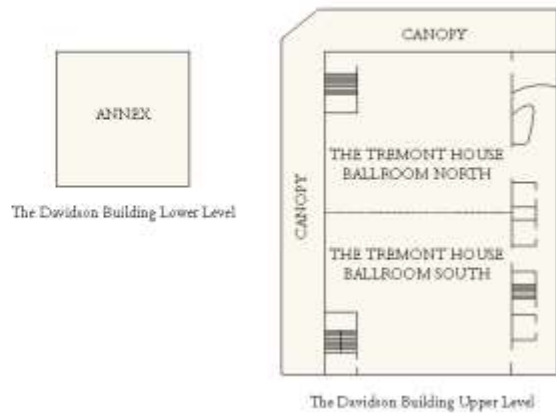
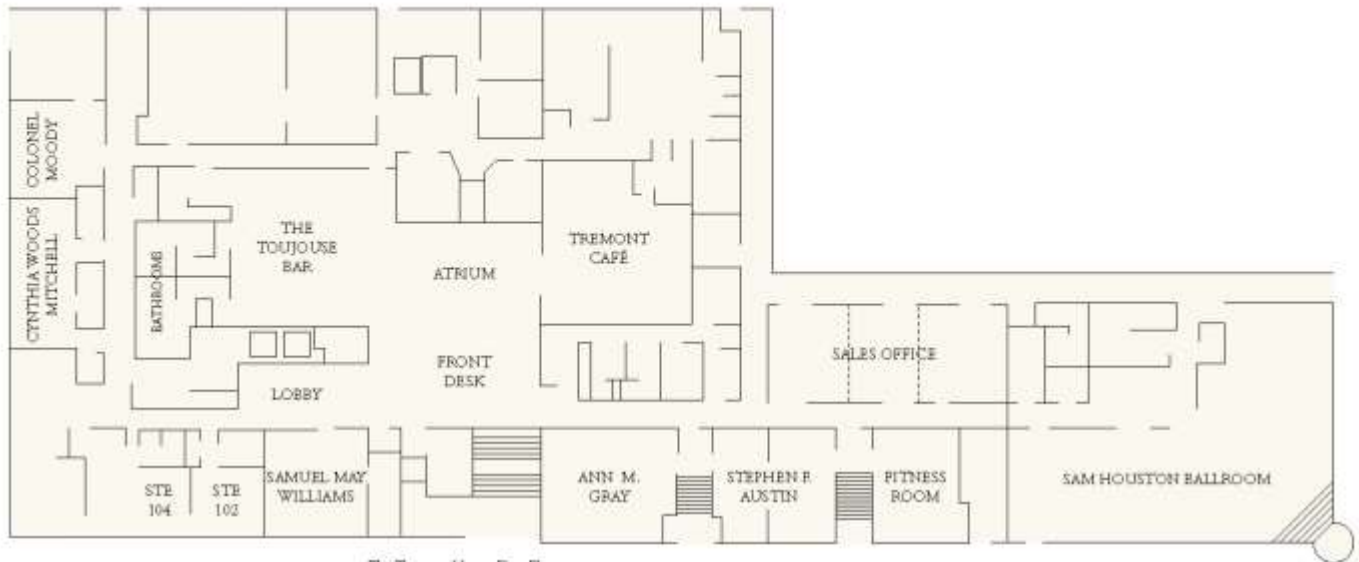
8 ♦ *	Do Neuroinflammatory Pathways Contribute to Serotonergic Alterations in Autism? p38alpha MAPK Signaling Drives Perturbed Serotonin Clearance, Receptor Hypersensitivity, and Social Behavior Deficits in the SERT Ala56 Mouse M. J. Robson, M. A. Quinlan, J. Veenstra-VanderWeele, D. M. Watterson, R. D. Blakely [2007]
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12	Development of glucocorticoid resistance over one year among mothers of children newly diagnosed with cancer C. P. Walsh, L. J. Ewing, J. L. Cleary, A. D. Vaisleib, C. Farrell, K. Gray, A. L. Marsland [1888]
13	Maternal prenatal depression predicts infant negative affect via maternal inflammatory cytokine levels H. Gustafsson, E. L. Sullivan, J. T. Nigg, J. M. Loftis [1941]
14	Partial MHC/neuroantigen peptide constructs attenuate methamphetamine-seeking and brain MCP-1 expression in post-dependent rats J. M. Loftis, T. Navis, J. Taylor, M. Huckans, A. A. Vandenbark, K. M. Lattal, R. Shirley [2031]
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49	Expansion of the Non-Classical Monocyte Pool Predicts Elevated Mood Disturbance in Post-Menopausal Women with and without HIV Infection. J. D. Lobo, M. Hidalgo, R. C. McIntosh [2021]
50	Sex differences in the hippocampal cytokine response following systemic lipopolysaccharide C. K. Posillico, M.S., I. C. Speirs, N. C. Tronson, Ph.D. [2025]
51	Sleep restriction increased murine melanoma lung metastasis formation by reducing the number of cytotoxic cells and inducing a suppressive tumor microenvironment B. H. De Lorenzo, R. R. Novaes e Brito, N. Garcia, T. C. Reis, R. Martins, B. D. Palma [2028]
52	The use of a short-lasting restraint stressor to investigate the role of the immune system in stressor-induced anxiety-like behavior in male and female mice J. C. Resiliac, R. M. Jagers, A. R. Mackos, M. T. Bailey [2034]
53	Human Respiratory Mucosal Immunity is altered by Stress M. Kohut, J. Alley, M. Jepsen, S. Elkhatib, L. Smeins and M. Ackermann [2035]

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Maps and Floor Plans



The **Davidson Building** is a large brick building located directly across the street from the Tremont House on Mechanic's Street. The PNIRS registration desk will be located in the foyer of that building. The front desk will be able to direct you should you have trouble locating it.

Welcome to Galveston!

Below are some food and beverage locations within walking distance of the hotel.

Bars:

1. Tsunami (big tequila selection) – 2314 Strand St
2. Brews Brothers (spacious low key bar, also some outside seating. Bar fare (hamburgers, chicken wings) available) - 2404 Strand St
3. O'Malley's Stage Door (really low key Irish bar) – 2022 Post Office St
4. Stuttgarden (beer garden, mostly outdoors. Great selection of beers and cocktails, also bar food) – 2110 Strand St
4. Buckshot Saloon (nightclub; country music and dance floor) – 2409 Market St

Restaurants:

1. Little Daddy's Gumbo Bar (Gumbo and other New Orleans fare) – 2107 Post Office St
2. Olympia the Grill at Pier 21 (Big restaurant, so more easy for groups. Great view of the harbor, also outside seating. Greek food) – 100 21st St (Pier 21)
3. Nonno Tony's Seafood Kitchen – 2100 Harborside Drive, Pier 21
4. Fisherman's Wharf (casual place, plenty of outside seating. Local seafood and grilled meats) – 2200 Harborside Dr.
5. Yaga's Café (good, affordable food (pizzas, burgers, tacos). Casual place) – 2314 Strand St
6. Black Pearl Oyster Bar (nice place, more New Orleans oriented food, mostly seafood) – 327 23rd St
7. Trattoria La Vigna (great Italian food. Patio for outside seating) - 412 20th St.
8. Rudy and Paco's – 2028 Post Office St
9. Saltwater Grill - 2017 Post Office St

Stuttgarden is the location of the Trainee Social on Friday, June 9

