Message from the President of the PNIRS

I am happy to welcome you to PNIRS-2016, the annual meeting of the Psychoneuroimmunology Research Society in Brighton, UK. The program committee and the local organizing committee headed by Neil Harrison have worked hard to put together an exciting program that provides a platform for all aspects of PNI.

The highlights of the program include three award lectures: the Norman Cousins Award lecture by Dr. Steve Cole, the Robert Ader New Investigator Award lecture by Dr. Lisa Christian, and the George Solomon Memorial lecture by Dr. Andrew Steptoe, supported by a generous donation from Susan Keran Solomon.

The PNIRS Excellence Fund supported the “Frontiers in PNI lecture”, an initiative that started in 2014 to invite a world class researcher from outside the PNIRS. We are honored that Dr. Hermona Soreq, Hebrew University of Jerusalem, accepted the invitation to present her cutting edge work on microRNA and behavior.

The program committee selected two exciting member-initiated symposia and four oral sessions as well as two data blitz sessions from the abstracts. We are very grateful to the Wellcome Trust for sponsoring the ten trainee travel awards for the best rating trainee abstracts and to our local organizer Neil Harrison for bringing the Wellcome Trust on board.

The trainee committee chaired by Dr. Teresa Reyes and Dr. Jonathan Godbout put together a wonderful program for trainees with a short course program on Wednesday afternoon followed by the Trainee Mentor Colloquium which will include a short introduction of PNIRS, How to Publish in Brain, Behavior and Immunity, the official journal of PNIRS, and effective grant writing. The trainee program on Wednesday closes with an interactive session of “Meet the Experts” that includes round table sessions around themes selected by the trainees.

New this year is a plan to increase involvement of trainees in the organization of PNIRS; the trainee committee has been asked to put forward names of trainees who will participate in all committees and the board of directors as non-voting members. The goal of this plan is to increase the influence of trainees on the society and to provide them with an opportunity to develop leadership skills. The Executive Committee looks forward to implementing this plan during the PNIRS-2016 meeting in Brighton.

Also new this year is the plan to form special interest groups around topics like PNI in: cancer and tumor biology; microbiome; brain, glia and neuroinflammation etc. The idea came from Dr. Suzi Hong, who is organizing a round table session during lunch on Friday to kick off this initiative. Thanks, Suzi!

It is a pleasure to welcome the new president-elect, Dr. Bill Banks and our incoming Secretary-Treasurer Dr. Staci Bilbo, who will assume their roles at the end of the meeting. I am also happy to welcome the newly elected member of the Board of Directors: Dr. Mats Lekander. On behalf of the entire society, many thanks to Jan Moynihan, our outgoing Secretary-Treasurer, Mark Opp, our past president, and John Sheridan, our outgoing Board of Director’s member, for their excellent and valuable service to PNIRS. It has been a pleasure to discuss all PNIRS and meeting related issues in monthly phone conferences with the Executive Committee and occasional phone conferences with the Board of Directors.

At PNIRS-2016 we proudly present the first Primer of PsychoNeuroImmunoResearch edited by Mark Opp. The Primer provides a concise overview of some of the many aspects of ongoing research in the field of psychoneuroimmunology. The goal is to provide a starting point for new comers in the field, be it trainees, early career investigators or experienced researchers who want to get started in this expanding and exciting area of research. Many thanks to Mark Opp for taking this initiative, and to him, all section editors and authors for their
contributions. I strongly recommend that all of you have a look at the display copies available at the registration desk and to order your own copy.

Finally, I sincerely thank the Program Committee for their work on selecting abstracts, trainee awardees, member-generated symposia, and their valuable contributions to all aspects of the program. A heartfelt thank you to Neil Harrison, chair of the local Organizing Committee and to Carmine Pariante and other members of the local team. The meeting and the society could not succeed without the superior work and guidance of our Executive Director, Susan Keran Solomon, and our administrator, Jackie Newman. Susan and Jackie, thanks for all your hard work, for keeping all of us on track and for your advice, suggestions and discussions!

Once again, welcome to Brighton for PNIRS-2016 and enjoy the meeting!

Sincerely,

Annemieke Kavelaars
PNIRS President 2015 – 2016

Follow us on Twitter @PNIRS #PNIRS2016
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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 the Wellcome Trust for providing 10 travel awards for our PNIRS Trainee Scholar Award Winners.

We gratefully appreciate the support of the Janssen Research and Development and GlaxoSmithKline Research and Development (GSK) for providing support at the gold level for PNIRS 2016.
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)
Annemieke Kavelaars (President)
Mark Opp (Past President)
Susan Lutgendorf (President-Elect)
Jan Moynihan (Secretary/Treasurer)
Susan Solomon (Executive Director)

PNIRS Staff
Jackie Newman

Training Committee
Teresa Reyes (Chair)
Jonathan Godbout (Chair)
Christopher Engeland
Neil Harrison
Annemieke Kavelaars
Jan Moynihan
Julie Lasselin (Trainee Member)
Alice Russell (Trainee Member)
Charlotte Clarke (Trainee Member)
Eric Wohleb (Trainee Member)

Financial Committee
Jan Moynihan (Secretary/Treasurer), Chair
Annemieke Kavelaars (President)
Mark Opp (Past President)
Susan Solomon (Executive Director)
Gayle Paige
Greg Freund
Manfred Schledowski
Michael Irwin

Membership Committee
Susan Lutgendorf (President-Elect), Chair
Ed Suarez
Anna Marsland
Leah Pyter
Michele Okun
Kelley Madden

Local Organizing Committee
Neil Harrison, Chair
Carmine Pariante

Board of Directors
Annemieke Kavelaars (President)
Mark Opp (Past President)
Susan Lutgendorf (President-Elect)
Jan Moynihan (Secretary/Treasurer)
Deb Hodgson
Kate Edwards
Anna Marsland
Julienne Bower
Ed Suarez
Chris Engeland
John Sheridan

Nominations Committee
Mark Opp (Past President), Chair
Annemieke Kavelaars (President)
Rodney Johnson
Lisa Christian
Linda Janusek
Mats Lekander
Steven Maier
Suzanne Segerstrom
Mark Hutchinson

Scientific Affairs Committee
Annemieke Kavelaars (President)
Mark Opp (Past President)
Susan Lutgendorf (President-Elect)
Jan Moynihan (Secretary/Treasurer)
Teresa Reyes
Erica Sloan
Greg Freund
Chris Engeland
Jonathan Kipnis
Chris Coe
Neil Harrison
Carmine Pariante
Deb Hodgson
Raz Yirmiya
2017 Meeting

PNIRS 2017
24th Annual Scientific Meeting

Galveston, TX
June 7-10, 2017

Conference Hotel: The Tremont House, a Wyndham Grand Hotel
Banquet Location: Historic Garten Verein

http://www.chihulygardenandglass.com
General Information

Registration Desk
The registration desk is located in the central hallway of the main (ground) floor. Please check in to receive your name badge and conference materials. Name badges are required at all times in order to access sessions and events. The registration desk will be open during the following hours:

Wednesday, June 8: 11:00 am – 5:00 pm
Thursday, June 9: 8:00 am – 4:00 pm
Friday, June 10: 8:00 am – 4:00 pm
Saturday, June 11: 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 Charlotte Room. 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 9th. Please remove your posters no later than the evening of Thursday, June 9th.

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

*Poster Session 3:* You may begin to hang your posters the morning of Saturday, June 11th. Please remove your posters immediately after Poster Session 3 due to the closing banquet taking place in the same location.

Poster Data Blitz
The Poster Data Blitz talks will take place in the Empress Suite. 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 10 from 6-8 pm at the Fiddler's Elbow 11-12 Boyces Street, Brighton BN1 1AN, England. Directions will be available at the registration desk. Name tag 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*.

**2016 Norman Cousins Award Lecture**

*A Genomic Perspective on PNI*

Steve Cole, Ph.D.
Professor of Medicine and Psychiatry and Biobehavioral Sciences
University of California, Los Angeles
School of Medicine

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.

**2016 Robert Ader New Investigator Award Lecture**

*The Mind-Body Connection in Maternal and Child Health: Stress, Race, Obesity, and Immune Function*

Lisa Christian, Ph.D.
Assistant Professor
Department of Psychiatry
The Ohio State University, Columbus
Wexner Medical Center

**2017 COUSINS AND ADER AWARDS**
The winners of the 2017 Norman Cousins Award Lecture and the Robert Ader New Investigator Award will be announced at the Closing Banquet on Saturday, June 11th.
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.

2016 George Solomon Memorial Lecture

Psychosocial Factors, Inflammation, and Physical Health Outcomes

Andrew Steptoe, Ph.D.
Professor of Psychology, Epidemiology & Public Health
Director, Institute of Epidemiology and Health Care in the Faculty of Population Health Sciences and British Heart Foundation
University College London

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.

2016 Frontiers in PNI Lecture

MicroRNA-Mediated Cholinergic Control of Inflammation and Anxiety in Mice and Men

Hermona Soreq, Ph.D.
Charlotte Slesinger Professor of Molecular Neuroscience
The Hebrew University of Jerusalem’s Edmond and Lily Safra Center for Brain Sciences
Congratulations to our 2016 Trainee Scholars!

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<td>Gabriel Chiu</td>
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<td>Lee Shaashua</td>
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<td>Catherine Walsh</td>
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◊ Indicates a Trainee Scholar throughout the program
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Wednesday, June 8

8:30-3:00  COMMITTEE MEETINGS  
Regent Room, Ground floor

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

3:00-5:30  EDUCATIONAL SHORT COURSE  
Empress Suite, Ground floor  
Chair: Neil Harrison and Teresa Reyes

Cutting Edge Approaches in Imaging Applications in Human and Animal PNI Research

Multiphoton Imaging of Immune Cells during CNS Infection

Tajie Harris  
Department of Neuroscience, University of Virginia, School of Medicine, 
Charlottesville, VA

Opportunities and Challenges in Small Animal Neuro(immune)imaging: From a Black Box with Holes to Grey Values

Jan Pieter Konsman  
Institute of Cognitive Neuroscience and Integrative Aquitaine, University of Bordeaux, 
Bordeaux, France

Using Neuroimaging to Understand Inflammation in the CNS

Federico Turkheimer  
Institute of Psychology, Psychiatry and Neuroscience, King’s College London, London, 
UK

Advanced MRI for In Vivo Imaging of the Effects of Inflammation on the CNS

Mara Cercignani  
Clinical Imaging Sciences Centre, Brighton and Sussex Medical School, East Sussex, 
UK

6:00-8:00  TRAINEE/MENTOR COLLOQUIUM (All Trainees, refreshments will be provided)  
Empress suite, Ground floor

Opening Remarks

Teresa Reyes, PNIRS Trainee Committee Chair

Welcome  
Annemieke Kavelaars, President, PNIRS

A Brief History of the PsychoNeuroImmunology Research Society  
Susan Lutgendorf, President-Elect, PNIRS

How to Publish in Brain Behavior and Immunity?  
Keith Kelley, Editor-in-Chief, Brain, Behavior and Immunity  
Toby Charkin, Elsevier
**Tips for Effective Writing**
Teresa Reyes, PNIRS Trainee Committee Chair

**Meet the Experts**
PNIRS Senior Faculty
Three-20 minute round table discussions with the following topics:
- Finding a postdoc position - Julie Lasselin and Eric Wohleb
- Finding an academic job - Lisa Christian and Christoph Rummel
- Thoughts on grant writing - Mark Opp and Teresa Reyes
- Tips for Networking - Manfred Schedlowski and Susan Solomon
- Science and [social] media - Jan Pieter Konsman and Leah Pyter
- How to manage conflict / maintain & foster collaborations - Cobi Heijnen and Rohan Walker
- Work-family balance - Jennifer Graham-Engeland and Mats Lekander

**Thursday, June 9**

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<td>7:00-8:30</td>
<td><strong>BREAKFAST</strong>&lt;br&gt;GB1 Restaurant, Ground floor</td>
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<td>8:45-9:00</td>
<td><strong>WELCOME</strong>&lt;br&gt;Empress Suite, Ground floor&lt;br&gt;Annemieke Kavelaars, President PNIRS</td>
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<tr>
<td>9:00-11:00</td>
<td><strong>MEMBER SPONSORED SYMPOSIUM</strong>&lt;br&gt;Empress Suite, Ground floor&lt;br&gt;Chair: Ebrahim Haroon and Jennifer Felger&lt;br&gt;<strong>Structural, Functional and Neurotransmitter Effects of Inflammation in Depression using Multimodal Imaging</strong>&lt;br&gt;<strong>Inflammation-induced Mood Change: Towards an Integration of Functional, Structural and Circuit-based Analyses?</strong>&lt;br&gt;<strong>Neil Harrison</strong>&lt;br&gt;Brighton and Sussex Medical School&lt;br&gt;<strong>Do Neuroactive Kynurenine Metabolites affect Brain Structure and Function in Depression?</strong>&lt;br&gt;<strong>Jonathan Savitz</strong>&lt;br&gt;Laureate Institute for Brain Research and University of Tulsa&lt;br&gt;<strong>Inflammation-induced Glutamate and Glial Pathology in Depression</strong>&lt;br&gt;<strong>Ebrahim Haroon</strong>&lt;br&gt;Emory University School of Medicine&lt;br&gt;<strong>From Primates to Patients: Inflammation effects on Dopamine, Motivation and Reward Circuitry</strong>&lt;br&gt;<strong>Jennifer C. Felger</strong>&lt;br&gt;Emory University School of Medicine&lt;br&gt;Discussant: <strong>Andrew H. Miller</strong>, Emory University School of Medicine</td>
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<tr>
<td>11:00-11:30</td>
<td><strong>BREAK</strong>&lt;br&gt;The Pavillon, Ground floor</td>
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</table>
11:30-12:00  ROBERT ADER LECTURE
Empress Suite, Ground floor
Nominator: Janice Kiecolt-Glaser
Chair: Annemieke Kavelaars

The Mind-Body Connection in Maternal and Child Health: Stress, Race, Obesity, and Immune Function

Lisa Christian
Assistant Professor, Psychiatry, Center for Psychiatry and Behavioral Health, Institute for Behavioral Medicine Research, The Ohio State University, Wexner Medical Center

12:00-12:30  POSTER DATA BLITZ 1
Empress Suite, Ground floor
Chair: Deb Hodgson

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| 1*            | Cross-sectional and longitudinal associations between immune cells in blood and brain -- a TSPO PET study in healthy control subjects  
| 6*            | The role of endothelial IL-1R1 in anxiogenic neuroinflammation  
| 36*◊          | Promotion of micrometastases by primary tumor secretome, and the deleterious effects of inflammatory surgical-stress responses on dormant metastases  
| 11*           | Acute coronary syndrome-associated depression: immunological, autonomic, nutritional, and psychosocial contributors.  
U. Vollmer-Conna, E. Cvejic, I. Granville Smith, D. Hadzi-Pavlovic, G. Parker [1738] |
| 8*            | Stress and the cholinergic system: the cholinergic pathway in allergic inflammation aggravated by psychosocial stress exposure is not anti-inflammatory  
E. Peters, F. R. Rommel, L. Ivanovas, W. Kummer, U. Gieler [1815] |
| 3*            | Impaired beta-adrenergic upregulation of anti-inflammatory cytokine production in patients with ulcerative colitis in remission  
| 7*            | Peripheral Cutaneous Inflammation Induces a Brain Chemokine Response, Immune Cell Infiltration and Functional Changes  
A. McColl, L. Nerurkar, G. J. Graham, J. Cavanagh [1805] |
| 5*            | Differential mechanisms of cancer- versus cancer therapy-related fatigue in patients with acute myeloid leukemia  
T. E. Lacourt, A. Kavelaars, S. Shelburne, D. Kontoyiannis, A. Futreal, C. J. Heijnen [1777] |
| 9*            | Attenuation of Opioid Analgesia in T cell Deficient Mice  
S. Rosen, B. Ham, M. Haichin, I. Walters, J. S. Mogil [1775] |
Upper-respiratory viral infection triggers EAE onset in autoimmune prone T-cell receptor transgenic mice
S. Blackmore, M. Juda, J. Hernandez, R. W. Johnson, A. J. Steelman [1776]

Singing is associated with modulations in cortisol, cytokine, beta-endorphin and oxytocin activity in cancer patients and carers
D. Fancourt, A. Williamon, L. A. Carvalho, A. Steptoe [1708]

10* LUNCH
GB1, GB2, and Albert, Ground floor

Concurrently: Leader Luncheon (Invitation only)
Eugenie Room, Ground Floor

1:30-3:00 ORAL SESSION 1
Empress Suite, Ground Floor
Chair: Cobi Heijnen and Don Lamkin

PNI in Cancer

1:30 Perioperative COX-2 inhibition and beta-adrenoceptor blockade in breast cancer patients improve markers of immunity and reduce inflammation and primary tumor epithelial-to-mesenchymal transition (EMT)

1:45 Beta-adrenergic receptor signaling constrains mammary tumor progression and modulates tumor-associated exosomes.

2:00 Activating the brain to fight cancer: reward system activation attenuates tumor growth in mice
T. Ben-Shaanan, M. Schiller, F. Hakim, A. Rolls [1782]

2:15 Intranasal administration of mesenchymal stem cells promote recovery from cisplatin-induced neurological and cognitive impairments
G. S. Chiu, S. Rizvi, N. Boukelmoun, A. Kavelaars, C. J. Heijnen [1778]

2:30 Select behavioral and physiological changes persist in novel cancer survivor model.

2:45 Caregiving distress and childhood trauma associate with decline in cortisol over time among mothers of children newly diagnosed with cancer

3:00-4:00 POSTER SESSION 1
Charlotte Room, Ground floor

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

The abstract booklet was e-mailed to all participants. To have another copy e-mailed to you please stop by the registration desk.
4:00-4:30  BREAK  
The Pavilion, Ground floor

4:30-4:45  SPECIAL TRIBUTE  
Empress Suite, Ground floor  
Jodi Yorty, PNIRS Member and former student of Dr. Bonneau  
Robert Bonneau, PhD, 1961-2016

4:45-5:45  NORMAN COUSINS MEMORIAL LECTURE  
Empress Suite, Ground floor  
Nominators: Michael Irwin and John Sheridan  
Chair: Annemieke Kavelaars

A Genomic Perspective on PNI

Steve Cole  
Professor of Medicine and Psychiatry and Biobehavioral Sciences  
University of California, Los Angeles  
School of Medicine

6:00-10:00  WELCOME RECEPTION (Included)  
Albert & GB2, Ground floor

Notes

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Friday, June 10

7:00-8:30 BREAKFAST
GB1 Restaurant, Ground floor

8:30-10:30 PRESIDENTIAL SYMPOSIUM
Empress Suite, Ground floor
Chair: Annemieke Kavelaars

Pain, Depression and Cognition. It is Not All About Microglia.

T cells Regulate Resolution of Pain and Depression
Annemieke Kavelaars
Department of Symptom Research, Division of Internal Medicine, University of Texas, MD Anderson Cancer Center, Houston, TX

Meningeal Lymphatics in CNS Health and Disease
Jonathan Kipnis
Department of Neuroscience, University of Virginia, School of Medicine, Charlottesville, VA

IL-6 and BDNF Act on the Meningeal Afferent System to Promote Headache
Gregory Dussor
School of Behavioral and Brain Sciences, University of Texas at Dallas, Richardson, TX

Autoantibodies and Pain: New Links to Joint Pain in Rheumatoid Arthritis
Camilla Svensson
Department of Physiology and Pharmacology, Karolinska Institutet, Stockholm Sweden

10:30-11:00 BREAK
The Pavilion, Ground floor

11:00-12:30 ORAL SESSION 2
Empress Suite, Ground floor
Chair: Carmine Pariante and Ute Vollmer-Conna

Neuroinflammation and Behavior

11:00 Depression and Inflammation are Independent Predictors of Fatigue in Breast Cancer Survivors
C. Xiao, A. Miller, J. Felger, D. Mister, T. Liu, M. Torres [1724]

11:15 Microglia-mediated dendritic remodeling is associated with alterations in neuron-derived signals after chronic unpredictable stress
E. S. Wohleb, R. S. Duman [1772] ◊

11:30 Microglia mediate the anti-depressive effects of electroconvulsive shock therapy in mice exposed to chronic unpredictable stress.
N. Rimmerman, M. Abargil, L. Cohen, R. Reshef, I. Arad, J. Kippen, R. Yirmiya [1774] ◊

11:45 Transiently breaking immune tolerance by targeting Foxp3+CD4+ regulatory T cells mitigates Alzheimer’s disease pathology
N. Rosenzweig, K. Baruch, A. Kertser, A. Deczkowska, M. Schwartz [1715] ◊
### POSTER DATA BLITZ 2

*Empress Suite, Ground floor*

**Chair:** Manfred Schedlowski

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<tr>
<th>Poster Number</th>
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<tr>
<td>7*</td>
<td>Mitochondrial respiration in peripheral blood mononuclear cells of individuals with borderline personality disorder M. Rappel, A. Karabatsiakis, E. Calzia, M. Jungkunz, C. Schmahl, M. Bohus, I. Kolassa [1803]</td>
</tr>
<tr>
<td>11*</td>
<td>Metabolic Dysfunction, Inflammation, and Task-Induced Emotional Stress Reactivity: Neural and Cognitive Correlates in 331 Middle-aged Adults T. Wolf, A. Willette [1783]</td>
</tr>
<tr>
<td>8*</td>
<td>The role of microglia in adult neurogenesis R. Reshef, E. Kudryavitskaya, H. Shani, N. Rimmerman, A. Mizrahi, R. Yirmiya [1756]</td>
</tr>
<tr>
<td>10*</td>
<td>Experimental procedures performed sequentially exert a stress that activates caspase-1 and impairs memory in mice. A. Towers, M. Oelschlager, J. Patel, G. G. Freund [1771]</td>
</tr>
<tr>
<td>4*</td>
<td>Cell and transcript specific expression of tryptophan and indoleamine 2,3-dioxygenases in the mouse brain following acute restraint stress C. R. Dostal, G. G. Freund, R. H. McCusker [1841]</td>
</tr>
<tr>
<td>9*</td>
<td>Myocardial infarction influences microglia morphology in the hypothalamus L. Gouweleeuw, H. Wajant, O. Maier, U. M. Eisel, R. G. Schoemaker [1766]</td>
</tr>
<tr>
<td>1*</td>
<td>Unique immune profiles in children with autism who experience gastrointestinal co-morbidity D. Rose, J. Van de Water, P. Ashwood [1787]</td>
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<td>2*</td>
<td>Exposure to a social stressor results in changes to microbial-produced short chain fatty acids and increased TNF-alpha production by colonic epithelial cells M. T. Bailey, A. R. Mackos, R. Maltz [1732]</td>
</tr>
<tr>
<td>6*</td>
<td>Effects of Tumor Development and Social Stress on Inflammation: Behavioral and Physiological Changes A. Lebeña, A. Azpiroz, G. Beitia, E. Gómez-Lázaro, A. Arregi, L. Garmendia, O. Vegas [1726]</td>
</tr>
<tr>
<td>36*</td>
<td>Essential Fatty Acids Intake Associated with Delay Aversion and Temporal Processing in Children with Attention Deficit Hyperactivity Disorder (ADHD) J. Chang, L. Jingling, Y. Huang, Y. Lu, K. Su, V. Mondelli, C. M. Pariante [1762]</td>
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1:00-2:30  LUNCH
GB1, GB2, and Albert, Ground floor
Special Interest Round Table

Concurrently: BBI BOARD MEETING (Invitation only)
Consort Room, Ground Floor

2:30-3:30  POSTER SESSION 2
Charlotte Room, Ground floor

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

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3:30-4:00  BREAK
The Pavilion, Ground Floor

4:00-5:00  FRONTIERS IN PSYCHONEUROIMMUNOLOGY
Empress Suite, Ground floor
Chair: Raz Yirmiya

MicroRNA-Mediated Cholinergic Control of Inflammation and Anxiety in Mice and Men
Hermona Soreq
Charlotte Slesinger Professor of Molecular Neuroscience, The Hebrew University of Jerusalem's Edmond and Lily Safra Center for Brain Sciences

Professor Hermona Soreq is the Charlotte Slesinger Professor of Molecular Neuroscience at The Hebrew University of Jerusalem's Edmond and Lily Safra Center for Brain Sciences. She is the first woman to have served as dean of the university's Faculty of Science. Through her research, Dr. Soreq pioneers diverse Molecular Biomedicine approaches for exploring the mechanisms underlying stress-associated diseases and develops innovative strategies for alleviating the consequences of traumatic experiences or chemical and inflammatory stresses.

6:00-8:00  PNIRS Trainee Social
Fiddler's Elbow, 11-12 Boyces Street, Brighton

Directions are available at the registration desk
Saturday, June 11

7:00-8:30  BREAKFAST
GB1 Restaurant, Ground floor

8:30-10:00  ORAL SESSION 3
Empress Suite, Ground floor
Chair: Susan Lutgendorf and Mark Hutchinson

Sleep and Pain

8:30  Sleep maintains homeostasis and function of monocytes in mice
J. Hahn, M. Guenter, S. E. Autenrieth [1711]

8:45  Sleep Improvement in Older Adults with Osteoarthritis is Associated with Lower Inflammatory Response to Laboratory Pain and Improved Clinical Pain

9:00  Early life adversity associated with enhanced capsaicin-induced spontaneous pain
H. R. Linsenbardt, M. W. Meagher [1829]

9:15  Evidence for Dissociation Between Spontaneous Pain and Depression-like Behavior in Neuropathic Pain models
G. Laumet, R. Dantzer, C. J. Heijnen, A. Kavelaars [1745]

9:30  Sleep Disturbance and Kynurenine Metabolism in a Group of Currently Depressed, Previously Depressed, and Never Depressed Subjects

9:45  Cytotoxic T cells may induce pain hypersensitivity in female but not male mice after nerve injury in an interferon-g-receptor-dependent manner
B. Ham, S. Rosen, J. Austin, J. S. Mogil [1773]

10:00-10:30  BREAK
The Pavilion, Ground floor

10:30-12:30  MEMBER SPONSORED SYMPOSIUM
Empress Suite, Ground floor
Chair: Ruth M. Barrientos

Food, Mood, and Cognition: When what we eat signals the brain

We are what we ate: Early life diet programs lifetime microglial sensitivity
Sarah J. Spencer
Health Innovations Research Institute, RMIT University

Nutritional n-3 PUFAs deficiency during perinatal period alters brain immune system and neuronal plasticity
Sophie Layé
University of Bordeaux

The sensitizing effects of a 3-day high-fat diet on LPS-induced neuroinflammation and contextual memory is mediated by corticosterone
Ruth M. Barrientos
University of Colorado Boulder
The beneficial effects of polyphenols on cognition via modulation of inflammation and oxidative stress in aging

Barbara Shukitt-Hale
Jean Mayer USDA Human Nutrition Research Center on Aging, Tufts University

12:30-1:30  LUNCH
GB1, GB2, and Albert, Ground floor

1:30-2:30  POSTER SESSION 3
Charlotte Room, Ground floor

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

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2:30-4:00  ORAL SESSION 4
Empress Suite, Ground floor
Chair: Michael Bailey and Margaret Kemeny

Inflammation, Stress and Microbiome

2:30  Secondary neurodegeneration after stroke is exacerbated by stress: a new opportunity for preserving viable brain tissue

2:45  Repeated social defeat stress-induced neuroinflammation contributes to later fear sensitization and impaired extinction recall of fear conditioning in mice: involvement of the endocannabinoid system.

3:00  Early life stress predisposes to increased sensitivity to inflammatory stimuli through intestinal dysbiosis
G. De Palma, M. Pigrau, J. Lu, Y. Deng, E. F. Verdu, S. M. Collins, P. Bercik [1850]

3:15  Exercise-Induced Changes in Gut Microbiota Alters Response to Colitis in Mice: Clinical Scores and Body Weight Differences

3:30  The Relationship Between Mood and Inflammatory Biomarkers is Influenced by their Temporal Proximity and Mood Measurement

3:45  Dynamical association between day-to-day fluctuations in inflammatory markers and affect in healthy individuals

4:00-4:30  BREAK
The Pavilion, Ground floor
4:30-5:30  GEORGE SOLOMON MEMORIAL LECTURE
Empress Suite, Ground floor
Chair: Neil Harrison

Psychosocial Factors, Inflammation, and Physical Health Outcomes
Andrew Steptoe
Professor of Psychology, Epidemiology & Public Health Director, Institute of
Epidemiology and Health Care in the Faculty of Population Health Sciences and British
Heart Foundation University College London

Andrew Steptoe is Director of the Institute of Epidemiology and Health Care in the
Faculty of Population Health Sciences, and British Heart Foundation Professor of
Psychology at University College London. Andrew directs the Psychobiology Group
and the English Longitudinal Study of Ageing research group at UCL. He has
published more than 400 peer-reviewed articles and is author or editor of 18 books,
most recently the Handbook of Behavioral Medicine (2010) and Stress and
Cardiovascular Disease (2012).

5:30-6:30  BUSINESS MEETING (All attendees are encouraged to attend)
Regent Room, Ground floor

7:00-    CLOSING BANQUET (Included)
Empress Suite, Ground floor

Presentation of the 2017 Norman Cousins and Robert Ader New Investigator Awards
**Poster Session 1, Thursday, June 9**

*Indicates participation in the Data Blitz; Number in brackets is abstract number in abstract booklet.
◊ Indicates a Trainee Scholar

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| **1** | Cross-sectional and longitudinal associations between immune cells in blood and brain -- a TSPO PET study in healthy control subjects  
| **2** | Rapamycin inhibits antidepressant effects of leucine in lipopolysaccharide-treated mice  
| **3** | Impaired beta-adrenergic upregulation of anti-inflammatory cytokine production in patients with ulcerative colitis in remission  
| **4** | Singing is associated with modulations in cortisol, cytokine, beta-endorphin and oxytocin activity in cancer patients and carers  
D. Fancourt, A. Williamson, L. A. Carvalho, A. Steptoe [1708] |
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| **6** | The role of endothelial IL-1R1 in anxiogenic neuroinflammation  
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| **9** | Attenuation of Opioid Analgesia in T cell Deficient Mice  
S. Rosen, B. Ham, M. Haichin, I. Walters, J. S. Mogil [1775] |
| **10** | Upper-respiratory viral infection triggers EAE onset in autoimmune prone T-cell receptor transgenic mice  
S. Blackmore, M. Juda, J. Hernandez, R. W. Johnson, A. J. Steelman [1776] |
| **11** | Acute coronary syndrome-associated depression: immunological, autonomic, nutritional, and psychosocial contributors.  
U. Vollmer-Conna, E. Cvejic, I. Granville Smith, D. Hadzi-Pavlovic, G. Parker [1738] |
| **12** | Serum factors as predictors of Interferon-alpha (IFN-alpha)-induced depression  
A. Borsini, N. Hepgul, A. Russell, Z. Zajkowska, P. Zunszain, C. Pariante, S. Thuret [1744] |
| **13** | Higher depressive symptoms relate to different inflammatory response patterns (ex vivo) among men and women  
| **14** | Gene Expression Profile of the Interferon Pathway in the Brains of Diet-Induced Obese Mice  
M. A. Jefferson, N. Singh, A. Kanhasamy, M. L. Kohut [1851] |
| **15** | β-adrenergic-activated macrophages: Location in the M1-M2 polarity spectrum and their transcriptional regulation  
D. M. Lamkin, S. W. Cole, E. K. Sloan [1833] |
| **16** | Combined influence of depression and systemic inflammation on cardiovascular disease and all-cause mortality: evidence for differential effects by gender in the English Longitudinal Study of Ageing  
S. Lawes, P. Demakakos, A. Steptoe, G. Lewis, L. Carvalho [1767] |
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<td>Neuro-immune dysregulation and depressive vulnerability: The Cortisol:C-reactive protein ratio predicts context-dependent negative affect reactivity in men and women with elevated symptoms of depression</td>
<td>E. C. Suarez, J. S. Sundy</td>
<td>2018</td>
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<td>Systemic levels of IgE as a determinant of self-rated health in patients with asthma</td>
<td>A. Andreasson, K. Lodin, K. Alving, J. Syk, M. Lekander</td>
<td>2014</td>
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<td>Relationship Between Cortisol, Endocannabinoids, PTSD and Depression Immediately and Six Months After Traumatic Injury</td>
<td>T. deRoon-Cassini, C. Hillard</td>
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<td>Cilia, an organelle central to psychoneuroimmunology -- a characterization through its interactome</td>
<td>M. Ganapathiraju, S. Chaparala, C. Lo</td>
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<td>IL-1β negatively impacts upon expression of both inflammatory and neurogenesis-associated signalling molecules in hippocampal neural stem cells in vitro</td>
<td>C. S. O Leime, J. F. Cryan, Y. M. Nolan</td>
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<td>26</td>
<td>Age- and depression-related changes in FKBP4 and FKBP5 expression across adolescence</td>
<td>J. M. Wolf, N. Rohleder, G. E. Miller</td>
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<td>27</td>
<td>Plasma levels of lipopolysaccharide-binding protein in response to psychosocial stress induction: Association with sympathetic nervous system response</td>
<td>K. de Punder, C. Heim, S. Entringer</td>
<td>2015</td>
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<td>28</td>
<td>Peripheral inflammatory mediators and p11 levels in peripheral blood mononuclear cells from patients with Parkinson’s disease.</td>
<td>H. F. Green, L. Brodin, P. Greengard, L. Berg, P. Svenningsson</td>
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<td>29</td>
<td>Are “Larks” More Conscientious? Circadian Rhythms and Their Possible Links to Personality Traits</td>
<td>K. H. Gunkel</td>
<td>2018</td>
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<td>A high-sensitivity magnetic multiplex assay detects changes in plasma concentrations of interleukin-6 induced by the Trier Social Stress Test</td>
<td>A. M. Quinn, A. R. Williams, T. I. Sivilli, C. L. Raison, T. W. Pace</td>
<td>2014</td>
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<td>32</td>
<td>Hair cortisol concentrations associate with hair growth rate</td>
<td>L. Xiang, I. Sunesara, K. Rehm, G. D. Marshall, Jr</td>
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<td>33</td>
<td>Investigating the Influence of environment and psychological state on the immune response: Developing a PNI toolkit</td>
<td>S. Brod, T. Gobetti, B. Gittens, M. Perretti, F. D'Acquisto</td>
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<td>37</td>
<td>Time point of retrieval in behaviorally conditioned immunosuppression is important for the outcome of clinical symptoms in rheumatoid arthritis in rats</td>
<td>L. Lueckemann, M. Hadamitzky, E. M. Martinez-Gomez, C. Wolff, H. Stangl, H. Engler, M. Schedlowski</td>
<td>[1752]</td>
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<td>40</td>
<td>What your monocytes' inflammatory responses to adrenergic stimulation can tell you about your risk for cardiovascular disease beyond blood pressure</td>
<td>S. I. Dimitrov, F. Sheikh, J. Green, T. Cheng, N. Beg, S. Hong</td>
<td>[1863]</td>
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Link to Abstracts: [PNIRS 2016 Abstracts](#)
Maps and Floor Plans

The Grand Brighton-Ground Floor Map

The Grand Brighton-First Floor Map
Welcome to Brighton! We provide here some information about transportation, some popular local restaurants/pubs, and activities in-and-around Brighton.

Transportation
With the Grand Hotel’s central location, most of city centre is within walking distance. There are also plenty of buses around the town. All are wheelchair accessible. The bus stops nearest to the Grand are to the north of the Churchill Square shopping centre or along North Road. Whilst there is an app for bus tickets, paying with cash is the most reliable way to pay as mobile signal can be patchy. There are also a number of tickets you can purchase: most areas of the city are reachable with a city-saver ticket, and if you are taking more than two trips a day-rider will be the cheapest.

The official hackney carriages (aqua and white taxis) can be hailed off the street, all others need to be booked (01273 204060, 01273 747474, 01273 205205). Wheelchair accessible taxis are available.

To/from Gatwick Airport
The cheapest and most efficient way to get from Gatwick Airport to Brighton is with the train (tickets are available at Gatwick airport). The journey takes approximately 30 minutes and costs approximately £11. Brighton train station is a 15-20 minute walk from the Grand Hotel. Taxis are available at the train station. Taxis are also available at the airport though will cost approximately £60 and take 35-45 minutes depending on traffic.

To/from Heathrow Airport
The quickest way to get from Heathrow to Brighton is via taxi. However, taxis at the airport can be very expensive. A better and much cheaper alternative is to pre-book a taxi through one of the minicab companies listed here: https://www.pnirs.org/meetings/index.cfm. This should be done before travel. Alternately the 747 bus goes regularly from Heathrow to central London, then catch a train from Victoria station to Brighton. Full details are available here: https://www.pnirs.org/meetings/index.cfm

Places to Visit

Within Brighton
Brighton Royal Pavilion (former summer home of Prince Regent) & Brighton Museum and Art Gallery
- Both are located in Royal Pavilion Gardens, Brighton BN1 1EE, about 15 minutes' walk from The Grand. Turn left (east) out of the hotel and walk along the road for about 5 minutes. When you reach East Street, turn left into East Street and keep going until you reach North Street. Cross North Street walk past al Duomo restaurant and you will arrive at the Royal Pavilion Gardens.
Brighton Pier - fairground amusements
Aquarium - just in front of Brighton Pier
North Laine area - arty shops and cafes and vintage/independent shops
The Lanes - famous for antique jewellery and also more expensive clothes shops

Outside Brighton
Brighton Marina Taxis, number 7 bus or a 45min walk from the Grand out East from the city. There are plenty of restaurants along the boardwalk and the harbour walls can be walked.
Rottingdean village was the home of the author, Rudyard Kipling and has pretty, walled gardens, village pond and an old church with lovely stained glass windows designed by Sir Edward Burne-Jones. The Grange, has a café with seating in a walled garden. It is an easy 1½ hour walk along the seafront heading East out of Brighton. You could catch a bus back (12 or 12A).
Ditchling is a few miles north of Brighton, just over the South Downs, with a picturesque high street, village green and church as well as a small museum. There are several good tea shops e.g. ‘Ditchling Tea Rooms’ and pubs ‘The White Horse’ and ‘The Bull’. A taxi would be needed for this.
Devil's Dyke  Walk for a short while along the South Downs Way and take in the famous views from the South Downs over the Weald. The 77 bus takes you there. Get refreshments and food from the Devil's Dyke pub at the top.

Lewes, is the historic county town of Sussex. It is a very attractive town about 5 miles from Brighton, with frequent trains. It has the remains of Lewes castle in the centre and contains a number of interesting independent shops.

Seven Sisters  For the adventurous - Take the train to Seaford and walk East along the coastal path for one of the most famous views in the country of the Seven Sisters (white cliffs) from Seaford Head (particularly beautiful as the sun sets). Follow the path down past the Coastguard Cottages into Cuckmere Haven to walk the Seven Sisters to reach Beachy Head and Eastbourne beyond to get the train back (5 hour walk in total).

Nice pubs (all serving good food)
a. The Prince George, 5 Trafalgar Street, North Laine, Brighton, BN1 4EQ (vegetarian)
b. The Eagle, 125 Gloucester Road North Laine, Brighton, BN1 4AF
c. The Basket Maker's Arms, 12 Gloucester Road, North laine, Brighton, BN1 4 AD
d. The Lion and Lobster, 24 Sillwood Street, Brighton, BN1 2PS
e. The Urchin Inn 159-161 Kings Road Arches Brighton BN1 1NB

The Urchin (not on map) 15-17 Belfast street, Hove BN3 3YS (craft beer and shellfish)

Restaurants
1 The Regency Restaurant - fish and seafood restaurant (with a few vegetarian and meat options) 131 King's Rd, Brighton BN1 2HH (less than 5 minutes’ walk west of The Grand)
https://theregencyrestaurant.co.uk
2 China Garden - medium price - good quality Chinese food. 88-91 Preston Street (about 5 minutes’ walk west of The Grand) turn right into Preston Street and China Garden is the first restaurant
http://www.chinagarden.name
3 Al Duomo - Italian 17 Pavilion Buildings, Brighton BN1 1EE  https://www.alduomo.co.uk/
4 Chilipickle (excellent indian food - need to reserve normally) http://thechillipickle.com/restaurant/
5 64 Degrees (Won Best restaurant in Brighton 2015 – small and need to reserve)
http://www.64degrees.co.uk
6 Bincho Yakitori (Japanese grilled food - excellent but small and may need to reserve)
https://binchoyakitori.com
7 Food for Friends (Vegetarian and excellent) https://binchoyakitori.com
8 Terre a Terre (Vegetarian and excellent) - http://www.terreaterre.co.uk
9 Riddle and Finns (Fish more expensive) - http://www.riddleandfinns.co.uk
10 Burger Brothers (Burgers only - very small and limited seating very casual but excellent burgers) - http://restaurantsbrighton.co.uk/burger-review-burger-brothers-north-road-brighton/
12 La Choza (Mexican) 36 Gloucester Road, North Laine, Brighton www.lachoza.co.uk/
X – The Fiddler’s Elbow. Location of trainee Mixer Social (6-8pm Friday 10th June)