Dr. Andrew Miller is a William P. Timmie Professor of Psychiatry and Behavioral Sciences at the Emory University School of Medicine in Atlanta, Georgia. He is an internationally recognized leader in the area of brain-immune interactions as they relate to depression in medically healthy as well as medically ill patients including patients with cancer. His work has demonstrated that during immune activation, inflammatory cytokines can access the brain and interact with the metabolism of dopamine and glutamate, while altering neurocircuits in the brain relevant to motivation and reward as well as anxiety and alarm. Dr. Miller has also studied the impact of cytokines on neuroendocrine regulation and sleep including the study of the specific signal transduction pathways involved. Additionally, Dr. Miller and his group conducted the first clinical trial examining the efficacy of a cytokine antagonist for the treatment of depression. He has produced over 200 scholarly publications and edited a book entitled Depressive Disorders and Immunity. Dr. Miller’s research awards include the Curt Richter Award from the International Society of Psychoneuroendocrinology and the Norman Cousins Award from the Psychoneuroimmunology Research Society. Aside from his research endeavors, Dr. Miller is a Board Certified Psychiatrist and past examiner for the American Board of Psychiatry and Neurology.

When Inflammation Weeps: The Emerging Role of the Immune System in Depression

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Retreat Schedule

12:00 p.m. - 12:30 p.m.
Registration & Introductory Remarks

Geert de Vries, Ph.D.
Director - Neuroscience Institute

12:30 p.m. - 1:30 p.m.
Lunch (provided)

1:40 p.m. - 2:00 p.m.
Nicole Hegberg - Psychology
Advisor: Erin Tone, Ph.D.
“Physical activity and emotional health: Mechanisms that bind them.”

2:00 p.m. - 2:20 p.m.
Mac McNeill - Neuroscience
Advisor: Elliott Albers, Ph.D.
“Role of GABA signaling in the suprachiasmatic nucleus.”

2:20 p.m. - 2:40 p.m.
Richard Campbell - Biology
Advisor: Bill Walthall, Ph.D.
“Transcriptional networks governing GABAergic neuronal subtype differentiation.”

2:40 p.m. - 2:55 p.m.
Break

Interdisciplinary Committee

Andrea Scarantino, PhD
Philosophy, Chair

Elliott Albers, PhD
Neuroscience

Deb Baro, PhD
Biology

Sarah Brosnan, PhD
Psychology

Walt Wilczynski, PhD
Neuroscience

Retreat Organizers:
Liz Weaver, MS

Master of Ceremonies:
Anne Murphy, PhD, Neuroscience

Special Thanks:
Chriselle Manabat
Andrea Scarantino, Ph.D.
Chair, Interdisciplinary Committee
Update on the Brains & Behavior Program

Long Ma - Computer Science
Advisor: Yanqing Zhang, Ph.D.
“Online biomedical publication classification.”

Arianna Tamvacakis - Neuroscience
Advisor: Paul Katz, Ph.D.
“Investigating serotonin receptor expression underlying species-specific swimming behaviors.”

Andrew Miller, Ph.D. - Keynote
“When Inflammation Weeps: The Emerging Role of the Immune System in Depression.”

Poster Session - Wine & Cheese Reception
1. Title: Markov models for the kinetics of human cardiac sodium channel. Authors: T.N. Asfaw and V.E. Bondarenko


4. Title: Network bursting in swim CPG models. Authors: D. Alacam and A. Shilnikov


6. Title: Dynamical analysis of modular central pattern generators using hybrid computing approaches. Authors: K. Pusuluri, S. Basodi, A. Shilnikov

7. Title: Mechanisms governing bursting activity in a single neuron and a half-center oscillator. Authors: J.F. Cannon, W.H. Barnett, G.S. Cymbalyuk

8. Title: Divergent neural mechanisms underlie homologous rhythmic behaviors. Authors: A. Sakurai, A. Senatore, P.S. Katz


40. Title: Neural correlates of visual statistical learning in children with dyslexia: an ERP study. Authors: S. Singh, A.M. Walk, C.M. Conway

41. Title: Executive function and pain coping in youth with sickle cell disease. Authors: N.N. Ludwig, S. Sil, M.K. Khowaja, L. Cohen, C. Dampier

42. Frontal alpha EEG asymmetry collected using a low-cost mobile EEG system. Authors: D.H. Burnet, M.T. Copello, J.A. Turner, M.D. Turner

43. Title: Social reward anticipation and outcome expectancy for psychotherapy. Authors: A. Molloy, P.L. Anderson, J.A. Turner, S.N. Light, E.B. Tone

44. Title: Low-cost wireless EEG as adjunct to mindfulness therapy. Authors: M.T. Copello, D.H. Burnet, M. Donati, L.W. Schaefer, A. Masuda, J.A. Turner, M.D. Turner

45. Title: Neuroimaging of experience and imagination. Authors: S.E.A. Hegerty, H.M. Kleider-Offutt, J.A. Turner, D.H. Burnet, A. Ahmadi

46. Title: BOLD activity in adult survivors of childhood brain tumors following continued exposure on a working memory task. Authors: S.D. Na, T.Z. King, R. Morris and B. Sun

47. Title: The MSCEIT misses the mark: emotional intelligence is a practical ability. Authors: R.S. Sahi

48. Title: The ethics of neurobiological risk assessment. Authors: S.E. Verkiel, M.R. McGuire, E. Aharoni
33. Title: The role of sex differences and social experience in the regulation of arginine-vasopressin (AVP) V1a receptors and aggressive behavior in Syrian Hamsters (Mesocricetus auratus). Authors: A.P. Ross, T. Larkin, E.Z. Song, H.E. Albers

34. Title: Social experience modulates the ability of extrasynaptic GABA A receptor activation to induce aggression in males, but not female syrian hamsters. Authors: J.M. Borland, T.L. Larkin, A. Norvelle, H.E. Albers

35. Title: Circadian rhythms in the expression and function of synaptic and extra synaptic GABAa receptors in the suprachiasmatic nucleus. Authors: J.C. Walton, J.K. McNeill IV, H.E. Albers

36. Title: Introducing white noise training for cocaine self-administration, extinction, and cue-Induced reinstatement in adolescent and adult male wistar rats. Authors: J. Dave, G.J. Suess, A.C. White, B.F. Williams, K.J. Frantz

37. Title: Social deficits in transgenic reporter mice. Authors: N. Rigney, K. McDaniel, A. Petrulis

38. Title: Brain derived neurotrophic factor impairs consolidation of conditioned defeat learning but does not impair learning of social cues. Authors: K.A. Partrick, B.M. Thompson, T.E. Larkin, Z. Song, K.L. Huhman

39. Title: Neural response following cooperation and conflict in social anxiety. Authors: K. Thompson, A. Molloy, J.A. Turner, A. Ahmadi, M. Rattinger, E. Nahmias, N. Fani, T. Karan, & E. Tone


11. Title: Properties and applications of thiolate protected gold nanoclusters. Authors: J. Padelford, T. Wang, G. Wang

12. Title: Development of protein-based MRI contrast agents for the early detection of cancer metastasis. Authors: S. Tan, S. Xue, F. Pu, J. Qiao, J.J. Yang

13. Title: Highly resistant HIV-1 proteases and strategies for their inhibition. Authors: A. Wong-Sam, D.W. Kneller, I.T. Weber

14. Title: SUMOylation mediates dopamine (DA)-enabled, activity-dependent regulation of the hyperpolarization activated current (Ih). Authors: A.R. Parker and D.J. Baro

15. Title: Neuronal hyperexcitability versus breathing abnormality in Mecp2−/Y mice. Authors: W. Zhong, N. Cui, C.M. Johnson, M. Oginsky, Y. Wu, S. Zhang, H. Xing, C. Jiang


17. Title: DNA damage on the molecular level: the difference one atom makes. Authors: M. Evich, A. M. Spring, M.W. Germann
26. Title: Pharmacological inhibition of ventral hippocampal NMDA receptors accelerates meal onset and increases meal frequency.

18. Title: Effects of DNA methyltransferase inhibition on sexually dimorphic cell groups in the preoptic area.
Authors: M. Mosley, J. Weathington, A. Castillo-Ruiz, N.G. Forger

19. Title: Early trkB signaling rescues the adult retinotectal pathway from the effects of chronic sensory deprivation.
Authors: D.B. Mudd, T.S. Balmer, S.L. Pallas

21. Title: Cellular and molecular dissection of noxious cold nociception in Drosophila.
Authors: A.A. Patel, H.N. Turner, K. Armengol, N.J. Himmel, M.J. Galko, D.N. Cox

22. Title: Effects of social status on simulated aggression and courtship in green anole lizards.
Authors: D. Shukla, L.L. Carruth, W. Wilczynski

23. Title: Sex and region specific gene expression in Hyla cinerea.
Authors: D.M. Sinkiewicz and W. Wilczynski

24. Title: Can phylogeny, habitat, or climate better predict chemical signal composition in Sceloporus lizards?

25. Title: Shared sympathetic circuitries between brown and white fat coordinately regulate body fat and temperature.
Authors: N.T. Nguyen, C.L. Barr, V. Ryu, Q. Cao, T.J. Bartness, B. Xue

26. Title: Stronger consequences of TLR5 knockout on physiology and behavior in males.
Authors: N.V. Peters, B. Chassaing, M.K. Holder, J.J. Whylings, A.T. Gewirtz, G.J. de Vries

29. Title: Microglia activation by morphine metabolites contributes to the sexually dimorphic effects of morphine in the rat.
Authors: H.H. Doyle and A.Z. Murphy