

2015 BRAIN CONFERENCE

NEUROSCIENCE: WHY, WHAT, AND HOW TO TEACH IT

PRE-MEETING FOR THE 44TH ANNUAL MEETING

**AMERICAN ASSOCIATION OF DIRECTORS OF
PSYCHIATRIC RESIDENCY TRAINING**

WEDNESDAY, MARCH 4, 2015 | HILTON ORLANDO BONNET CREEK | ORLANDO, FL

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The National Neuroscience Curriculum Initiative (NNCI) is an NIH-funded (3R25 MH101076-02S1) collaboration between educators and neuroscientists to create shared resources for effectively teaching neuroscience to psychiatry trainees and to provide faculty training on how to implement them. Funding for this conference was made possible, in part, by grant support from the National Institute of Mental Health (5R13 MH074298). The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention by trade names, commercial practices or organizations imply endorsement by the U.S. Government.

OVERVIEW

PRACTICE GAP

Psychiatry is in the midst of a paradigm shift. The diseases we treat are increasingly understood in terms of the complex interactions between genetic and environmental factors and the development and regulation of neural circuitry. Yet most psychiatrists have a relatively minimal knowledge of neuroscience. This may be due to many factors, including the difficulty of keeping pace with a rapidly advancing field or a lack of exposure to neuroscience during training. To date, neuroscience has generally not been taught in a way that is engaging, accessible and relevant to patient care. Much of neuroscience education has remained lecture-based without employing active, adult learning principles. It is also frequently taught in a way that seems devoid of clinical relevance, disconnected from the patient's story and life experience, and separated from the importance of the therapeutic alliance. Regardless of the reason, what has resulted is an enormous practice gap: despite the central role that neuroscience is poised to assume in psychiatry, we continue to underrepresent and fail to integrate this essential perspective in our work.

EDUCATIONAL OBJECTIVES

As presented last year, this year's BRAIN Conference will focus on strategies to teach neuroscience and incorporate a modern neuroscience perspective into clinical care. This conference will include a series of morning and afternoon workshops designed to:

1. Empower faculty with or without a neuroscience background to feel confident that they can teach neuroscience effectively;
2. Engage conference attendees to participate as both student and instructor using new and innovative teaching methods;
3. Provide programs with resources for how they might address, teach, and assess neuroscience-specific milestones (see Table 1).

Through large and small group activities, attendees will receive training in various new and creative approaches to teaching neuroscience through technology (both old and new), on-line resources, and "flipped classroom" exercises.

Note that these workshops are not intended to represent a "model curriculum" but rather a prototype of potential teaching activities to engage residents in learning neuroscience. We have kept the size of each group relatively small (25 participants) and have limited most of them to 50 minutes in order to approximate the experience of doing these modules with a cohort of residents during scheduled class time. We have deliberately focused each workshop on a different mental illness in order to demonstrate the broad applicability of these approaches. In addition, we have asked faculty from diverse backgrounds to help facilitate these workshops in order to highlight the fact that effective teachers do not need to be expert neuroscientists. Essential ingredients for a successful experience include: faculty enthusiasm for the topic, clear learning objectives, and active teaching techniques built around readily available resources. After each workshop we have built in a 10 minute period for participants to reflect on the exercise and to process as a group what it might be like to implement each approach in their own programs.

INTENDED AUDIENCE

Medical educators with little or no neuroscience background, neuroscientists engaged in medical education, students and residents.

TABLE 1. MK3. CLINICAL NEUROSCIENCE MILESTONES

NEURODIAGNOSTIC TESTING	
Level 1	Knows commonly available neuroimaging and neurophysiologic diagnostic modalities and how to order them
Level 2	Knows indications for structural neuroimaging (cranial computed tomography [CT] and magnetic resonance imaging [MRI]) and neurophysiological testing (electroencephalography [EEG], evoked potentials, sleep studies)
Level 3	Recognizes the significance of abnormal findings in routine neurodiagnostic test reports in psychiatric patients
Level 4	Explains the significance of routine neuroimaging, neurophysiological, and neuropsychological testing abnormalities to patients
Level 5	Integrates recent neurodiagnostic research into understanding of psychopathology
NEUROPSYCHOLOGICAL TESTING	
Level 1	Knows how to order neuropsychological testing
Level 2	Describes common neuropsychological tests and their indications
Level 3	Knows indications for specific neuropsychological tests and understands meaning of common abnormal findings
Level 5	Flexibly applies knowledge of neuropsychological findings to the differential diagnoses of complex patients
NEUROPSYCHIATRIC CO-MORBIDITY	
Level 2	Describes psychiatric disorders co-morbid with common neurologic disorders and neurological disorders frequently seen in psychiatric patients
Level 4	Describes psychiatric comorbidities of less common neurologic disorders and less common neurologic comorbidities of psychiatric disorders
NEUROBIOLOGY	
Level 3	Describes neurobiological and genetic hypotheses of common psychiatric disorders and their limitations
Level 4	Explains neurobiological hypotheses and genetic risks of common psychiatric disorders to patients
Level 5	Explains neurobiological hypotheses and genetic risks of less common psychiatric disorders to patients. Integrates knowledge of neurobiology into advocacy for psychiatric patient care and stigma reduction
APPLIED NEUROSCIENCE	
Level 2	Identifies the brain areas thought to be important in social and emotional behavior (Areas might include dorsolateral prefrontal cortex, anterior cingulate, amygdala, hippocampus, etc.)
Level 4	Demonstrates sufficient knowledge to incorporate leading neuroscientific hypotheses of emotions and social behaviors into case formulation. (Social behaviors might include attachment, empathy, attraction, reward/addiction, aggression, appetites, etc.)

WORKSHOPS

Each workshop at the 2015 BRAIN Conference is intended to demonstrate potential activities and resources for teaching neuroscience. Sessions will be conducted as if they are occurring in a classroom setting with residents. The goals for this year's BRAIN Conference are outlined previously (see page 3). However, in the following sections, we describe the goals and objectives for these modules as they might be written for a resident course.

NEUROSCIENCE LAB

OVERVIEW

The overall goal of this module is to teach core neuroscience concepts through experiential exercises that capitalize on multimodal sensory learning. The success of these sessions relies on making classroom exercises as interactive as possible. In addition, sessions are specifically crafted around real-life scenarios that psychiatrists might encounter in clinical practice. As with any lab experience, this module is intended to complement traditional teaching approaches and reinforce key learning objectives. Although these sessions may be facilitated by someone at the front of the room "teaching", these are not traditional lectures.

GOALS AND OBJECTIVES

By the end of this course, residents will:

1. Be able to describe a basic conceptual framework for the underlying neurobiology of psychiatric illnesses;
2. Appreciate the centrality of neuroscience to the future of psychiatry and the relevance of ongoing research to the care of psychiatric patients;
3. Be able to articulate how a neuroscience perspective can help formulate psychiatric cases and inform treatment options.

NEUROSCIENCE IN THE MEDIA

OVERVIEW

Popular media is saturated with stories about neuroscience and psychiatry. As psychiatrists, we have all had the experience of being approached by a friend at a party – or by a patient in our clinic – who is eager to ask for our opinion on the latest media story. Being able to thoughtfully field these questions is a core professional skill. To this end, we have developed the "Neuroscience in the Media" module. The overall goal of this module is that residents will be able to serve as ambassadors of psychiatry and neuroscience who can thoughtfully communicate findings from the field to a lay audience. This module uses a structured format to critique the media coverage of a particular paper or neuroscience subject area as a way of engaging the learners. The learners find or are given relevant scientific literature that they appraise. Learners then role-play how one might communicate about this subject with a lay audience or a patient in their clinic.

GOALS AND OBJECTIVES

By the end of this course, residents will:

1. Be able to demonstrate the ability to critique media coverage of issues relevant to psychiatry;
2. Be able to demonstrate the ability to find and appraise relevant scientific literature;
3. Be able to demonstrate the ability to communicate thoughtfully with a lay audience;
4. Be inspired to complete this exercise for other media articles on their own as part of their life-long learning!

For both the Neuroscience Lab and Neuroscience in the Media modules, knowledge based learning objectives are specific to each individual session and are relatively modest. These courses cover important cutting edge research findings as well as conceptual models of the neuroscience underlying psychiatric phenomenology. Progress with knowledge based learning objectives is monitored via in class participation and performance on summative assessments.

PROGRAM ASSESSMENT

Throughout the day we will ask you to provide feedback immediately after each workshop at: tinyurl.com/brain2015. These surveys should take less than 5 minutes to complete. At the end of this year's BRAIN Conference we will ask you to complete an additional survey relevant to the BRAIN Conference Series and in order to obtain CME credit for this event. The results of these surveys will be used to determine the effectiveness of this year's meeting and the BRAIN Conference series in achieving set learning objectives and educational goals.

SCHEDULE

Check-in times for pre-registered attendees are on Tuesday, March 3rd from 5:00pm - 8:00pm and Wednesday, March 4th from 7:00am - 9:00am at the Bonnet Creek North Foyer.

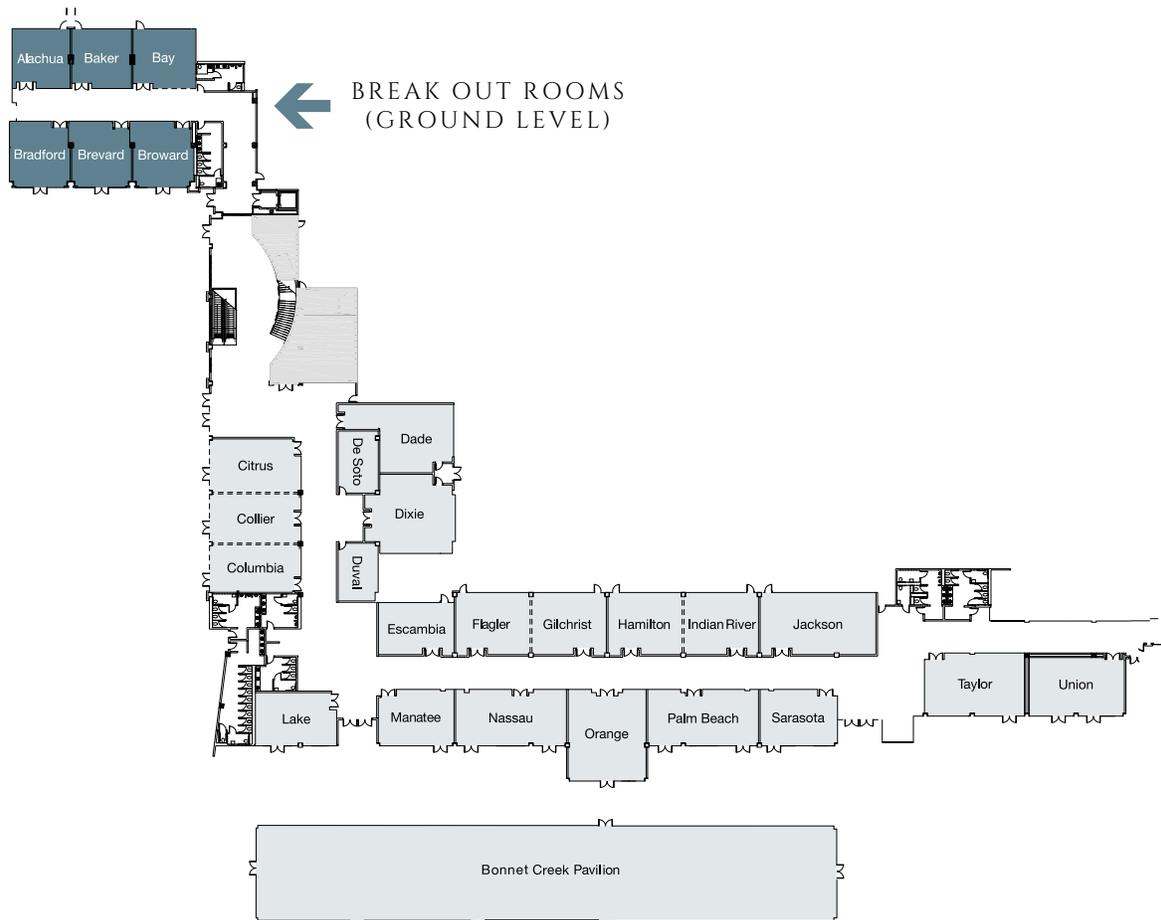
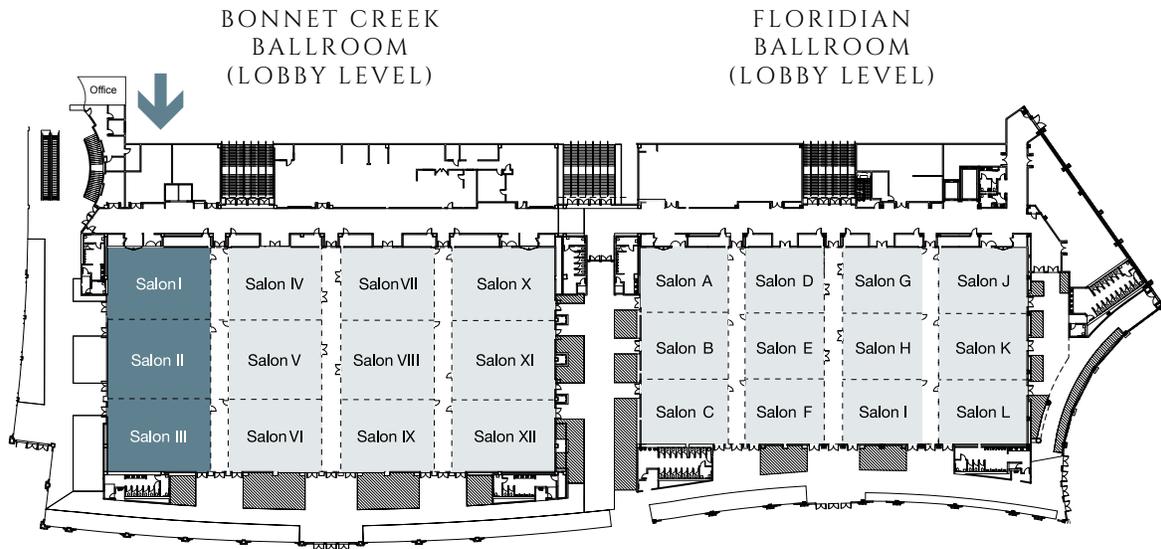
WEDNESDAY, MARCH 4, 2015			
7:00AM - 8:30AM	30 minutes	Continental Breakfast	Bonnet Creek Room III
8:00AM - 8:30AM	30 minutes	Opening Session & Fellows Award Presentation	Bonnet Creek Room I & II
8:30AM - 8:40AM	10 minutes	Break	Transition to assigned breakout rooms*
8:40AM - 9:40AM	1 hour	Neuroscience Lab #1	Meeting Rooms on Ground Floor (see next page)
9:40AM - 9:50AM	10 minutes	Break	
9:50AM - 10:50AM	1 hour	Neuroscience Lab #2	Meeting Rooms
10:50AM - 11:00AM	10 minutes	Break	
11:00AM - 12:00PM	1 hour	Neuroscience Lab #3	Meeting Rooms
12:00PM - 1:00PM	1 hour	Lunch	Bonnet Creek Room III
1:00PM - 2:30PM	90 minutes	Neuroscience in the Media (Part 1)	Meeting Rooms
2:30PM - 2:45PM	15 minutes	Break	
2:45PM - 4:15PM	90 minutes	Neuroscience in the Media (Part 2)	Meeting Rooms
4:15PM - 4:30PM	15 minutes	Break	
4:30PM - 5:00PM	30 minutes	Closing Session	Bonnet Creek Room I & II

*Participants will receive their group and room assignments when they arrive at the meeting.

BREAK OUT GROUPS

ROOM	ALACHUA	BAKER	BAY	BRADFORD	BREVARD	BROWARD
MODERATOR	Marshall Forstein, MD	Anthony Rostain, MD, MS	Joan Anzia, MD	Sallie G. DeGolia, MD, MPH	Jane Eisen, MD	Chandlee Dickey, MD
BRAIN SCHOLAR	Aaron D. Besterman, MD	Vivek Datta, MBBS, MPH	Robert J. Fenster, MD, PhD	Carrie Holmberg, MD, PhD	Samet Kose, MD, PhD	
LAB #1	REWARD PATHWAY	COGNITION & SCHIZOPHRENIA	AFFECT REGULATION	REWARD PATHWAY	COGNITION & SCHIZOPHRENIA	AFFECT REGULATION
	David Ross, MD, PhD	Ashley Walker, MD	Michael Travis, MD	Hanna Stevens, MD, PhD	Melissa Arbuckle, MD, PhD	Joseph Cooper, MD
LAB #2	AFFECT REGULATION	REWARD PATHWAY	COGNITION & SCHIZOPHRENIA	AFFECT REGULATION	REWARD PATHWAY	COGNITION & SCHIZOPHRENIA
	Joseph Cooper, MD	David Ross, MD, PhD	Ashley Walker, MD	Michael Travis, MD	Hanna Stevens, MD, PhD	Melissa Arbuckle, MD, PhD
LAB #3	COGNITION & SCHIZOPHRENIA	AFFECT REGULATION	REWARD PATHWAY	COGNITION & SCHIZOPHRENIA	AFFECT REGULATION	REWARD PATHWAY
	Melissa Arbuckle, MD, PhD	Joseph Cooper, MD	David Ross, MD, PhD	Ashley Walker, MD	Michael Travis, MD	Hanna Stevens, MD, PhD
WORKSHOP	NEUROSCIENCE IN THE MEDIA					
	Erick Hung, MD	Shashank V. Joshi, FAAP, MD	Mayada Akil, MD	Joyce Y. Chung, MD	Asher Simon, MD	Lisa Catapano, MD, PhD
	Hanna Stevens, MD, PhD	Melissa Arbuckle, MD, PhD	Joseph Cooper, MD	David Ross, MD, PhD	Ashley Walker, MD	Michael Travis, MD

ROOM LOCATIONS



MODERATORS

Joan Anzia, MD

McGaw Medical Center,
Northwestern University,
Chicago, IL

Sallie G. DeGolia, MD, MPH

Stanford University School of Medicine,
Stanford, CA

Chandlee Dickey, MD

Harvard South Shore / VAMC,
Brockton, MA

Jane Eisen, MD

The Warren Alpert Medical School of
Brown University,
Providence, RI

Marshall Forstein, MD

Cambridge Health Alliance / Harvard Medical School,
Cambridge, MA

Anthony Rostain, MD, MS

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University of Pennsylvania,
Philadelphia, PA

FACILITATORS

Mayada Akil, MD

Georgetown University Hospital,
Washington, DC

Melissa Arbuckle, MD, PhD

Columbia University Medical Center and the
New York State Psychiatric Institute,
New York, NY

Lisa Catapano, MD, PhD

George Washington University Medical Center,
Washington, DC

Joyce Y. Chung, MD

National Institute of Mental Health,
Bethesda, MD

Joseph Cooper, MD

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Chicago, IL

Erick Hung, MD

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Yale School of Medicine,
New Haven, CT

Asher Simon, MD

Icahn School of Medicine at Mount Sinai,
New York, NY

Hanna Stevens, MD, PhD

University of Iowa Carver College of Medicine,
Iowa City, IA

Michael Travis, MD

Western Psychiatric Institute and Clinic
at the University of Pittsburgh,
Pittsburgh, PA

Ashley Walker, MD

University of Oklahoma School of Community Medicine,
Tulsa, OK

BRAIN SCHOLARS

Five residents were selected as BRAIN Scholars and were invited to attend this year's BRAIN Conference. Scholars were selected based on research and scholarly accomplishments, interest and experience in teaching, and potential as future academic psychiatrists. In addition, the selection committee considered the scholar's interest in the conference theme, "Neuroscience: Why, What, & How to Teach It." Please join us in congratulating this year's awardees:

Aaron D. Besterman, MD

University of California, San Francisco

Vivek Datta, MBBS, MPH

University of Washington

Robert J. Fenster, MD, PhD

Brown University

Carrie Holmberg, MD, PhD

Stanford University

Samet Kose, MD, PhD

University of Texas, Houston

The Brain Scholar Committee Members include Drs. Deborah Cowley, Sidney Zisook, Jane Eisen, Vishal Madaan and Michele Pato.

BRAIN 2015 & THE NATIONAL NEUROSCIENCE CURRICULUM INITIATIVE

The idea for the Neuroscience Curriculum Initiative (NNCI) emerged as an extension of the 2014 BRAIN Conference. As we began to plan for the conference, we considered the many challenges that psychiatry programs face in trying to teach neuroscience effectively. We recognized that addressing these challenges would require educators and researchers coming together, across institutions, to develop a comprehensive set of shared teaching resources. In addition, these resources needed to be based upon the principles of adult learning and focused on the relevance of neuroscience to the clinical practice of psychiatry. In order to formalize this effort, we developed the NNCI.

We are excited by the progress we have made over the past year. Since BRAIN 2014 we have obtained NIMH funding for this project, built a website to host a broad collection of shared resources (www.NNCIonline.org), and conducted faculty development and outreach exercises at grand rounds and at major national conferences, including the annual meetings of the American Psychiatric Association (APA) and the Association for Academic Psychiatry (AAP). Most importantly, we are thrilled by how much our team has grown: Jane Eisen has graciously agreed to chair our advisory board; Amanda Wang has become our Assistant Managing Editor; and over 150 faculty members from more than 100 departments have signed up to participate in our learning collaborative.

At the 2015 BRAIN Conference, you will get a taste of what is in store for the year ahead – a new website with new modules, expert videos, and additional teaching resources. As we continue to grow, we are eager for your input. If you have used NNCI teaching resources, please take a moment to provide us with your feedback. If you have teaching resources or approaches you would like to share, let us know. Suffice it to say: we are very excited about the year ahead and hope that you will contribute to the effort!

ACKNOWLEDGEMENTS

Grant support for the BRAIN conference was provided by the National Institute of Mental Health (5R13 MH074298). The NIMH has also provided funding for the National Neuroscience Curriculum Initiative to create shared neuroscience teaching resources and to provide faculty training on how to implement them (3R25 MH101076-02S1).

We want to thank Sara Stramel-Brewer for her tireless work behind the scenes to take care of all of the details and make sure that the day runs smoothly. We want to send a special thank you to Amanda Wang, the assistant managing editor of the National Neuroscience Curriculum Initiative, for all of her work on our new website (coming soon!), the program, facilitators guides, and worksheets used throughout the 2015 BRAIN Conference and posted on line.

We are particularly grateful to trainees and faculty members from Columbia University Medical Center, Columbia University Teacher's College, Harlem Hospital Center, Icahn School of Medicine at Mount Sinai, New York University School of Medicine, University of Pittsburgh Medical Center, Brown University, and Yale School of Medicine who participated in a focus group to test run these modules and provide early feedback.

We also want to thank: Michele Pato and Lauren Calavan for putting together the conference surveys; our many experts who consulted and provided feedback on the core content of our sessions; and all of the faculty moderators, facilitators and brain scholars who agreed to run the break-out groups. We couldn't have done this without you!