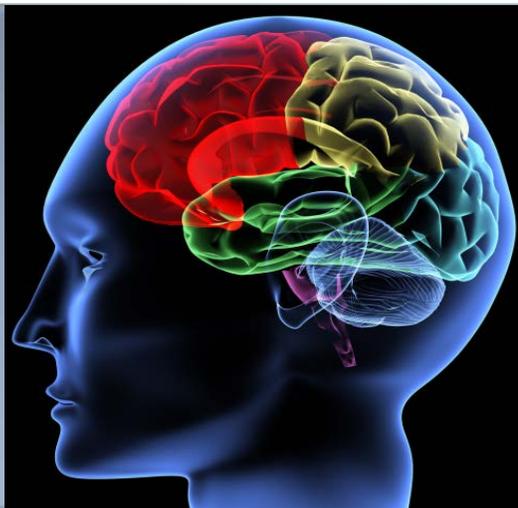


**[NEUROSCIENCE:
WHY, WHAT AND
HOW TO TEACH IT]**



Pre-Meeting for the 43rd Annual Meeting

American Association of Directors
of Psychiatric Residency Training

Wednesday, March 12, 2014
Hilton El Conquistador
Tucson, Arizona

Co-Chairs:

Melissa R. Arbuckle, MD, PhD
Columbia University Medical Center
New York State Psychiatric Institute

Michael J. Travis, MD
Western Psychiatric Institute and Clinic
University of Pittsburgh School of Medicine

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Yale School of Medicine
VA Connecticut Healthcare System

Planning Committee:

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University of Washington School of
Medicine

Sidney Zisook, MD
University of California San Diego
San Diego VA Healthcare System

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American Association of Directors of Psychiatric Residency Training

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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 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 under-represent and fail to integrate this essential perspective in our work.

Educational Objectives

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

- 1) Introduce participants to a set of curriculum resources and provide training in how to implement different components across a diverse range of settings;
- 2) Empower faculty with or without a neuroscience background to feel confident that they can teach neuroscience topics effectively;
- 3) Engage conference attendees as both student and instructor using new and innovative teaching methods; and
- 4) Illustrate how present resources can be used to address, teach, and assess neuroscience specific milestones (see Table 1).

Through a variety of workshops, attendees will receive training in various new and creative approaches to teaching neuroscience through technology (both old and new), on-line resources, and potential "flipped classroom" exercises. Participants will also learn methods to incorporate a modern neuroscience perspective into clinical care through case conferences and supervision.

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 an hour 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 15 minute period for participants to reflect on the exercise and 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

Neurobiology

- 3.3/D Describes neurobiological and genetic hypotheses of common psychiatric disorders and their limitations
- 4.4/D Explains neurobiological hypotheses and genetic risks of common psychiatric disorders to patients
- 5.3/D Explains neurobiological hypotheses and genetic risks of less common psychiatric disorders to patients (Examples include: Obsessive-Compulsive Disorder (OCD); eating disorders; Gilles de la Tourette syndrome.)
- 5.4/D Integrates knowledge of neurobiology into advocacy for psychiatric patient care and stigma reduction

Applied Neuroscience

- 2.4/E Identifies the brain areas thought to be important in social and emotional behavior (Areas might include dorsolateral prefrontal cortex, anterior cingulate, amygdala, hippocampus, etc.)
 - 4.5/E 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.)
-

Program Assessment*

As part of this year's BRAIN Conference we ask that you complete a voluntary, anonymous survey prior to the start of the conference (at: tinyurl.com/brain-pre) and at the end of the conference (at: tinyurl.com/brain-post). The results of this survey will be used in order to determine the potential impact of this one day conference on your opinions about teaching neuroscience in psychiatry residency training. These surveys should take less than 10 minutes to complete. We also ask that you provide feedback about each of the workshops: tinyurl.com/brain2014.

**Please note that you will be asked to complete a separate survey relevant to the BRAIN Conference Series and in order to obtain CME credit for this event.*

Schedule

Check-in for Pre-registered Attendees (Coronado Foyer)

Tuesday, March 11th from 5:00pm – 8:00pm and Wednesday, March 12th from 7:30am – 10:00am

March 12, 2014		Topic
7:30am-8:00am	30 minutes	Breakfast (Coronado Foyer)
8:00am-8:30am	30 minutes	Opening Session (Coronado Ballroom)
8:30am-8:40am	10 minutes	Transition to Break-out Groups*
8:40am-9:20am	40 minutes	Introduction: Teaching neuroscience: Why and How?
9:20am-10:35am	75 minutes	Workshop #1: Basic Neuroscience
10:35am-10:45am	10 minutes	Break
10:45am-12:15pm	90 minutes	Workshop #2: Integrative Case Conference
12:15pm-1:00pm	45 minutes	Lunch
1:00pm-2:15pm	75 minutes	Workshop #3: Translational Neuroscience
2:15pm-2:30pm	15 minutes	Break
2:30pm-3:30pm	75 minutes	Workshop #4: Talking Pathways to Patients
3:45pm-4:00pm	15 minutes	Break: Transition to Closing Session
4:00pm-5:00pm	60 minutes	Closing Session (Coronado Ballroom)

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

Brain Scholars

Six residents were selected as BRAIN Scholars and 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 scholars interest in the conference theme, "Neuroscience: Why, What and How to Teach it." Please join us in congratulating this year's awardees:

Silvia Bernardi, MD

Columbia University Medical Center and the New York State Psychiatric Institute

Andrea Crowell, MD

Emory University School of Medicine

Sean Escola, MD, PhD

Columbia University Medical Center and the New York State Psychiatric Institute

Jennifer R. Gatchel MD, PhD

Massachusetts General Hospital and McLean Hospital

Chris Karampahtsis, MD, MPH

Western Michigan University School of Medicine

Garth Terry, MD, PhD

University of California, Los Angeles

Sid Zisook, MD and Deb Cowley, MD
Co-Chairs, AADPRT Pre-Meeting Committee
BRAIN Scholar Committee Members:

Jane Eisen, MD

Michele Pato, MD

Vishal Madaan, MD

Break-out Groups

Room	Moderator	Facilitators	BRAIN Scholar
1. Tortolita	Melissa R. Arbuckle, MD, PhD Columbia University Medical Center and the New York State Psychiatric Institute, New York, NY	Sallie G. DeGolia, MD, MPH Stanford University School of Medicine, Stanford, CA Gary N. Swanson, MD Allegheny General Hospital Program, Pittsburgh, PA	Garth Terry, MD, PhD University of California, Los Angeles, CA
2. Sonoran	David A Ross, MD, PhD Yale School of Medicine, New Haven, CT	Lisa Catapano, MD, PhD George Washington University Medical Center, Washington, DC Erick Hung, MD University of California, San Francisco, CA	Andrea Crowell, MD Emory University School of Medicine, Atlanta, GA
3. Rincon	Michael Travis, MD Western Psychiatric Institute & Clinic, Pittsburgh, PA	Hanna Stevens, MD, PhD, Yale University School of Medicine, New Haven, CT Joseph Cooper, MD University of Chicago, Chicago, IL	Silvia Bernardi, MD Columbia University Medical Center and the New York State Psychiatric Institute, New York, NY
4. Santa Rita	Mayada Akil, MD Georgetown University Hospital, Washington, DC	Joan Anzia, MD McGaw Medical Center, Northwestern University, Chicago, IL Shashank V. Joshi, FAAP, MD Stanford University School of Medicine, Stanford, CA	Chris Karampahtsis, MD, MPH Western Michigan University School of Medicine, Kalamazoo, MI
5. Catalina	Anthony Rostain, MD, MS Perelman School of Medicine University of Pennsylvania, Philadelphia, PA	Asher Simon, MD Icahn School of Medicine at Mount Sinai, New York, NY Chandlee Dickey, MD Harvard South Shore /VAMC, Brockton, MA	Jennifer R. Gatchel MD, PhD Massachusetts General Hospital and McLean Hospital, Boston, MA
6. Oro Valley	Jane Eisen, MD The Warren Alpert Medical School of Brown University, Providence, RI	Robert Boland, MD The Warren Alpert Medical School of Brown University, Providence, RI Sandra DeJong, MD, MS, MSc The Cambridge Hospital, Cambridge, MA	Sean Escola, MD, PhD Columbia University Medical Center and the New York State Psychiatric Institute, New York, NY

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

Room Locations



MEETINGS

With over 100,000ft² of flexible indoor and outdoor meeting space, we can accommodate events of any size, from small to grand gatherings. Offering two 11,000ft² ballrooms, an Executive Conference Center, as well as spectacular outdoor venues with views of Pusch Ridge. Additionally, our team of catering professionals will help ensure your event is both successful and memorable.

EXECUTIVE CONFERENCE CENTER

Our 11,000ft² Executive Conference Center is an exceptional venue for your next meeting. Featuring eight distinct meeting rooms, including a boardroom with a built-in 70" LED television for presentations. All rooms are equipped with state-of-the-art audio/visual equipment, ergonomic seating, work tables with non-reflective surfaces, built-in outlets and specially-designed energy efficient lighting.

Workshops

Each workshop in the 2014 BRAIN Conference is intended to demonstrate potential activities for teaching neuroscience. Sessions will be conducted as if they are occurring in a classroom setting with residents. The overarching goals of for the BRAIN conference is outlined previously (see page 2). However, in the following sections, we describe the goals and objectives for these modules *as they would be written for a resident course*.

Basic Neuroscience

Overview

The goal of this module is for participants to review the basic neuroanatomy of the brain through exercises that capitalize on multimodal sensory learning. Understanding the major areas of the brain and their basic functions provides a necessary foundation for any neuroscience curriculum. The success of these sessions relies on making classroom exercises as interactive as possible. The session employs simple techniques tapping into readily available resources that any program could use with their residents.

Goals and Objectives

By the end of this course, residents will:

Be able to identify important neuroanatomical structures of the brain as well as their associated functions (knowledge and skills) as evidenced by the ability to identify relevant brain structures and their major functions through interactive class exercises.

Integrative Case Conference

Overview

The goal of this module is to demonstrate how a neuroscience perspective can be incorporated into a comprehensive case formulation. Each session focuses on the presentation of a patient with a particular psychiatric illness. Residents are expected to read and formulate the case prior to the session. Time is reserved for peer supervision around case formulation. A panel of experts reflecting diverse clinical perspectives – typically including neuroscience, psychotherapy, and social psychiatry— is then asked to comment on how each clinician would approach the case material and how their formulation would affect treatment. Ample time is left for questions and for general discussion.

Goals and Objectives

By the end of this course, residents will:

- Appreciate the inter-relatedness of bio, psycho, and social perspectives (attitudes) as evidenced by qualitative assessment and by participation in class.
- Be able to construct biopsychosocial formulations of diverse clinical cases (skills) as evidenced by participation in class and completion of weekly assignments.
- Be comfortable providing peer supervision around challenging cases (skills) as evidenced by class participation.
- Be able to describe a basic conceptual framework for the relationship between major categories of psychopathology and their underlying neurobiological correlates (knowledge) as evidenced by class participation and performance on a summative assessment.

Translational Neuroscience

Overview

The overarching goal of the translational neuroscience module is to enhance residents' attitudes towards neuroscience. The course is designed to answer the questions: *Why is neuroscience relevant to my career as a psychiatrist? Why Should I Care?*

To this end, each session will follow the format of beginning with the presentation of a patient for whom current treatment options may be inadequate. The group will then read and critique cutting edge research articles and imagine how this work could lead to novel treatment options in the future.

Goals and Objectives

By the end of this course, residents will:

- Appreciate the centrality of neuroscience to the future of psychiatry and the relevance of ongoing research to the care of psychiatric patients (attitudes) as evidenced by qualitative assessment and by participation in class.
- Be able to read cutting edge neuroscience research papers and describe how core findings could contribute to novel treatments of psychiatric patients (skills) as evidenced by completion of assessment templates and by participation in class.

Knowledge based learning objectives are specific to each individual session and are relatively modest. Over the span of the course, sessions will cover core conceptual models for understanding the major classes of psychiatric illness and important cutting edge research findings. Progress with knowledge based learning objectives will be monitored via in class participation in each exercise and performance on a summative assessment.

Talking Pathways to Patients

Overview

This module is designed to highlight how clinicians can integrate a neuroscience perspective directly into patient care. Each session will begin by reviewing current theories regarding the neurobiological and/or genetic underpinnings of a particular psychiatric disorder. We then use role-play exercises in order to help residents incorporate relevant neuroscience into their own emerging clinical “voice”. In addition, we demonstrate how this knowledge can inform (and in some cases transform) our understanding of patients, their symptoms and potential treatment options.

Goals and Objectives

By the end of this course, residents will:

- Know the names and basic functions of important neuroanatomical structures and neuro-circuits contributing to psychiatric illness (knowledge) as evidenced by the ability to identify relevant structures and circuits that contribute to psychiatric symptoms on a picture or model of the brain.
- Be able to describe and explain the neurobiological and genetic hypotheses of common psychiatric disorder and their treatments (skills) as evidenced during a role play exercise in class.
- Be able to articulate (1) how a neuroscience perspective can help formulate psychiatric cases and inform treatment options, and (2) how talking to patients about the underlying neuroscience might enhance patient care (attitudes) as evidenced by group discussion in class.

Acknowledgements

We want to thank Lucille Meinsler and Vickie White for their tireless work behind the scenes to take care of all of the details and make sure that the day runs smoothly.

We are particularly grateful to residents and faculty members from The Addiction Institute of New York, Columbia University Medical Center, Harlem Hospital Center, Icahn School of Medicine at Mount Sinai, Maimonides Medical Center, NYU School of Medicine, University of Pittsburgh Medical Center, St. Luke's Roosevelt Hospital Center, Weill Cornell Medical College, and Yale School of Medicine and who were willing to participate in focus groups in order to test run these modules and provide early feedback.

We thank Deborah Cabaniss, MD, at the Columbia University Department of Psychiatry for her creative guidance and feedback in developing this conference.

We want to send a special thank you to Joshua Gordon, MD, PhD, at Columbia University and the New York State Psychiatric Institute, Chris Karampahtsis, MD, MPH, at Western Michigan University School of Medicine, and Joe Faria, Video Producer and Audio/Video Specialist at the New York State Psychiatric Institute and Columbia University Medical Center for creating the videos used for the Basic Neuroscience and Talking Pathways sessions.

We are also extremely thankful to all of the faculty moderators, facilitators and brain scholars who agreed to run the break-out groups set up for the day. We couldn't have done this without you!