Emily R. Stern, PhD, joined the Clinical Research department at the beginning of the year. She was kind enough to answer a few questions for The Informer, providing a brief introduction.

Please describe your background and the evolution of your research career.

When I started college, I thought I wanted to be a short story writer or a filmmaker. Over time, the stories I wrote became more and more focused on the human mind and its many functions (or dysfunctions!), and I realized that what I actually wanted to do was study the brain. At the beginning of my second year of college, I started reading the writings of Oliver Sacks and Harold Klawans. By the end of the year, I had switched my major to psychology. For my senior thesis, I wanted to run an fMRI study on false memory, but my university did not have a research scanner (I won’t divulge the exact year, but it was a while ago)! With the encouragement of my thesis mentor, I made it my goal to pursue graduate research in psychology and incorporate brain imaging into my research.

While in graduate school at Columbia University, I was fortunate to receive training in both EEG and fMRI techniques and conducted studies on brain functioning related to sustained attention in healthy volunteers. Although the investigation of these basic processes was interesting, and the techniques I learned were highly useful for my career trajectory, I always ended up failing the “why are you doing this?” test. This is the dreaded graduate student test where you visit your parents and friends on holidays and you tell them about...
your research, and they want to know not only what you are doing but why you are choosing to research that particular topic. I was never able to convincingly describe the importance of my work, and felt frustrated because I did not feel my research would ultimately lead to any discoveries that would impact anyone’s life.

I finally made the decision near the end of my graduate studies to switch my focus toward investigating brain functioning in relation to psychiatric disorders, which I hoped could more directly impact people suffering from these disorders and potentially one day affect treatment. I landed a great postdoctoral fellowship at the University of Michigan with a psychiatric neuroimaging lab, about which I was so excited that I started even before defending my doctoral thesis! My PI there, Dr. Stephan Taylor, hired me to work on an R01 examining error processing and conflict monitoring in obsessive-compulsive disorder using fMRI, work which ultimately solidified my interest in psychiatric neuroimaging and led to my love of studying the complexities of OCD. As an independent researcher at Mount Sinai and now at NKI and NYU Langone, I have continued to study the neurobiology of OCD, more recently expanding my interests into investigating the overlap between OCD and other disorders in order to examine transdiagnostic mechanisms. In particular, I have become very interested in psychiatric heterogeneity and identifying patient-specific mechanisms that can be targeted by personalized treatments.

Can you briefly describe your current projects?

My lab’s current projects focus on investigating heterogeneity in OCD and related disorders, with a particular focus on sensory symptoms. Sensory phenomena in OCD are uncomfortable or aversive sensations that drive repetitive behaviors, and are typically dissociable from harm-related or fear-based symptoms of the disorder. Although sensory phenomena are sometimes hard for people to understand, it can be helpful to think of them as being similar to the urge that patients with Tourette’s disorder feel before performing a tic (called a “premonitory urge”). There have been few studies on sensory symptoms in OCD, and they remain poorly understood even though they are associated with reduced quality of life and can be difficult to treat using standard therapeutic approaches.

We currently are running two imaging projects looking at sensory symptoms in OCD. One studies the neural correlates of sensory symptoms and distinguishes them from neural mechanisms associated with other core features of the disorder (harm avoidance, perfectionism, perseverative thinking). For this study, we are also enrolling unaffected biological siblings of patients with OCD to probe for endophenotypes related to genetic risk. Our other main project is a clinical trial using the drug ondansetron in patients with OCD and Tourette’s disorder over a period of 4 weeks. We have data showing that ondansetron reduces activation of sensorimotor networks in the brains of healthy individuals. The current trial extends this work to test whether ondansetron can be used to modulate brain function and symptoms in patients as a novel treatment for sensory phenomena.

In addition to these two main projects, the lab has collaborations with investigators at my prior institution (Mount Sinai) looking at depression and anxiety, and we are starting collaborations at NKI with Dr. Russ Tobe and Dr. Matthew Hoptman. For the future, I am eager to incorporate neuromodulation methods (tDCS and/or TMS) into our work in order to manipulate brain circuits of interest, and to expand our research into examining transdiagnostic features across multiple disorders.

What is one surprising thing about yourself?

I don’t know if this is surprising, but I do like spending time with farm animals and even have a tattoo of them.
**GRANTS RECEIVED**

**NIH**

**Eunice Kennedy Shriver National Institute of Child Health and Human Development**

**Dr. Catia Teixeira** (Emotional Brain Institute) received a two-year R03 grant titled “Maternal presence modulation of pups' brain activity via the serotonergic system.”

**NIH**

**National Institute on Minority Health and Health Disparities**

**Dr. Kerstin Pahl** (Social Solutions & Services) received a five-year R01 grant titled “Longitudinal Effects of Socioeconomic Disadvantage and Racial Discrimination on Health Among African Americans and Puerto Ricans.” The grant is a collaboration between NYU and NKI.

According to the public health relevance statement, “The proposed research would contribute to the elimination of health disparities, a goal of ‘Healthy People 2020,’ by identifying pathways through which social determinants of health operate and by highlighting areas of resilience on which interventions and policy can build.”

**NIH**

**National Institute of Mental Health**

**Dr. Emily Stern** (Clinical Research) received an R33 grant titled “The effects of ondansetron on neural systems and symptoms associated with sensory phenomena.” The grant is a collaboration between NYU and NKI. For more about Emily’s research, see the feature on page one.

**KUDOS**

**Carrie Masia Warner, PhD** (Social Solutions & Services) has published her first book. *Helping Students Overcome Social Anxiety* was published earlier this year by Guilford Press. Dr. Warner’s coauthors are Daniela Colognori, PsyD, and Chelsea Lynch, MA.

**FROM AROUND THE INSTITUTE**

**Psychiatry Advisor**

**Dan Iosifescu, MD** (Clinical Research Director) was consulted by the *Psychiatry Advisor* website for an article on ketamine. “**Ketamine: A Promising Agent for Managing Treatment-Resistant Depression**” was published on February 19, and quotes Dr. Iosifescu extensively.

**Science News**

**Charles Schroeder, PhD** (Biomedical Imaging & Neuromodulation) is quoted in this *Science News article* covering recent work on neuronal oscillations.
April 22-28 marks Medical Laboratory Professional Week 2018, and we take the opportunity to salute the employees working in the OMH Laboratories at NKI. Every day, these professionals perform tests, interpret results, and provide answers for patient care in the OMH facilities.

NKI’s laboratory staff are also recognized in the April issue of Mental Notes, the OMH employee newsletter.

Helen Scharfman (Dementia Research) published this Perspectives piece in Science.


This report by Elizabeth Phelps (Emotional Brain Institute) and colleagues appears in the recently launched journal Nature Human Behaviour.


Dr. Phelps is also the senior author of this PNAS article.

NKI Director **Donald Goff** is the first author of this paper in *JAMA Psychiatry*. **Babak Ardekani** (Biomedical Imaging & Neuromodulation) is a coauthor.


**Daniel Javitt** (Schizophrenia Research) wrote this Commentary piece for a recent issue of *Biological Psychiatry* on the topic of “Novel Mechanisms in Schizophrenia Pathophysiology”.


**John Sidtis** and **Diana Van Lancker Sidtis** (Brain & Behavior Laboratory) are the lead authors of this recent *Brain Connectivity* paper.


**Mariko Saito**, **John Smiley**, **Maria Hui**, **Kurt Masiello**, **Judith Betz** (all Neurochemistry), **Mitsuo Saito** (Analytical Psychopharmacology), **Maria Ilina**, and **Donald Wilson** (Emotional Brain Institute) authored this *Cerebral Cortex* article.

This open access paper in Frontiers in Molecular Neuroscience comes from the lab of **Raj Balapal** (Analytical Psychopharmacology).


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**Matthew Hoptman** (Clinical Research) is the lead author of this open access article on response inhibition in schizophrenia.


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**Joshua Kantrowitz** (Schizophrenia Research) is the corresponding author of this paper appearing in *Biological Psychiatry: CNNI.*

Kantrowitz JT, Swerdlow NR, Dunn W, Vinogradov S. **Auditory system target engagement during plasticity-based interventions in schizophrenia: a focus on modulation of N-methyl-d-aspartate-type glutamate receptor function.** Biological Psychiatry: Cognitive Neuroscience and Neuroimaging 2018.

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**Ricardo Osorio** (Clinical Research) is one of the coauthors of this paper published in *PLoS One.* The significance of this research is discussed in an **NYU press release.**


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**Gail Silipo,** **Stephanie Rohrig,** **Elisa Dias,** and **Daniel Javitt** (Schizophrenia Research) are coauthors of this open access article appearing in *Brain Topography.*


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**Donald Wilson** (Emotional Brain Institute) and Jonas Olofsson published this Dispatch piece in a recent issue of *Current Biology.*

The Substance Abuse and Mental Health Services Administration (SAMHSA) has launched an Evidence-Based Practices Resource Center that aims to provide communities, clinicians, policymakers and others in the field with the information and tools they need to incorporate evidence-based practices into their communities or clinical settings. The Resource Center contains a collection of science-based resources, including Treatment Improvement Protocols, toolkits, resource guides, and clinical practice guidelines, for a broad range of audiences. Recognizing the enormity of the opioid epidemic, the Resource Center includes an opioid-specific resources section.

The National Center for Biotechnology Information presents a periodic series of webinars called The NCBI Minute. The latest of these covered “Textbooks for free on the NCBI Bookshelf!”. Housed at the U.S. National Library of Medicine, users of the NCBI Bookshelf can freely access Books, Reports, and Documents. Classic textbooks are some of the most popular and heavily used entries. This NCBI Minute highlights some of the highly used classic textbooks available (for free!) on the NCBI Bookshelf and points out some new ones that have been recently added.

You can catch up with recordings of all the past NCBI Minute webinars here.

The NIH’s All of Us Research Program is a historic effort to gather data from one million or more people living in the United States to accelerate research and improve health. By taking into account individual differences in lifestyle, environment, and biology, researchers will uncover paths toward delivering precision medicine. But the huge scope of the project, and its cost, have led some to question whether it is a good idea. Read more about it in this New York Times article: The Struggle to Build a Massive ‘Biobank’ of Patient Data.

Another scientific crowdsourcing project – this one in genealogy – has managed to merge over 5 million family trees from Geni.com, going back on average to the 15th century. The NIH Director’s Blog provides an overview of this research, which was reported in Science. The ability to work with massive datasets like this one offers new opportunities to study human history and health. For example, the researchers concluded that the human life span is predominantly dependent on environmental factors, with only about 16 percent of longevity determined by genes. For more about the research findings, and some caveats, see this New York Times article.
Brain Imaging on the Move

A new imaging technology – a streamlined, wearable version of the magnetoencephalography (MEG) brain scanner – enables researchers to track neural activity in people in real time, as they perform everyday tasks requiring movement. This powerful tool creates opportunities for functional brain imaging in new populations, such as children and people with movement disorders. To read more, see this news piece in Science and this NIH Director’s Blog post. The research was reported in Nature.

The NKI librarian is always available to assist with literature searching, citation searching (Web of Science, Scopus), bibliographic reference management, and the like. When you have any information needs, or questions about available resources, don’t hesitate to turn to us.

The library offers a comfortable, quiet space for reading, work, and small meetings. To use the library’s Wi-Fi network, ask the library staff for the password.

You can link to the NKI Library’s website from myNKI. The Library site includes quick links to the NYU Health Sciences Library and to the New York State Library, as well as links to NKI’s own library resources (journal finder, online catalog, PsychiatryOnline, etc.). Remote access is available using NKI’s VPN.

NKI ON THE ROAD

6th Biennial Schizophrenia International Research Society Conference
Integrated Prevention and Treatment: Shifting the Way We Think

J.P. Lindenmayer, MD, and Anzalee Khan, PhD, represented the Manhattan Psychiatric Center Psychopharmacology Research Unit at the 6th Biennial Schizophrenia International Research Society Conference held recently in Florence, Italy. There they presented three posters:

- Can Patients with Treatment Resistant Schizophrenia Reliably Report Negative Symptoms? A Pilot Study Using the Self-Evaluation of Negative Symptoms Scale
- Cognitive Correlates of the Negative Symptoms Expressive and Experiential Deficits Factors in Psychosis
- Transcranial Direct-Current Stimulation (tDCS) in Patients with Ultra-Treatment-Refractory Auditory Hallucinations

UPCOMING EVENTS AND SEMINARS

To mark the publication of his new book, The Addiction Solution: Treating Our Dependence on Opioids and Other Drugs, OMH Medical Director Dr. Lloyd Sederer will give a presentation at NKI on Tuesday, May 15th at 7:00 pm. Refreshments will be served, and a book signing will follow the presentation.
Memory Screening and Evaluation Day

Get a free, 20-minute memory test at the Geriatric Psychiatry Division at Nathan Kline Institute! Learn more about how our memory works, Alzheimer’s disease, and healthy aging! Call to make your appointment.

We will be offering a free 10-to-15-minute memory test to the public. Additionally, resources and educational materials will be provided to create awareness about the current treatment options for Alzheimer’s, the clinical studies conducted to date (especially those being conducted at our site), the processes of healthy brain aging, and available resources in the local community. Our experienced staff will also be present to field questions and have personal discussions with individuals who wish to learn more.

When: Friday, April 27th from 10 am – 4 pm

Where: Geriatric Psychiatry Division at the Nathan Kline Institute for Psychiatric Research

For more information, or to schedule your appointment, please contact Katie Brundage at (845) 398-6533 or Minnie Fu at (845) 398-6594.

Center for Dementia Research Seminar Series

Held on Thursdays at 10 am

Jayeeta Basu, PhD
Assistant Professor, Neuroscience & Physiology, Neuroscience Institute, NYU School of Medicine

Circuit mechanisms underlying plasticity of Hippocampal representations
April 26th

Carmela Abraham, PhD
Boston University School of Medicine

The aging suppressor and cognitive enhancer klotho: A novel therapeutic target for neurodegenerative diseases
May 24th

George Huntley, PhD
Icahn School of Medicine at Mount Sinai

Early and persistent effects of Parkinson’s Disease-linked LRRK2-G2019S mutation on striatal synaptic circuit function and plasticity
May 31st

The New York State Office of Mental Health (OMH) regularly hosts an interactive video broadcast covering the latest research, technology, and treatment implementation in the fields of psychiatry and psychology. These programs are recorded, and the archived Statewide Grand Rounds programs can be viewed on the OMH website.
Below is a list of references that have been added to the NKI publications database since the previous update. The full database contains over 5,700 items dating back to 1995, and can be searched from the myNKI website.


Clelland JD, Read LL, Smeed J, Clelland CL. Regulation of cortical and peripheral GCH1 expression and biopterin levels in schizophrenia-spectrum disorders. Psychiatry Res. 2018 Feb 8; 262:229-236. PMID: 29471261.


Kantrowitz JT. N-methyl-d-aspartate-type glutamate receptor modulators and related medications for the enhancement of auditory system plasticity in schizophrenia. Schizophr Res. 2018 Feb 17. PMID: 29459050.


Galligan RP, Beebe B, Milne D, Ewing J, Lee SH, Buck KA. Maternal into-the-face behavior, shared attention, and infant distress during face-to-face play at 12 months: Bi-directional contingencies. *Infancy 2018.*


Kantrowitz JT, Swerdlow NR, Dunn W, Vinogradov S. *Auditory system target engagement during plasticity-based interventions in schizophrenia: a focus on modulation of N-methyl-d-aspartate-type glutamate receptor function.* Biological Psychiatry: Cognitive Neuroscience and Neuroimaging 2018.

