

The NKI Informer



A newsletter of the Nathan S. Kline Institute for Psychiatric Research

Donald C. Goff, MD, Director
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Stuart Moss, MLS, Editor

PETER LAKATOS

Slave to the Rhythms

Peter Lakatos, MD, PhD, joined the Schroeder Lab at NKI almost 15 years ago, and he now heads his own Dynamical Cognitive Neuroscience Lab here. Below, Peter eloquently summarizes his scientific career to date.



Lakatos lab members (L to R): Debbie Ross (standing), Noelle O'Connell, Tammy McGinnis, Peter Lakatos, and Annie Barczak.

I am a neuroscientist focused on the thalamocortical neuronal circuits and circuit dynamics of sensory and cognitive processes in animal models and humans. Sometimes I feel like I am slave to the rhythms of the brain, since they have occupied most of my research time and scientific thoughts ever since I finished medical school and started my research career 20 years ago, in my homeland of Hungary. Two decades ago, at the Institute for Psychology at the Hungarian Academy of Sciences, my PhD mentor, life coach, and friend, George Karmos gave me the task of looking into gamma oscillations since they were becoming part of influential theories at that time. At first this seemed like an easy task. However, the more I delved into the project, the clearer it became that neuronal oscillations are messy, in fact too messy for standard signal processing algorithms, and that they could not be assumed to be static. This led me to develop novel time-frequency signal processing methods, but it also quickly became clear that in order to disentangle oscillatory dynamics and mechanisms, I needed better quality data than the epidural recordings I was able to obtain at the time. Luckily, in 2002, Charlie Schroeder invited me to work in his lab here at NKI where he had implemented linear array multielectrode recordings in non-human primates. These multielectrodes, which were co-developed with George Karmos and Istvan Ulbert at the Institute for Psychology at the

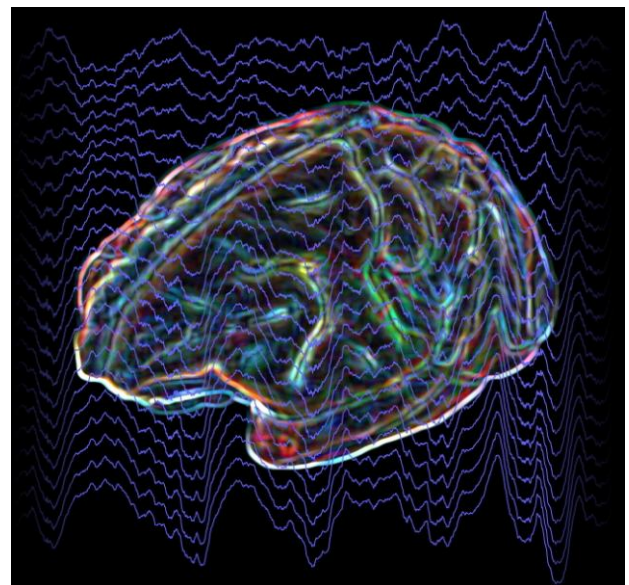
Hungarian Academy of Sciences, yielded recordings that are still unsurpassed in resolving layer specific neuronal ensemble activity. Although I had originally planned to spend only one year here, with Charlie and his lab's help, I was able to research brain rhythms much more efficiently than I had previously been able to. Therefore, when Charlie graciously offered me a postdoc position, I decided to stay at NKI.

Data was my muse and I followed wherever it led me.

Both Charlie's lab and the Nathan Kline Institute provided an environment which allowed me to conduct focused, uncompromising research. I had ample time to devote to my research interests, and although I was given advice, I was never told which exact direction to go in. So I seized the opportunity and voyaged all over the brain's oscillatory landscape with the primary goal of convincing myself and others that besides oscillations' thermostat-like function maintaining excitability, the brain has evolved to utilize neuronal ensemble oscillations as mechanisms for specific perceptual-cognitive functions. Throughout my research career, although the auditory system dominated, I did not really stick to any specific sensory system or paradigm. Data was my muse and I followed wherever it led me.

After writing my thesis and – finally! – my first paper in 2004 on “gamma bursting,” I discovered the cortical “oscillatory hierarchy” (2005, *J. Neurophys.*), an intricate relationship of multi-timescale neuronal oscillations first described in the hippocampus by the Buzsaki lab. (Interestingly, one of Gyorgy Buzsaki's PhD mentors was the same as mine: George Karmos.) I then went on to describe how this hierarchy is aligned to rhythmic streams both in the auditory and visual systems via “phase Reset” (2007, *Neuron*) and “oscillatory entrainment” (2008, *Science*). I also discovered that in multisensory settings there is a “leading sense” (2009, *Neuron*), whereby stimuli of an attended modality have priority to orchestrate neuronal oscillations and arrange the

neurophysiological context in which stimuli of other modalities – the content – will be interpreted. Following the establishment of my own lab – the Dynamical Cognitive Neuroscience Lab – circa 2010, we found that entrained oscillations form a “spectrotemporal filter” mechanism, in which oscillations aligned to the timing of rhythmic auditory stimulus sequences form a two dimensional filter along the plane of primary auditory cortex that enhances relevant information along arguably the two most fundamental dimensions of auditory stimuli: frequency and time (2011, *Neuron*; 2013, *Neuron*; 2014, *J. Neurosci.*).



The studies described above all involve shorter, sub-second time-scale neuronal ensemble oscillations. However, there are other, much longer, multi-second time-scale fluctuations of brain activity termed resting state oscillations. Even though resting state oscillations became perhaps the most researched phenomena in neuroimaging studies during the last decade, their functional relevance and sometimes even their existence are still debated. Admittedly, I myself was a doubter until recently. While it is easy to understand how the shorter timescale neuronal ensemble oscillations are meant to maintain ideal excitability while conserving energy, I could not wrap my head around what the function of multi-second wavelength resting state oscillations might be. Nevertheless, in one of our recent studies, we

observed resting state oscillation-like fluctuations in our data. Our findings, [published this September](#) in *Nature Neuroscience*, even provide a hint to their possible function. We proposed that these multi-second fluctuations maintain an ideal perceptual-cognitive balance between an externally-oriented active sensing mode and an internally-oriented, self-referenced information processing mode. These two, counter-phase fluctuating operational modes are characterized by strikingly different patterns of neuronal ensemble and single unit activity. According to our hypothesis, the role of resting state oscillations is to ensure that we do not get stuck in either an externally oriented or an internally focused brain operational mode. We also proposed that in schizophrenia, this balance is tilted towards the internally focused mode, since one of our recent studies shows that schizophrenia patients cannot align their brain rhythms to the temporal structure of external stimuli ([2013, J. Neurosci.](#)). As to the circuitry of the two major brain operational modes, we proposed that while externally oriented, malleable oscillatory processes like phase reset and entrainment are orchestrated by matrix regions of thalamic relay nuclei, internally oriented information processing is orchestrated by a pulvinar-centric thalamocortical system ([2016, Neuron](#)).

Our current work focuses on establishing the relevance of these two distinct systems for healthy brain function, as well as how they relate to deficits observed in patients with schizophrenia. The people who do the really difficult work in the lab are my lab-mates: two postdocs, Noelle O'Connell and Annamaria (Annie) Barczak, and two technicians, Tammy McGinnis and Deborah (Debbie) Ross. They deserve at least as much credit as I do for anything our lab achieves, which will hopefully be a lot in the coming years.

FUNDING OPPORTUNITY



PILOT STUDY FUNDING FOR ALZHEIMER'S DISEASE

The NYU *Alzheimer's Disease Center* (ADC) is soliciting pilot study proposals from promising junior investigators or from established investigators not currently doing AD research. Two awards of up to \$35,000 for one year will be made, based upon local peer review by an ADC committee. The goal is to bring new investigators into the field and to foster innovative and exciting research. It is anticipated that initial pilot support for new lines of research will lead to future independent funding.

Application Procedure: Submission of a preliminary 1 page summary for rapid *pre*-review is recommended. Full proposals must follow the NIH RO3 format (SF424/ PHS 398) with the narrative text not to exceed 7 pages in length. A single PDF file should be submitted that includes a face page, a 1-year budget not exceeding \$35,000 in direct costs (no indirect costs), a biographical sketch, other support and the study narrative (use current NIH forms). The proposal must present a testable hypothesis and specific aims; clearly delineate the rationale and significance; detail the procedures to be followed, and discuss how the results will be analyzed and interpreted. Completion of the study in one year should be feasible.

Submission deadline for full proposals is January 6th, 2017

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GRANTS AND FUNDING



Dr. Charles Schroeder (Schizophrenia Research) has received a five year R01 grant entitled “[Defining Neuronal Circuits and Cellular Processes Underlying Resting fMRI](#)” from the National Institute of Mental Health.

Pyramid Biosciences

Dr. Helen Scharfman (Dementia Research) received funding from Pyramid Biosciences.



Dr. Crystal Lewis (Social Solutions & Services) received a sub-award on a SAMHSA grant entitled “SAMHSA System of Care: Health Homes and High Fidelity Wraparound.”

KUDOS



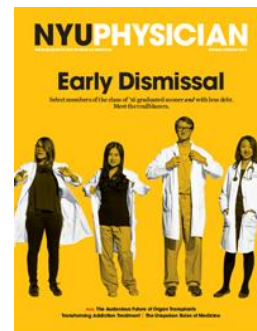
• APA Division One •
The Society for General Psychology

Dr. Joseph LeDoux’s 2015 book, *Anxious: Using the Brain to Understand and Treat Fear and Anxiety*, received the 2016 [William James Book Award](#) from the American Psychological Association. [NYU’s news release](#) provides additional information.

FROM AROUND THE INSTITUTE



On Saturday, September 17th, Paul Francis, the Deputy Secretary for Health and Human Services (NYS Governor’s Office), OMH Commissioner Dr. Ann Sullivan, and OMH Executive Deputy Commissioner Martha Schaefer spent the day touring the Rockland Psychiatric Center campus. The contingent visited RPC’s adult and children’s facilities, and the residential units. They concluded their day with a stop at NKI, where they were joined by RPC’s Executive Director Janet Monroe and Clinical Director Mary Barber. At NKI, the group met with Drs. Goff, Convit, Nixon, and Lewis, each whom provided a brief presentation on various aspects of the work being conducted at NKI. These presentations were extremely well received and conveyed the scientific excellence and relevance of the work at NKI.



Helena Hansen, MD, PhD (Social Solutions & Services) is featured in the Spring/summer 2016 issue of [NYU Physician](#). The article, titled “Deconstructing Addiction”, begins on page 24.

SCIENTIFIC AMERICAN

A [recent paper](#) by Daniel Javitt and colleagues at NKI and elsewhere was highlighted along with two others in the [September issue](#) of *Scientific American*. The notice, titled “An Auditory Component to Autism”, appears [here](#).



The [Rockland Sample Initiative](#) (RSI) research team participated in several community educational and outreach events recently. On August 22nd, we hosted another Brain Day. This time we teamed up with Dr. Heather McKellar, Senior Manager of Education and Outreach at the NYU Neuroscience Institute, who gave us valuable tips and supplies for new activities to include in the event. The activities were a hit with our attendees, and we look forward to collaborating with her and her program in the future.



Stan Colcombe addresses an audience at Rockland County Senior Day, at Rockland Community College

The RSI team was invited to NY State Senator David Carlucci’s two Annual Senior Days. At the Rockland County event on August 25th, Dr. Stan Colcombe presented “Exercise and Keeping your Brain Young,” and at the Westchester event on

September 29th, Dr. Anna MacKay-Brandt presented “Strategies for Improving your Memory.”



Kristin Trautman responds to an inquiry from a Senior Day attendee, while Alexis Lieval staffs the Rockland Sample table in the background.

We are planning another Brain Day in November and have scheduled several talks in the community this fall. We invite community organizations to contact us about scheduling talks that we offer, geared to adults, seniors, and parents. Our website lists our upcoming events: RocklandSample.org.

Contributed by Kristin Trautman, LCSW

PUBLICATIONS OF NOTE



Peter Lakatos (Schizophrenia Research) and colleagues published their latest work on neuronal oscillations in *Nature Neuroscience*. See page 1 above for more on Dr. Lakatos’s research.

Lakatos P, Barczak A, Neymotin SA, McGinnis T, Ross D, Javitt DC, O’Connell MN. [Global dynamics of selective attention and its lapses in primary auditory cortex](#). *Nat Neurosci*. 2016 Sep 12.

Helen Scharfman (Dementia Research) authored this review on advances in understanding mossy cells.

Scharfman HE. [The enigmatic mossy cell of the dentate gyrus](#). *Nat Rev Neurosci*. 2016 Sep; 17(9):562-75.

Joseph LeDoux (Emotional Brain Institute), with Daniel Pine of the NIMH, published a Reviews and Overviews piece in the *American Journal of Psychiatry* on the neuroscience of fear and anxiety. This paper was noted in an [NIMH news release](#) and in a *Psychiatric News Alert*.

LeDoux JE, Pine DS. [Using Neuroscience to Help Understand Fear and Anxiety: A Two-System Framework](#). *Am J Psychiatry*. 2016 Sep 9; appiajp201616030353.

New research on transcranial electric stimulation from **Alexander Opitz**, **Charles Schroeder**, and a number of others at NKI was published in *Scientific Reports*.

Opitz A, Falchier A, Yan CG, Yeagle EM, Linn GS, Megevand P, Thielscher A, Deborah A R, Milham MP, Mehta AD, Schroeder CE. [Spatiotemporal structure of intracranial electric fields induced by transcranial electric stimulation in humans and nonhuman primates](#). *Sci Rep*. 2016 Aug 18; 6:31236.

The latest publication from **James Clelland** (Movement Disorders & Molecular Psychiatry) and colleagues appears in *Translational Psychiatry*.

Clelland CL, Drouet V, Rilett KC, Smeed JA, Nadrich RH, Rajparia A, Read LL, Clelland JD. [Evidence that COMT genotype and proline interact on negative-symptom outcomes in schizophrenia and bipolar disorder](#). *Transl Psychiatry*. 2016 Sep 13;6(9):e891.

Also in this journal is a recent paper including several NKI co-authors.

Biezonski D, Shah R, Krivko A, Cha J, Guilfoyle DN, Hrabe J, Gerum S, Xie S, Duan Y, Bansal R, Leventhal BL, Peterson BS, Kellendonk C, Posner J. [Longitudinal magnetic resonance imaging reveals striatal hypertrophy in a rat model of long-term stimulant treatment](#). *Transl Psychiatry*. 2016 Sep 6;6(9):e884.

The latest research from the lab of **Raj Balapal** (Analytical Psychopharmacology) appears in *Physiology & Behavior*. Dr. Balapal shares that “Our study suggests that inhibition of DNA methylation during early development causes neurodegeneration in neonatal animals that leads to deficits in synaptic plasticity and learning and memory in adult animals.”

Subbanna S, Nagre NN, Shivakumar M, Basavarajappa BS. [A single day of 5-azacytidine exposure during development induces neurodegeneration in neonatal mice and neurobehavioral deficits in adult mice](#). *Physiol Behav*. 2016 Sep 1;167:16-27.



The [August issue](#) of *Transcultural Psychiatry*, on “Practical Anthropology for a Global Public Psychiatry: Provocations and Future Directions”, features the work of NKI researchers **Kim Hopper** and **Helena Hansen**.

Mendoza S, Rivera-Cabrero AS, Hansen H. [Shifting blame: Buprenorphine prescribers, addiction treatment, and prescription monitoring in middle-class America](#). *Transcult Psychiatry*. 2016 Aug; 53(4):465-87.

Myers N, Lester R, Hopper K. [Reflections on the anthropology of public psychiatry: The potential and limitations of transdisciplinary work](#). *Transcult Psychiatry*. 2016 Aug;53(4):419-26.

Pope LG, Cubellis L, Hopper K. [Signing on for dirty work: Taking stock of a public psychiatry project from the inside](#). *Transcult Psychiatry*. 2016 Aug; 53(4):506-26.



Mariko and Mitsuo Saito (Neurochemistry, Analytical Psychopharmacology) and colleagues published this review in *Brain Sciences* (open access). Their article is part of a special issue on “Neurodegeneration in Developmental and Neoplastic Disorders of the Nervous System”, which is edited by Raj Balpal.

Saito M, Chakraborty G, Hui M, Masiello K, Saito M. [Ethanol-Induced Neurodegeneration and Glial Activation in the Developing Brain](#). *Brain Sci*. 2016 Aug 16;6(3). pii: E31.



Pamela Butler (Clinical Research) and colleagues recently published this work on perceptual remediation in schizophrenia.

Butler PD, Thompson JL, Seitz AR, Deveau J, Silverstein SM. [Visual Perceptual Remediation for Individuals With Schizophrenia: Rationale, Method, and Three Case Studies](#). *Psychiatr Rehabil J*. 2016 Aug 22.

Dr. Butler provided the following overview:

“Few studies have evaluated the effects of visual remediation strategies in schizophrenia despite abundant evidence of visual-processing alterations in this condition. The visual-perceptual training program used, ULTIMEYES (UE), was previously shown to improve acuity and contrast sensitivity as well as enhance sports performance (e.g., batting averages) in professional athletes. In this study we report preliminary, case-study-based evidence that UE improves contrast sensitivity as well as perceptual organization in schizophrenia. These case studies set the stage for further research, such as larger, randomized controlled trials of the intervention that include assessments of perceptual function and measures of cognition, social cognition, and functional outcomes.”



Aidong Yuan and **Ralph Nixon** (Dementia Research) authored this review on neurofilament subunits.

Yuan A, Nixon RA. [Specialized Roles of Neurofilament Proteins in Synapses: Relevance to Neuropsychiatric Disorders](#). *Brain Res Bull*. 2016 Sep 5.

INFO UPDATE



With the development of open access publishing, and the associated rise of so-called [predatory publishers](#), it can be challenging to distinguish reputable journals from others that are less trustworthy (or in some cases simply fraudulent). One resource that might be helpful when considering where to publish is the [Think—Check—Submit](#) website, which offers guidelines and checklists. If you have questions related to publishing, you can also [ask the NKI librarian](#).



[PubMed Central](#) (PMC) now contains over four million full text articles, and to make all of this content easier to navigate, PMC has added search result filters (similar to PubMed's) on the left-hand side. These enable you to filter your results by article attributes, publication date, research funder, and search fields.

ClinicalTrials.gov

In an effort to enhance access to information about clinical trials, the US Department of Health and Human Services has issued a final rule that specifies requirements for registering certain clinical trials and submitting summary results information to [ClinicalTrials.gov](#). At the same time, the NIH has issued a [complementary policy](#) for registering and submitting summary results information to ClinicalTrials.gov for all NIH-funded trials, including those not subject to the final rule. For more information about the new policy, see this NIH [news release](#) and this [summary](#) of HHS/NIH initiatives to increase the availability of clinical trials information.

The November 1 issue of *The Journal of Comparative Neurology* is a special atlas issue containing a [comprehensive cellular-resolution atlas of the adult human brain](#). The authors present “a comprehensive, publicly accessible online adult human brain reference atlas based on neuroimaging, whole hemisphere histology, and cellular resolution imaging for Nissl, parvalbumin, and neurofilament proteins. Detailed annotation of 106 Nissl plates based on a hierarchical structural ontology is presented along with corresponding MRI and DWI-based tractography.”



[PubMed Journals](#) is a new feature from the National Center for Biotechnology Information (NCBI). It is designed to help you browse and follow your favorite journals. To learn more about PubMed Journals, check out this [NCBI Insights blog post](#).

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 still offers a comfortable, quiet space for reading, work, and small meetings. And we now have Wi-Fi. Just 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.

DEPARTMENT OF WONDER

Systematic Silliness?

Publication of meta-analyses and systematic reviews has exploded in recent years. In the September issue of the *Milbank Quarterly*, an article by John Ioannidis ("[The Mass Production of Redundant, Misleading, and Conflicted Systematic Reviews and Meta-analyses](#)") and an [accompanying editorial](#) raise serious questions about the usefulness of these reports.

Fall Reading

During the month of August, the NIH Director's Blog consisted of [summer reading suggestions](#) from guest scientists (Harold Varmus, Robert Horvitz, Shirley Tilghman, and Karl Deisseroth). Although summer is now behind us, I'm sure these books can be recommended in any season.

You Are What You Eat

This *New York Times* article is not new, but the "[Simple Rules for Healthy Eating](#)" that it suggests will always be good ones.

UPCOMING EVENTS AND SEMINARS

Breaking the Silence Annual Public Forum

The Ups & Downs of Mood Disorders

Rockland Community College
Cultural Arts Theatre
145 College Road, Suffern, NY

Wednesday, October 5th
Registration from 6 to 7 pm. Program begins 7 pm

For tickets and information
Call NAMI Rockland (845) 359-8787
or visit www.namirockland.org

New Horizons in Recovery: Breakthroughs in Research and Treatment



NAMI New York State
National Alliance on Mental Illness
2016 Education Conference
November 11-13
The Desmond Hotel, Albany

The 2016 NAMI-NYS Education Conference will not only detail new breakthroughs in research and treatment of various psychiatric disorders but will also explore four of the most crucial elements impacting people living with a mental illness and their families in a more in-depth manner than any previous NAMI-NYS Conference has before. These issues are:

- Recognizing and addressing trauma
- Suicide prevention
- Employment issues
- The importance of an individual's insight on their illness and the need to work with their family and providers as a recovery team

Among the presenters will be NKI Director Donald Goff, MD, and OMH Medical Director Lloyd Sederer, MD.

Click [here](#) for conference details.

Center for Biomedical Imaging and Neuromodulation Presents

Babak Ardekani, PhD

Medical Physics Lab, NKI

Prediction of Incipient Alzheimer's Disease Dementia in Patients with Mild Cognitive Impairment

Monday, October 24th, 11 am

John Sidtis, PhD

Brain & Behavior Lab, NKI

Cortical-Striatal Interactions and Motor Speech Control: A Simple Network Goes a Long Way

Monday, October 31st, 11 am

Center for Dementia Research Seminar Series

Held on Thursdays at 10 am

Justin Blau, PhD

Professor and Chair, NYU Department of Biology

*How Flies Time: Neurobiology of the
Drosophila circadian clock*

October 6th

Juan C. Troncoso, MD

Professor of Pathology and Neurology,
Johns Hopkins

Title TBA

October 27th

Jorge Busciglio, PhD

Associate Professor, Neurobiology and Behavior
University of California, Irvine

Title TBA

November 3rd



On Friday, October 28th, the Brain & Behavior Research Foundation will hold its annual research symposium (daytime) and awards dinner (night). Click the links below for details about these events.

[28th Annual International Mental Health Research Symposium](#)

[29th Annual International Awards Dinner](#)

The New York State Office of Mental Health (OMH) hosts a monthly 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 by OMH employees [on the OMH intranet](#). Anyone can view the programs [on the OMH website](#).

NKI PUBLICATIONS UPDATE

Below is a list of references that have been added to the NKI publications database since the previous update. The full database contains over 5,300 items dating back to 1995, and can be searched from the [NKI web site](#).

Abdulkadir M, Tischfield JA, King RA, Fernandez TV, Brown LW, Cheon KA, Coffey BJ, et al. Pre- and perinatal complications in relation to Tourette syndrome and co-occurring obsessive-compulsive disorder and attention-deficit/hyperactivity disorder. *J Psychiatr Res.* 2016 Jul 22;82:126-135.

Baslow MH. Is the tri-cellular N-acetylaspartyl-glutamate (NAAG) cycle related to the etiology of schizophrenia? *Schizophr Res.* 2016 Sep 6.

Biezonski D, Shah R, Krivko A, Cha J, Guilfoyle DN, Hrabe J, Gerum S, Xie S, Duan Y, Bansal R, Leventhal BL, Peterson BS, Kellendonk C, Posner J. Longitudinal magnetic resonance imaging reveals striatal hypertrophy in a rat model of long-term stimulant treatment. *Transl Psychiatry.* 2016 Sep 6;6(9):e884.

Buckley PF, Schooler NR, Goff DC, Kopelowicz A, Lauriello J, Manschreck TC, Mendelowitz A, Miller DD, Wilson DR, Ames D, Bustillo JR, Kane JM, Looney SW. Comparison of Injectable and Oral Antipsychotics in Relapse Rates in a Pragmatic 30-Month Schizophrenia Relapse Prevention Study. *Psychiatr Serv.* 2016 Aug 1:appips201500466.

Butler PD, Thompson JL, Seitz AR, Deveau J, Silverstein SM. Visual Perceptual Remediation for Individuals With Schizophrenia: Rationale, Method, and Three Case Studies. *Psychiatr Rehabil J*. 2016 Aug 22.

Choi J, Corcoran CM, Fiszdon JM, Stevens M, Javitt DC, Deasy M, Haber LC, Dewberry MJ, Pearlson GD. Pupillometer-Based Neurofeedback Cognitive Training to Improve Processing Speed and Social Functioning in Individuals at Clinical High Risk for Psychosis. *Psychiatr Rehabil J*. 2016 Aug 25.

Cortese S, Castellanos FX, Eickhoff CR, D'Acunto G, Masi G, Fox PT, Laird AR, Eickhoff SB. Functional Decoding and Meta-Analytic Connectivity Modeling in Adult Attention-Deficit/Hyperactivity Disorder. *Biol Psychiatry*. 2016 Jun 24.

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Kantrowitz JT, Halberstam B, Gangwisch J. Dr Kantrowitz and Colleagues Reply. *J Clin Psychiatry*. 2016 Aug;77(8):e1008.

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Llorens-Martín M, Teixeira CM, Jurado-Arjona J, Rakwal R, Shibato J, Soya H, Ávila J. Retroviral induction of GSK-3 β expression blocks the stimulatory action of physical exercise on the maturation of newborn neurons. *Cell Mol Life Sci*. 2016 Sep;73(18):3569-82.

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Myers N, Lester R, Hopper K. Reflections on the anthropology of public psychiatry: The potential and limitations of transdisciplinary work. *Transcult Psychiatry*. 2016 Aug;53(4):419-26.

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Rice T, Barcak D, Garcia-Delgar B, Coffey BJ. Polycystic Ovary Syndrome and Obsessive-Compulsive Disorder: Interactions and Psychopharmacological Considerations. *J Child Adolesc Psychopharmacol*. 2016 Aug;26(6):562-5.

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Shang CY, Yan CG, Lin HY, Tseng WY, Castellanos FX, Gau SS. Differential effects of methylphenidate and atomoxetine on intrinsic brain activity in children with attention deficit hyperactivity disorder. *Psychol Med*. 2016 Aug 30:1-13.

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Subbanna S, Nagre NN, Shivakumar M, Basavarajappa BS. A single day of 5-azacytidine exposure during development induces neurodegeneration in neonatal mice and neurobehavioral deficits in adult mice. *Physiol Behav*. 2016 Sep 1;167:16-27.

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Yoncheva YN, Castellanos FX, Pizinger T, Kovtun K, St-Onge MP. Sleep and meal-time misalignment alters functional connectivity: a pilot resting-state study. *Int J Obes (Lond)*. 2016 Aug 30.

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