



# PENN PSYCHIATRY PERSPECTIVE



Perelman School of Medicine at the University of Pennsylvania | Department of Psychiatry

## Ideas, Suggestions, and News!

We welcome your ideas, suggestions, and news about your activities for stories or announcements in Penn Psychiatry Perspective, the eNewsletter of the University of Pennsylvania Department of Psychiatry. Our goal is to offer useful and interesting news to readers and highlight our many outstanding faculty, programs, and services. Please submit your recommendations to [psychweb@mail.med.upenn.edu](mailto:psychweb@mail.med.upenn.edu).

Dwight L. Evans, MD  
Ruth Meltzer Professor and Chair

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## Departmental Goings On

### A New Potential Therapeutic Target—GABA Neurons—to Treat Patients with Depression and Other Mood Disorders



**Olivier Berton, PhD**, Assistant Professor of Neuroscience in Psychiatry, is the lead author of a new study suggesting a potential new therapeutic approach to treat patients with depression and other mood disorders. Together with Penn Neuroscience doctoral student Collin Challis and Sheryl G. Beck, PhD, Research Associate Professor of Anesthesiology and Critical Care at Children’s Hospital of Philadelphia (CHOP), Dr. Berton found that bullying and other social stresses triggered symptoms of depression and social withdrawal in mice by sensitizing a specific population of brainstem GABA neurons (gamma-aminobutyric acid), the main inhibitory neurotransmitter in the nervous system. Sensitized activity of these GABA

neurons located in the raphe nucleus, they found, directly inhibited nearby serotonin neurons concentrated in this region. In humans, a reduced serotonin activity in the brain increases the likelihood that a person will become depressed and will withdraw socially, thus deepening depressive symptoms. Based on the findings of the new study, this adverse spiral might be interrupted by successfully shutting off these GABA neurons, which would in turn increase serotonin levels and thus bolster resilience.

The study, published on August 28, 2013 in the *Journal of Neuroscience*, relied on a novel technique called optogenetics to precisely manipulate GABA neurons’ activity in the raphe nucleus of live mice and thereby establish a never-before-seen direct relationship between social stimuli and GABA neurons activity in this brainstem structure. “This is the first time that GABA neuron activity—found deep in the brainstem—has been shown to play a key role in the cognitive processes associated with social motivation in mammals,” said Dr. Berton. “The results point us into a potentially new direction to make antidepressants work better—by targeting GABA neurons that put the brake on serotonin cells.”

Stories appearing in August 2013 on BBC news and *Psychology Today* reinforced the potential for Dr. Berton’s study to open intriguing new avenues of research and possible drug development. “Our paper provides a novel cellular understanding of how social defensiveness and social withdrawal develop in mice and gives us a stepping stone to better understand the basis of similar social symptoms in humans,” Dr. Berton *Psychology Today*. “This has important implications for the understanding and treatment of mood disorders.”

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## Departmental Goings On

### A New Potential Therapeutic Target—GABA Neurons—to Treat Patients with Depression and Other Mood Disorders

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View the August 29, 2013 Penn Medicine news release at - [http://www.uphs.upenn.edu/news/News\\_Releases/2013/08/bernton/](http://www.uphs.upenn.edu/news/News_Releases/2013/08/bernton/)

View the August 29, 2013 BBC story at - <http://www.bbc.co.uk/news/science-environment-23863411>

View the August 31, 2013 *Psychology Today* article at - <http://www.psychologytoday.com/blog/the-athletes-way/201308/targeting-gaba-neurons-offers-clues-boosting-resilience>

### Penn Psychiatry Co-Leads \$12 Million NIMH Grant to Study the Genetics of Mental Illnesses in Deletion Syndrome Patients



**Raquel E. Gur, MD, PhD**, the Karl and Linda Rickels Professor in Psychiatry and Director of the Department of Psychiatry's Neuropsychiatry Section, is Co-Director of the new International Consortium on Brain and Behavior in 22q11.2 Deletion Syndrome. The Consortium recently received a four-year \$12 million National Institute of Mental Health (NIMH) grant for a large-scale genetics

study investigating why patients with chromosome 22q11.2 deletion syndrome have an increased risk of schizophrenia and other psychiatric disorders. The project brings together top researchers and clinicians from 22 institutions, including Penn Medicine and The Children's Hospital of Philadelphia (CHOP) and five genotyping sites across North America, Europe, Australia, and South America. The Consortium will study the genetic causes behind the high rates of schizophrenia and other psychiatric disorders in those with deletion syndrome, a multisystem disorder that includes birth defects and developmental and behavioral differences across the life span. Such findings may also help identify pathways leading to schizophrenia in the general population in a way that will inform new treatments.

"The funding from the NIH will provide us with the opportunity to advance the understanding of this under-recognized neurogenetic condition," said Dr. Gur in the October 22, 2013 issue of the University of Pennsylvania *Almanac*. "The knowledge generated can provide a window to the brain that will benefit millions throughout the world."

Found in approximately 1 in 4,000 live births, 22q11.2 deletion syndrome has many possible signs and symptoms that can affect almost any part of the body, including heart abnormalities that often require surgery in the newborn period, an opening in the roof of the mouth, trouble fighting infection due to a poorly functioning immune system, seizures due to low calcium and significant feeding and swallowing issues. In contrast, some individuals with the 22q11.2 deletion have none of these medical issues. However, most children have developmental delays including delayed acquisition of motor milestones, learning disabilities, and significant delays in emergence of language. Moreover, some children have autistic spectrum disorder, ADHD, and anxiety.

Co-directing the Consortium with Dr. Gur is Donna M. McDonald-McGinn, MS, CGC, Program Director of the "22q and You Center" at CHOP. They frequently collaborate on chromosome 22q research.

Summarizing the primary objective and scope of the Consortium effort, Dr. Gur told the *Almanac*, "The project is an unprecedented international initiative to examine a common deletion associated with schizophrenia and elucidate its genomic and behavioral substrates."

View the October 22, 2013 *Almanac* article at - <http://www.upenn.edu/almanac/volumes/v60/n10/nih.html>

The announcement of the new Consortium was also covered in the *Philadelphia Business Journal* (<http://www.bizjournals.com/philadelphia/blog/health-care/2013/10/chop-researcher-to-co-lead-study.html>) and *MedCity News* (<http://medcitynews.com/2013/10/whats-connection-mental-illness-missing-chromosome-12m-nih-grant-funded-study-seeks-answer/>).



## Departmental Goings On

### Community-Based Nursing Intervention Helps Mentally Ill People with HIV



**Michael Blank PhD**, Associate Professor of Psychology in Psychiatry, and Michael Hennessy, PhD, Senior Research Analyst at the Annenberg Public Policy Center (APPC), co-authored a new study reporting that having trained nurses follow up on medication use with mentally ill patients who are HIV positive was effective both at

improving the patients' quality of life and biological markers for the human immunodeficiency virus. The study is thought to be the first to simultaneously measure psychosocial and biological outcomes in people with serious mental illness and HIV.

The study of 238 Philadelphia patients, published online on September 3, 2013 in *AIDS and Behavior*, found significant improvements in the health-related quality of life for the

patients, who were treated with a regimen that entailed weekly monitoring by community-based advanced practice nurses. The nurses worked for one year with the patients on taking their psychiatric and HIV medications.

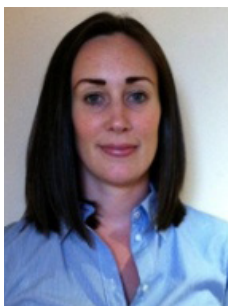
"We taught people how to adhere to the treatment regimen, and the positive effects of intervention persisted," said Dr. Blank in an article in the October 9, 2013 issue of the *APPC General News*.

"A fragmented health care delivery system does not provide optimal therapy for patients with combined HIV infection and serious mental illness," added Dr. Hennessy. "The study highlights an opportunity for change in the way dually diagnosed patients are treated."

View the Annenberg Public Policy Center news story at - <http://www.annenbergpublicpolicycenter.org/nursing-intervention-helps-mental-ill-people-with-hiv/>

## In the News

Penn Department of Psychiatry faculty are highly acclaimed experts in their chosen fields, often contacted by local, national, and international media outlets for their knowledge about topics of immediate interest. In this section, we provide just a brief sample of the many recent interactions that our faculty have with the press. For a more complete listing, please visit Penn Psychiatry In the News - <http://www.med.upenn.edu/psych/news.html>.



### Penn Psychiatry Experts Say Postpartum Depression Must Be Treated Promptly, Carefully

**Lindsay Sortor, PsyD**, Clinical Assistant Professor of Psychiatry and clinical psychologist at the Penn Center for Women's Behavioral Wellness (PCWBW), and **Deborah Kim, MD**, Assistant Professor of Psychiatry and Chief of the Perinatal Division of the PCWBW, spoke with the local media about postpartum depression and postpartum psychosis. They were interviewed following the shooting death by police of a woman in Washington, DC following a car chase. The woman's mother claimed she suffered from postpartum depression after giving birth last year. The Penn Psychiatry faculty suggest it could have been something worse. According to experts, nearly 10 percent of women will suffer anxiety, sadness, and worry that something will happen to the baby or to themselves. Then there is the most extreme form of the illness, called postpartum psychosis. "That affects about one in a thousand women — it is very rare," Dr. Sortor told CBS3/KYW Radio (Philadelphia) in an October 4, 2013 story. "Postpartum psychosis is characterized by erratic behavior, frenetic energy, delusions, paranoia, thoughts of harming the baby." Dr. Sortor said all forms of postpartum mental illness are treatable with medications but an accurate diagnosis is critical.

"We do think that the dramatic drop in hormones that happens postpartum can cause some women to become psychotic," Dr. Kim told Fox29 in a live segment. "What we do find is that by the time women come to us they've often been misdiagnosed with postpartum depression, often had the wrong treatment, and when they come to us and we put them on the appropriate treatment, they actually do very well."

View the October 4, 2013 CBS3/KYW article at - <http://philadelphia.cbslocal.com/2013/10/04/expert-says-postpartum-depression-must-be-treated-promptly-carefully/>



# News and Announcements

## In the News

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### **A New FDA-Approved Antidepressant**

**Michael E. Thase, MD**, Professor of Psychiatry and Director of the Mood Disorders Research and Treatment Program in the Department of Psychiatry, commented in an October 8, 2013 Metro story about the recent FDA approval of a new antidepressant medication—vortioxetine. The new drug (brand name Brintellix) is a novel variant on the selective serotonin reuptake inhibitors, or SSRIs, that have become the mainstay of depression treatment. Because major depression is so multifaceted, it is helpful for doctors to have a variety of options for treatment, said Dr. Thase, who served as a consultant to the drugmakers Takeda Pharmaceutical Company Limited (Takeda) and H. Lundbeck A/S (Lundbeck). "Although Brintellix primarily affects serotonin, like other widely used antidepressants, its particular profile is different than anything else we have," he noted. "But what you can't tell yet on the basis of the double blind studies is if these differences will be really important for our patients or if they'll be trivial

in terms of extra benefits. It'll take some time to ascertain the extent these differences could make for patients." Dr. Thase also spoke to the *Los Angeles Times* for a September 30, 2013 story about the new medication.

View the October 8, 2013 Metro story article at - <http://www.metro.us/newyork/lifestyle/wellbeing/2013/10/08/all-about-brintellix-the-new-fda-approved-antidepressant/>

View the September 30, 2013 *Los Angeles Times* article at - <http://www.latimes.com/science/sciencenow/la-sci-fda-approval-antidepressant-20130930,0,640455.story#axzz2iYw3oTu>



### **Sleep: The Brain's Housekeeper?**

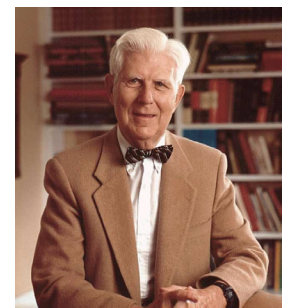
**David F. Dinges, PhD**, Professor of Psychology in Psychiatry and Director of the Division of Sleep and Chronobiology in the Department of Psychiatry, commented in an October 18, 2013 News & Analysis story in *Science* about a new study providing what one scientist called the "first direct experimental evidence at the molecular level" for what could be sleep's basic purpose - clearing the brain of toxic metabolic byproducts. The new work "fits with a long-standing view that sleep is for recovery—that something is paid back or cleaned out," said Dr. Dinges, who was not involved in the research. Many neurological diseases - from Alzheimer's disease to stroke and dementia - are associated with sleep disturbances. The study suggests that lack of sleep could have a causal role, by allowing the byproducts to build up and cause brain damage.

## Awards and Honors

### Regional, National, and International Honors

### **Dr. Aaron Beck Receives Inaugural Kennedy Community Mental Health Award**

**Aaron T. Beck, MD**, University Professor Emeritus of Psychiatry and Director of the Aaron T. Beck Psychopathology Research Center, received the first-ever Kennedy Community Mental Health Award at a Kennedy Forum gala event on October 23, 2013 at The John F. Kennedy Presidential Library and Museum in Boston. The ceremony was held on the 50th anniversary of the last piece of legislation President John F. Kennedy ever signed – the Community Mental Health Act, a landmark bill that laid the foundation of contemporary mental health policy and transformed the way mental illness was treated. Dr. Beck was honored as the "father of cognitive therapy" and as one of the most influential individuals within the mental health field. Former Rhode Island congressman Patrick Kennedy, the Forum founder and President Kennedy's nephew, said at the event, "In thinking of who has made an incredible difference in the last 50 years in advancing the treatment of people with mental illness, I could think of no one who's made a bigger difference to more people than Aaron Beck."



View the Penn Medicine news release at - [http://www.uphs.upenn.edu/news/News\\_Releases/2013/10/beck/](http://www.uphs.upenn.edu/news/News_Releases/2013/10/beck/)

# News and Announcements

## Announcements

### CMHPSR Guest Speaker Series

Dr. Gail Daumit, Associate Professor at Johns Hopkins Bloomberg School of Public Health, will present "A Behavioral Weight Loss Intervention in Persons with Serious Mental Illness" as part of the **Center for Mental Health Policy and Services Research (CMHPSR)** Guest Speaker Series. The presentation will be held in 3535 Market Street Building, 16th Floor, Conference Room B on Monday, December 9th, from 2:00-3:30 pm. This seminar is co-sponsored by the Penn Center for Weight and Eating Disorders. If you plan to attend, please RSVP to Kathleen Shea at [kathshea@upenn.edu](mailto:kathshea@upenn.edu).

### 2013 Penn Medicine Neuroscience Center Symposium

We remind you to register for the upcoming **Penn Medicine Neuroscience Center Symposium**, entitled "Neural Repair: Molecular Mechanisms to Clinical Approaches". The Symposium will take place on Thursday, December 5th, 2013 from 9:00 am to 5:00 pm in the Biomedical Research Building II/III Auditorium on the Penn campus. This one-day symposium will feature internal speakers from the Penn Neuroscience community and external guest speakers, as well as poster presentations. Breakfast and lunch are provided and there will be a reception following the event. Attendance is free, but registration is required.

A preliminary agenda and registration information are available on our website [http://www.uphs.upenn.edu/neuroscience-center/education/pmnc\\_symposium.html](http://www.uphs.upenn.edu/neuroscience-center/education/pmnc_symposium.html). Please feel free to circulate this information to any of your colleagues who may be interested in attending.

### Penn Medicine Neuroscience Center FY14 Pilot Grant Program Call for Applications

The Penn Medicine Neuroscience Center (PMNC) invites proposals for the support of pilot research projects in the broad category of the neurosciences. We would like to highlight two specific areas, neural circuits, particularly circuits underlying behavior, and neural repair. However all innovative ideas are encouraged and welcome. For detailed information, please visit <http://www.uphs.upenn.edu/neuroscience-center/about/grants.html>.

## Upcoming Events

### Department of Psychiatry Grand Rounds

Department of Psychiatry Grand Rounds are held from 12:00 noon to 1:00 pm on the designated dates in the locations indicated. The next lectures are listed below. For more information about Grand Rounds and the 2013-14 schedule, please visit - <http://www.med.upenn.edu/psych/rounds.html>

#### November 21, 2013 - Weller Memorial Lecture

"Rages, Mania and Mood Dysregulation; Liberal vs Conservative Viewpoints on Bipolar Disorder in Youth"

Speaker: Gabrielle A. Carlson, MD, Professor of Psychiatry and Pediatrics; Director, Child and Adolescent Psychiatry; Department of Psychiatry and Behavioral Science; Stony Brook School of Medicine

Location: BRB II/III Auditorium

#### December 19, 2013

"Evidence-Based Treatment of Obsessive-Compulsive Disorder Across the Lifespan"

Speaker: Michael H. Bloch MD, MS, Assistant Professor, Yale Child Study Center; Assistant Director, Yale OCD Research Clinic; Yale University

Location: BRB II/III Auditorium