The NKInformer



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

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January — February 2020 Stuart Moss, MLS, Editor

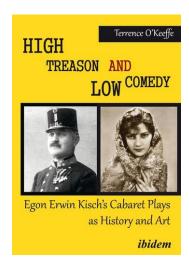
TERRY O'KEEFFE (1944 – 2020) REMEMBERING A COLLEAGUE AND FRIEND



Terry O'Keeffe worked at NKI for 35 years before retiring in 2009. After that, he continued to serve on the Institute's Animal Care and Use Committee and contributed to several grant proposals, so he was a continuing presence at NKI. Terry's quick wit, irreverence, keen observations, and intellect will be missed by many, and some remembrances are shared below.

In addition, Terry's interests were wide-ranging, and in retirement he published essays and reviews on

Central and Eastern European writers, culture, and history. In fact, his book, <u>High Treason and Low Comedy: Egon Erwin Kisch's Cabaret Plays as History and Art</u> is slated for publication in April.



Terry requested that an announcement appear in the *Informer*, and his own write-up follows:

Terry O'Keeffe has a book coming out about the peculiar preoccupation of his old age (Central European history and culture). The title of the book is *High Treason and Low Comedy: Egon Erwin Kisch's Cabaret Plays as History and Art.* It will be published by *ibidem* Verlag in Stuttgart and is scheduled for release as part of their Spring, 2020 list. He built the book around his translations of Kisch's two most popular cabaret plays, placing them in several contexts: biographical, historical, cultural, and

critical. Kisch is better known to historians and German and Austrian readers as a journalist who was the "star of international reportage" during the 1920's and 1930's. The book's cover shows the protagonists of the two plays. On the left is Colonel Alfred Redl, who was at the center of a high-level espionage scandal that unfolded over a weekend in May, 1913. A member of the General Staff of the Austro-Hungarian army, he had been the deputy director of its intelligence operations for more than a decade. During this time, he was selling Austria-Hungary's most sensitive military secrets and plans to Russia and Italy. As a "closeted homosexual", he also led a second double-life. On the right is the actress Ita Rina, who played "Toni Gallows", a raucous Prague prostitute whose posthumous adventures – arguing her way into heaven – form the narrative of another Kisch play. Rina starred in a 1930 film adaptation of the play. The long afterlives of the Redl and Toni stories on the stage, in film and television treatments, and in a postmodernist novel take up the final chapters of the book. Anyone interested can find more material on High Treason here.

Terry thanks NKI's Jan Hrabe for his translation services (summarizing the dialogue of a Czech television performance of a play). He has also written an article about Kisch that will appear in volume 53 of the *Journal of Austrian Studies*. Its title is "Role Reversal in Prague—Shabbos Goy in the Mirror: E. E. Kisch's *Jack Oplatka's Mass*". Kisch's story is amusing, but it sheds some light on the difficult position of Prague's Jews who were caught up in the "identity wars" and political struggles between that city's Czechs and Germans.

Terry O'Keeffe was a "character" in the best sense of the word. His singular personality left a strong impression on those who knew him. In my case, he was the only person who called me "Lad". It was charming, and I can hear his resonant voice now. Here are some further remembrances of Terry...

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With the passing of Terry, a little piece of NKI is gone.

Terry had a colorful personality and knew everything about everything. He had an unending supply of good stories and would always take the time to tell us about his adventures with Nathan Kline and about his own travels, usually while he ate some of our food. You could often see him in shorts, coming back from another run through the corridors in the basement of the Institute, not infrequently with a bump on his forehead where he had crashed into one of the low hanging pipes. In later years, you could find him in his office immersed in mountains of books, sometimes trying to come up with captions for the cartoon at the back of *The New Yorker*. Since many people at NKI loved Terry, we asked his friends share their memories.

Pam Butler and Elisa Dias

Terry would put a fork in his shirt pocket so that when he visited people at lunchtime, he could sample their food without being rude and using their fork (or his fingers). I wore a fork in my shirt pocket at his funeral as a sort of substitute carnation in honor of Terry's memory.

Charlie Schroeder

Terry was always fun to talk to. He seemed to take genuine interest in people and had a wealth of entertaining stories. Among his favorite subjects were the history of the Nathan Kline Institute and of Nathan Kline. One time he gave me a surprisingly extensive summary of World War II military aircraft. Another time when I was learning about human cerebral cortex, he enthusiastically did me the favor of translating a chapter from von Economo's early work that was available only in German.

John Smiley

Too many stories to remember – during his younger years he dressed up as a bear on a Baltimore highway having state troopers track him (the bear) down; the history of the Bermuda primate study; the many times he dressed up as Santa Claus for the NKI holiday party; being stopped by airport security wondering why he was carrying around a bust of Stalin on one of his trips to Europe; his knowledge of history; and yes, sampling leftover food in the walk-in refrigerator after a party. Every description of a past situation or occasion was always presented as a lively re-enactment with great wit and humor. Terry will be greatly missed, but not forgotten.

Henry Sershen

Few had more stories better told than Terry, so I won't even try to retell one of his, but I would like to share my earliest recollections of Terry. These were his performances as Santa Claus at the NKI holiday parties in the early 1980's. In those days, NKI held a holiday party at a catering hall just over the border in New Jersey. Picture a basement room with dark paneling and less than antiseptic carpeting and you get a sense of the ambience. Into this space with great fanfare enters Terry, in full Santa regalia, cigar firmly anchored in the corner of his mouth, carrying a bag of "presents". He starts handing out "presents" to staff along with quips, wry observations with a few double entendres sprinkled in for good measure. All delivered in a faux Irish brogue. Can't remember a single thing he said, but I remember the laughter that brightened that otherwise dingy room.

Tom O'Hara

Terry and I shared the Princeton connection. We went there at very different times – he in the middle of Vietnam, me in the much quieter '70's. It was always interesting to compare notes. It was hard to imagine Terry's gruff manner in the genteel Princeton of his day, and I always wondered how different his life would have been if he had not enlisted. As with everything else, Terry minimized his contributions, but deserves tremendous credit for his service. He is a part of an amazing phase of the history of NKI. He will be missed.

Dan Javitt

I first met Terry in February 1978 when he brought me down to Hall's Island, Bermuda, where I was to conduct my dissertation research. At that time, Terry had a handlebar mustache that he would groom with mustache wax in the fashion of Salvador Dali. Hall's Island was a 2.5-acre island that was being used by Rockland Research Institute (RRI) for a gibbon ape study. When that study had ended (partially due to a misconception that the territorial gibbons would tolerate one another if they had been raised together as juveniles - they didn't), RRI made a deal with Rutgers University that they could run a study on the island with stumptail macaques and Rockland could use the baseline data collected as pilot data to apply for grants. Terry, who had worked with the gibbons, first as a graduate student at Rutgers and later as an employee at Rockland, was to stay with me in Bermuda for two weeks to introduce me to people and show me how things worked while we rounded up the remaining gibbons and introduced the stumptail colony to the island.

Although Bermuda is considered semi-tropical, it is situated off North Carolina and is predominantly breezy, chilly and wet during the winter months. Every day we would ride our motor bikes in the pouring rain or take the 12-foot Boston Whaler out to Hall's Island under small craft warnings. At night we would return to the project residence, Hilltop Cottage, a small 100-year-old limestone block cottage with electricity but no heat other than a small fireplace. There we would change out of our drenched clothing and huddle in front of the fireplace trying to keep warm. We would place our drenched boots next to the fire, hoping they would dry out enough overnight to give us some comfort the next day. Then we would sing old 50's-60's songs (Terry had been a fan of early R&B and seen James Brown at the Apollo Theater) and Terry would spin tales about his time in the army stationed in El Paso and Vietnam, some of the characters at the Institute, and Bermuda political gossip until we fell asleep.

One morning we awoke to find that Terry had left his boots too close to the fire and the heat had hardened and shrunk the leather in the back, so they no longer fit his feet. He promptly took a knife and cut off the back of the boots, then taped them to his feet with duct tape and off we went. Over the weeks he taught me that with duct tape and tie-wire you could fix or build almost anything.

In 1986, I was hired by Ken Llfshitz to work at NKI with Terry on a grant funded study. Terry was always running around with a chewed-up cigar and a cup of coffee in hand. He'd say he had his cigars shipped to NKI so his wife, Joanne, wouldn't know how many cigars he got or how many he smoked. Often his glasses were held together with a paper clip and his shirt or lab coat closed with a safety pin. The study schedule was grueling, but we always found time to discuss diverse topics, tell stories and laugh, often at ourselves. That's how I'll remember Terry: he was a dedicated, hard-working researcher who would do whatever it took to get things done. But he never took himself or those around him so seriously that he couldn't tell a funny story at his own expense. And oh, could he tell a story!

Gary Linn

FROM AROUND THE INSTITUTE



Tom O'Hara, Alexis Lieval, Russell Tobe

After 13 years of service at NKI, **Alexis Lieval, LCSW**, has taken a new position in the Clarkstown school district. Clinical Evaluation Center Director Russ Tobe, MD, provided the following tribute.

Those of us who know Alexis were sad to have her leave. Alexis significantly advanced clinical research at NKI. Following a brief tenure as a research assistant, she was hired to expand the Volunteer Recruitment Pool (VRP) to include pediatric and clinical populations, while providing clinical feedback to participants and their families. Her efforts, in collaboration with other NKI staff, were highly successful, enrolling hundreds of new participants into the VRP for distribution to other studies. She provided essential clinical guidance and made NKI a place for referral for refined diagnostic assessment. These changes facilitated a highly regarded research diagnostic assessment training program for NYU Child Psychiatry Fellows, in addition to NYU residents and other rotating trainees. Alexis also allocated significant energy into pilot data collection at NKI which supported dozens of competitive grant applications and awards. These included pilot efforts from 2009-2010 in characterization of 225 participants enrolled in the NKI Rockland Sample pilot program, which prompted four major NIH awards and solidified NKI as a leading site for open neuroscience. Finally, from 2013-present, Alexis supported the growth of a series of pilot investigations and clinical trials for individuals with autism spectrum disorders (ASD). These efforts have solidified NKI as a key site for ASD clinical trials research and a regional center for refined diagnostic assessment of ASD.

Beyond these efforts, Alexis came to know many participants very well over the years and would often be the person to shepherd interactions between new staff members and established participant partners. Alexis trained countless staff at NKI in research diagnostic assessment and other research activities. This was recognized by industry where she became a training consultant, on behalf of NKI, in multisite clinical trials. Alexis was a trusted colleague for input on clinical challenges, clinical referrals, clarification of assessment coding, and prevention of rater drift. However, most importantly, Alexis was NKI's community outreach liaison and was regarded as the 'face of NKI' by many in the community. She became a point person for referrals, was a NAMI Rockland board member, and fostered a highly collaborative relationship with countless community partners. She had an enthusiasm for science and compelled clinical community partners to engage in the NKI mission. She did this by translating scientific initiatives at NKI into understandable programs with pragmatic community applicability. She facilitated a unique community understanding of our Institute and made NKI accessible.

Finally, Alexis has been a close friend and colleague to many of us over the years. Her knowledge, collegiality, professionalism, warmth, and empathy were consistently appreciated. She has an amiable and outgoing personality that rarely, if ever, becomes frustrated, flustered, or pessimistic. Like many of us, Alexis cared greatly about NKI and our scientific contributions, but she was unique in being a true ambassador of science to our community. This was what made her so adept in her positions of training, outreach, and implementation. We are glad that Alexis will continue to practice in our region and congratulate her on her wonderful accomplishments at NKI with the knowledge that she will continue to do great things for our community in her new position.



Justin Botterill and members of the Scharfman Lab recently published An Excitatory and Epileptogenic Effect of Dentate Gyrus Mossy Cells in a Mouse Model of Epilepsy in Cell Reports. Dr. Botterill contributed the following non-technical summary.

Epilepsy is a debilitating illness that affects more than 50 million people worldwide. Temporal lobe epilepsy (TLE) is very common. Unfortunately, TLE is challenging to treat and over one third of patients do not respond to conventional drug treatments. Most patients also have severe cognitive impairment due to their seizures. Therefore, it is of great importance to study the mechanisms involved in epilepsy to develop novel therapeutic approaches.

The hippocampus, a brain region critical to learning and memory, often displays significant nerve cell loss in TLE. Hippocampal cell loss is hypothesized to be a major contributing factor to seizures and cognitive problems in TLE. One type of cell that appears particularly vulnerable to death in TLE are known as mossy cells, located in a part of the hippocampus called the dentate gyrus. Mossy cells have long been implicated in TLE because they activate inhibitory neurons that are thought to be protective. However, mossy cells also activate excitatory neurons that could promote seizures (the opposite of protective). This has led to a debate about the function of mossy cells and the role of their loss in TLE.

In the present study, the Scharfman laboratory used transgenic mice and viral methods to selectively activate or inhibit mossy cells with cutting edge technologies known as optogenetics and designer receptors activated exclusively by designer drugs (DREADDs). With these new methods they tried to settle the debate. Surprisingly, they found that inhibiting mossy cells reduced seizures, reduced vulnerability of mossy cells, and reduced epilepsy. In contrast, activating mossy cells seemed to do the opposite. Next, they probed the mossy cell connections with in vitro electrophysiology and 'patch' clamping to understand the complex effects of mossy cells. They found that mossy cells normally inhibit the dentate gyrus but could have dramatic excitatory effects. When excitatory, mossy cells appeared to trigger abnormal activity throughout the entire hippocampus as well as excitotoxicity.

Taken together, these results suggest that mossy cells play a significant role in the development of epilepsy. Therefore, harnessing mossy cell function in specific ways might be protective if their inhibition could be strengthened, and if their excitation is blocked it might be protective. Because hippocampal seizures and cell loss are relevant to brain injury and stroke, these studies may also lead to new directions for those neurological conditions.

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Epilepsy and Climate Change: Why Should We Care?

Epilepsy and Climate Change (EpiCC) is a new global initiative of professionals involved in epilepsy research, care, and allied health who consider that climate change will likely have adverse consequences for people with epilepsy. The initiative has been initiated almost a year ago by Professor Sanjay Sisodiya (University College London) and has attracted the attention of numerous clinicians, basic scientists, allied health professional and industry around the world.

Several lines of evidence suggest that for some people with epilepsy, the effects of climate change will impact on their seizures and quality of life. For instance, caregivers and families of people with Dravet syndrome have reported that their children were experiencing more seizures and lethargy during last summer's heatwaves in the UK. Another

example is seizures in infancy which are often triggered by fever and can be prolonged, resulting in high morbidity and mortality. [You can read more on the topic in "Climate change and epilepsy: Time to take action".]

Actions to limit climate change require global-scale efforts and to this end, the purpose of EpiCC is focused on sharing knowledge and practices that reduce the contributors to climate change and help to mitigate potential effects on epilepsy. During the last American Epilepsy Society annual meeting, the EpiCC group has organized a brainstorming session where the discussion focused on ongoing efforts of the team followed by an interactive discussion with the audience. The group is now working on a literature review paper which focuses on evidence around climate change and epilepsy, and the organization of a virtual conference. To join the efforts of the EpiCC group please follow this link: https://www.epilepsysociety.org.uk/climatechange.

Contributed by Christos Lisgaras, PhD

Healthy Volunteer Subjects Needed

We are looking for healthy male volunteers between the ages of 18 and 60 to participate in a research study examining how the brain responds to social or money rewards.

Participation in this two-visit study involves an MRI, diagnostic interview, questionnaires, and other screening measures.

Participants will be paid up to \$100 plus travel costs will be reimbursed.

This study is being conducted by Dr. Pamela D. Butler at the Nathan Kline Institute.

For more information contact Julia Ermel Julia.Ermel@nki.rfmh.org (845) 398-6537



Lauren Whyte, PhD, joined Dr. Ralph Nixon's Lab in November. Lauren completed her undergraduate studies in Science and Law at the University of Adelaide, before undertaking an Honors degree in Health Sciences, under the supervision of A/Prof Maria Fuller. In 2013, Lauren commenced work as a Research Scientist in the Lysosomal Diseases Research Unit, South Australian Health and Medical Research Institute. There, she researched some of the cellular factors that contribute to the onset of symptoms in a neurological lysosomal storage disorder called mucopolysaccharidosis type IIIA (MPS IIIA). Lauren then undertook a PhD in the Neurobiology group in the Hopwood Centre for Neurobiology, South Australian Health and Medical Research Institute, investigating the consequences of lysosomal impairment in Alzheimer's disease. Lauren's PhD was supervised by Dr. Tim Sargeant, Professor John Hopwood, A/Prof Kim Hemsley and Dr. Adeline Lau.



A comment by **Ralph Nixon** (Dementia Research) appears on the Alzforum site. The comment, on "Lysosomal Diseases: Stepping Stones to Gene Therapy for Alzheimer's?", was posted on January 8th.

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Satisfied Customers

Shereen Kamel Said, MS, manager of the OMH Clinical Laboratories at NKI, shared the results of a customer satisfaction survey that she sent to staff at the OMH facilities. While the number of responses was small, the feedback was largely very positive, with at least two-thirds of respondents answering "Excellent" or "Above Average" to almost every question.

Yoga, Dance, and Exercise in the NKI Library

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Yin Yoga

Tuesdays at 4:30 pm — Led by Lindsay Laughlin. A simple 30-minute guided yoga/meditation. Bring a mat.

Dance

Wednesdays from 12-12:30 pm – Led by Qawi Telesford. Casino dance to Timba music. Sneakers preferred.

Cardio

Mondays and Thursdays from 4:30-5 pm – Led by Catarina Cunha. Full body cardio/strength training. Bring a mat and water.

Additional workouts can be undertaken using the Smart TV at your leisure. Grab a friend and go!

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PUBLICATIONS OF NOTE

nature communications

Dr. Stephen Ginsberg (Dementia Research) was a key contributor to this paper recently published in *Nature Communications*. This research provides novel evidence of a pathological process underlying Alzheimer's disease and other neurological disorders, and suggests a new potential therapeutic target. You can learn more about this work on Alzforum ("In AD, Chaperones Congregate to Form a Therapeutic Target") and on the Memorial Sloan Kettering Cancer Center site ("Study Reveals a New Way That Stress and Aging Lead to Alzheimer's").

Inda MC, Joshi S, Wang T, Bolaender A, Gandu S, Koren Iii J, Che AY, Taldone T, Yan P, Sun W, Uddin M, Panchal P, Riolo M, Shah S, Barlas A, Xu K, Chan LYL, Gruzinova A, Kishinevsky S, Studer L, Fossati V, Noggle SA, White JR, de Stanchina E, Sequeira S, Anthoney KH, Steele JW, Manova-Todorova K, Patil S, Dunphy MP, Pillarsetty N, Pereira AC, Erdjument-Bromage H, Neubert TA, Rodina A, Ginsberg SD, De Marco Garcia N, Luo W, Chiosis G. The epichaperome is a mediator of toxic hippocampal stress and leads to protein connectivity-based dysfunction. Nat Commun. 2020 Jan 16;11(1):319. PMID: 31949159.



Xavier Castellanos (Clinical Research) coauthored this invited commentary for *JAMA Network Open*.

Baroni A, Castellanos FX. Emerging Insights into the Association Between Nature Exposure and Healthy Neuronal Development. JAMA Netw Open. 2019 Dec 2;2(12):e1917880. PMID: 31851342.

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JAMA Psychiatry

Joshua Kantrowitz (Schizophrenia Research) contributed this editorial to *JAMA Psychiatry*.

Kantrowitz JT. The Potential Role of Lumateperone – Something Borrowed?

Something New? JAMA Psychiatry. 2020 Jan 8. PMID: 31913409.



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Robert Sears and **Joseph LeDoux** (Emotional Brain Institute) are principal authors of this paper appearing in *Molecular Psychiatry*.

Gu Y, Piper WT, Branigan LA, Vazey EM, Aston-Jones G, Lin L, LeDoux JE, Sears RM. <u>A brainstemcentral amygdala circuit underlies defensive</u> <u>responses to learned threats</u>. Mol Psychiatry. 2019 Nov 22. PMID: 31758092.



Drs. LeDoux and **Sears** are also coauthors of this study published in *eLife*. The results demonstrate that axonal translation occurs in the adult forebrain and is altered after learning, supporting the likelihood that local translation is more a rule than an exception in neuronal processes.

Ostroff LE, Santini E, Sears R, Deane Z, Kanadia RN, LeDoux JE, Lhakhang T, Tsirigos A, Heguy A, Klann E. <u>Axon TRAP reveals learning-associated alterations in cortical axonal mRNAs in the lateral amgydala</u>. Elife. 2019 Dec 11; 8:e51607. PMID: 31825308.

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Biological Psychiatry A Journal of Psychiatric Neuroscience and Therapeutics

This open access paper by **Peter Lakatos** and other members of the Translational Neuroscience group appears in *Biological Psychiatry*.

Lakatos P, O'Connell MN, Barczak A, McGinnis T, Neymotin S, Schroeder CE, Smiley JF, Javitt DC.

The Thalamocortical Circuit of Auditory

Mismatch Negativity. Biol Psychiatry. 2019 Nov

9. PMID: 31924325.



Paul Mathews and **Efrat Levy** (Dementia Research) published this review in *Frontiers in Neuroscience*.

Mathews PM, Levy E. <u>Exosome Production Is</u> <u>Key to Neuronal Endosomal Pathway Integrity in Neurodegenerative Diseases</u>. Front Neurosci. 2019 Dec 12; 13:1347. PMID: 31911768.

BIOMARKERS IN NEUROPSYCHIATRY

Nunzio Pomara (Geriatric Psychiatry) is the corresponding author on this publication in the newly launched open access journal *Biomarkers in Neuropsychiatry*. Also among the coauthors are Jay Nierenberg, Chelsea Reichert, and Ricardo Osorio. Dr. Pomara comments that "this is the first report of potential abnormalities in CSF C3 in elderly depressives. This protein is an important component of the immune system and could play a role in the development of neuroinflammation".

Pillai A, Bruno D, Nierenberg J, Pandya C, Feng T, Reichert C, Ramos-Cejudo J, Osorio R, Zetterberg H, Blennow K, Pomara N. <u>Complement component 3 levels in the cerebrospinal fluid of cognitively intact elderly individuals with major depressive disorder</u>. Biomark Neuropsychiatry. 2019 Dec; 1:100007. PMID: 31942568.



John and Diana Sidtis (Brain & Behavior Laboratory) coauthored this open access article in Brain Sciences. John Sidtis provided this summary: "Deep brain stimulation has become a widely used therapy for Parkinson's disease and other movement disorders. The efficacy of this procedure is also being explored in a wide range of other problems including depression and addiction. In Parkinson's, deep brain therapy is effective in treating dopamine responsive symptoms but has been reported to have negative effects on speech. The ideal parameters for deep brain stimulation have not been established and it has been suggested that reducing the stimulation may improve speech. This study demonstrates that lowering the stimulation frequency may be helpful in some cases but does not necessarily improve speech. As deep brain stimulation is employed in a broader range of disorders, the ways in which stimulation parameters affect behavior will be increasingly important."

Sidtis JJ, Sidtis DVL, Ramdhani R, Tagliati M. Speech Intelligibility During Clinical and Low Frequency. Brain Sci. 2020 Jan 2; 10(1). E26. PMID: 31906549.



Millie Rincón-Cortés, Maya Opendak, and Regina Sullivan (Emotional Brain Institute) contributed to this publication in *Frontiers in Psychology*.

Perry RE, Braren SH, Rincón-Cortés M, Brandes-Aitken AN, Chopra D, Opendak M, Alberini CM, Sullivan RM, Blair C. <u>Enhancing Executive Functions Through Social Interactions: Causal Evidence Using a Cross-Species Model</u>. Front Psychol. 2019 Nov 19; 10:2472. PMID: 31803087.

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Monica Lewin, Donald Wilson, and other members of the Emotional Brain Institute authored this article in *Scientific Reports*.

Lewin M, Lopachin J, Delorme J, Opendak M, Sullivan RM, Wilson DA. <u>Early Life Trauma Has Lifelong Consequences for Sleep and Behavior</u>. Sci Rep. 2019 Nov 13; 9(1):16701. PMID: 31723235.

Brain Research

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Dr. Wilson is also the first author of this new report in *Brain Research*.

Wilson DA, Fleming G, Vervoordt SM, Coureaud G. <u>Cortical processing of configurally perceived odor mixtures</u>. Brain Res. 2020 Feb 15; 1729:146617. PMID: 31866364.



A paper by Jan Hrabe (Biomedical Imaging & Neuromodulation) and Sabina Hrabetova (SUNY Downstate), "Time-Resolved Integrative Optical Imaging of Diffusion during Spreading Depression" was selected for commentary in the New and Notable section of *Biophysical Journal* published in the same issue: "Exploring the Dynamics of Brain Extracellular Space". The paper by Hrabe and Hrabetova describes the development and application of an optical diffusion measurement method with substantially increased time resolution, well suited to dynamic situations with time-dependent diffusion rates.

HUMAN BRAIN MAPPING

Emily Stern (first author) and other members of the Clinical Research Department have a new open access paper appearing in *Human Brain Mapping*.

Stern ER, Brown C, Ludlow M, Shahab R, Collins K, Lieval A, Tobe RH, Iosifescu DV, Burdick KE, Fleysher L. <u>The buildup of an urge in obsessive-compulsive disorder: Behavioral and neuroimaging correlates</u>. Hum Brain Mapp. 2020 Jan 9. PMID: 31916668.



Eva Petkova is the first author of this paper appearing in *BJPsych* Open.

Petkova E, Park H, Ciarleglio A, Todd Ogden R, Tarpey T. <u>Optimising treatment decision rules through generated effect modifiers: a precision medicine tutorial</u>. BJPsych Open. 2019 Dec 3; 6(1):e2. PMID: 31791433.

INFO UPDATE



The new PubMed has been launched and is now running in parallel with "legacy" PubMed (which will eventually be retired). For some context on the redesign, see "A New and Improved PubMed" on the National Library of Medicine Director's blog. New features will continue to be added to the new system over time. To read about the most recent ones, see "The New PubMed Updated: Items Per Page, Sort Options, See All Similar Articles, and More" in the NLM Technical Bulletin.

Plenty of training materials are <u>available online</u> <u>here</u>. These include a number of 2-minute Quick Tour Videos on the following topics:

- Find articles by author
- Find articles by journal
- Find articles from a citation
- Find articles on a topic
- Find the latest treatments for a disease or disorder
- Get the full text for an article
- Save searches and set e-mail alerts
- PubMed subject search: How it works

Also available are the <u>User Guide and FAQ's</u> (these are linked on bottom of the new PubMed home page) and a <u>Tips for Using PubMed</u> fact sheet.

As always, if you have any questions about database searching or troubleshooting, please contact the NKI librarian.

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Also new from the National Library of Medicine is a revamped <u>Manuscript Submission System</u>, to facilitate compliance with the <u>NIH Public Access</u> <u>Policy.</u> You can view a short video about the new system <u>here</u>.

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 <u>link to the NKI Library's website</u> 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 (<u>journal finder</u>, <u>online catalog</u>, <u>PsychiatryOnline</u>, etc.).

NKI ON THE ROAD



Three NKI investigators presented posters at the <u>December, 2019 annual meeting</u> of the American College of Neuropsychopharmacology held in Orlando, Florida.

Robert Smith (Neurochemistry), Henry Sershen, James Auta, Jenny Zadeh, Abel Lajtha, John M Davis, Alexandro Guidotti

Influence of Sex and Antipsychotic Drug Treatment Effects on mRNA Differences Between Patients with Schizophrenia and Controls

Catia Teixeira (Emotional Brain Institute), Catarina Cunha, John Smiley, Nao Chuma, Relish Shah, Stephen Rayport, Mark Ansorge, Francisco Castellanos

Perinatal Interference with the Serotonergic System Affects VTA Function in the Adult

Nunzio Pomara (Geriatric Psychiatry), Davide Bruno, Chelsea Reichert, Henry Sershen, Henrik Zetterberg, Kaj Blennow, Marcel Verbeek

Cerebrospinal Fluid Alpha-Synuclein in Late-Life Depression and Neurobiological Correlates

Dr. Pomara provided this summary of his poster:

Alpha synuclein $(\alpha$ -Syn) is a potentially neurotoxic protein which has been implicated in the pathogenesis of Parkinson's disease (PD). Depressive symptoms can develop in PD long before the emergence of motoric symptoms and can be risk factor or prodromal phase of PD. Therefore, we examined if depressed elderly showed elevations in CSF α -Syn. They did not. However, in the depressed cohort, higher CSF α -Syn levels were associated with increased markers of inflammation and synaptic dysfunction as well as increase memory decline. Thus, increases in α -Syn may be a contributing factor for the increased risk for PD associated with depression.

EVENTS AND SEMINARS

Center for Biomedical Imaging and Neuromodulation Seminar Series

Held on Mondays at 11 am

Jason Hassenstab, PhD

Washington University, St. Louis

Digital Cognitive Assessment Strategies in Dementia Populations

February 24th, 2020

Armin Raznahan, MD, PhD

NIMH

Genetics-First Approaches to Parsing the Biology of Neuropsychiatric Disease

March 2nd, 2020

Russell Takeshi Shinohara, PhD

University of Pennsylvania

Title TBA

March 9th, 2020

Todd Constable, PhD

Director of MRI Research Yale School of Medicine

Brain Regions and Connections: Deriving Functional Phenotypes

March 16th, 2020

Gaurav Patel, MD, PhD

Columbia University and NYSPI

Neural Substrates of Social Dysfunction in Schizophrenia

March 23rd, 2020

Center for Dementia Research Seminar Series

Held on Thursdays at 10 am

Thomas Kukar, PhD

Emory University

Lysosomal Dysfunction in Frontotemporal Dementia: New insights into Progranulin Biology and Therapeutic Strategies

March 26th, 2020

Li Gan, PhD

Weill Cornell Medicine

Target Proteostasis and Microglia in Tauopathy

April 23rd, 2020



Statewide Grand Rounds

The Deadliest Addiction:
Why Do We Have Such a Hard Time Treating
Tobacco Use, and How Can We Do Better?

Presenters

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Wednesday, February 19th, 1:00 – 2:30 pm

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.

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 6,200 items dating back to 1995, and can be searched from the myNKI website.

Alcantara-Gonzalez D, Villasana-Salazar B, Peña-Ortega F. Single amyloid-beta injection exacerbates 4-aminopyridine-induced seizures and changes synaptic coupling in the hippocampus. Hippocampus. 2019 Dec;29(12):1150-1164. PMID: 31381216.

Askalsky P, Iosifescu DV. Transcranial Photobiomodulation For the Management of Depression: Current Perspectives. Neuropsychiatr Dis Treat. 2019 Nov 22; 15:3255-3272. PMID: 31819453.

Baroni A, Castellanos FX. Emerging Insights into the Association Between Nature Exposure and Healthy Neuronal Development. JAMA Netw Open. 2019 Dec 2;2(12):e1917880. PMID: 31851342.

Botterill JJ, Lu YL, LaFrancois JJ, Bernstein HL, Alcantara-Gonzalez D, Jain S, Leary P, Scharfman HE. An Excitatory and Epileptogenic Effect of Dentate Gyrus Mossy Cells in a Mouse Model of Epilepsy. Cell Rep. 2019 Nov 26;29(9):2875-2889.e6. PMID: 31775052.

Bowie CR, Bell MD, Fiszdon JM, Johannesen JK, Lindenmayer JP, McGurk SR, Medalia AA, Penadés R, Saperstein AM, Twamley EW, Ueland T, Wykes T. Cognitive remediation for schizophrenia: An expert working group white paper on core techniques. Schizophr Res. 2019 Nov 4. PMID: 31699627.

Brymer KJ, Johnston J, Botterill JJ, Romay-Tallon R, Mitchell MA, Allen J, Pinna G, Caruncho HJ, Kalynchuk LE. Fast-acting antidepressant-like effects of Reelin evaluated in the repeated-corticosterone chronic stress paradigm. Neuropsychopharmacology. 2020 Jan 11. PMID: 31926481.

Bubu OM, Andrade AG, Umasabor-Bubu OQ, Hogan MM, Turner AD, de Leon MJ, Ogedegbe G, Ayappa I, Jean-Louis G G, Jackson ML, Varga AW, Osorio RS. Obstructive sleep apnea, cognition and Alzheimer's disease: A systematic review integrating three decades of multidisciplinary research. Sleep Med Rev. 2019 Dec 12; 50:101250. PMID: 31881487.

Cará VM, Esper NB, de Azeredo LA, lochpe V, Dalfovo NP, Santos RC, Sanvicente-Vieira B, Grassi-Oliveira R, Franco AR, Buchweitz A. An fMRI study of inhibitory control and the effects of exposure to violence in Latin-American early adolescents: alterations in frontoparietal activation and performance. Soc Cogn Affect Neurosci. 2019 Oct 1; 14(10):1097-1107. PMID: 31820809.

Cowan E, Liu A, Henin S, Kothare S, Devinsky O, Davachi L. Sleep spindles promote the restructuring of memory representations in ventromedial prefrontal cortex through enhanced hippocampal-cortical functional connectivity. J Neurosci. 2020 Jan 17. PMID: 31959699.

Cox LM, Schafer MJ, Sohn J, Vincentini J, Weiner HL, Ginsberg SD, Blaser MJ. Calorie restriction slows age-related microbiota changes in an Alzheimer's disease model in female mice. Sci Rep. 2019 Nov 29;9(1):17904. PMID: 31784610.

Gooding DC, Park S, Dias EC, Goghari VM, Chan RRCK. Increasing diversity within scientific research organizations: A call to action. Schizophr Res. 2020 Jan 9. PMID: 31928909.

Gu Y, Piper WT, Branigan LA, Vazey EM, Aston-Jones G, Lin L, LeDoux JE, Sears RM. A brainstemcentral amygdala circuit underlies defensive responses to learned threats. Mol Psychiatry. 2019 Nov 22. PMID: 31758092.

Inda MC, Joshi S, Wang T, Bolaender A, Gandu S, Koren Iii J, Che AY, Taldone T, Yan P, Sun W, Uddin M, Panchal P, Riolo M, Shah S, Barlas A, Xu K, Chan LYL, Gruzinova A, Kishinevsky S, Studer L, Fossati V, Noggle SA, White JR, de Stanchina E, Sequeira S, Anthoney KH, Steele JW, Manova-Todorova K, Patil S, Dunphy MP, Pillarsetty N, Pereira AC, Erdjument-Bromage H, Neubert TA, Rodina A, Ginsberg SD, De Marco Garcia N, Luo W, Chiosis G. The epichaperome is a mediator of toxic hippocampal stress and leads to protein connectivity-based dysfunction. Nat Commun. 2020 Jan 16;11(1):319. PMID: 31949159.

Kantrowitz JT. The Potential Role of Lumateperone-Something Borrowed? Something New? JAMA Psychiatry. 2020 Jan 8. PMID: 31913409.

Kent JS, Disner SG, Van Voorhis AC, Urošević S, Caligiuri MP, Sponheim SR. Exploring the Relationship of Transdiagnostic Mood and Psychosis Symptom Domains with Motor Dysfunction. Neuropsychobiology. 2019 Dec 18:1-12. PMID: 31851987.

Kraus MS, Gold JM, Barch DM, Walker TM, Chun CA, Buchanan RW, Csernansky JG, Goff DC, Green MF, Jarskog LF, Javitt DC, Kimhy D, Lieberman JA, McEvoy JP, Mesholam-Gately RI, Seidman LJ, Ball MP, Kern RS, McMahon RP, Robinson J, Marder SR, Keefe RSE. The characteristics of cognitive neuroscience tests in a schizophrenia cognition clinical trial: Psychometric properties and correlations with standard measures. Schizophr Res Cogn. 2019 Oct 31; 19:100161. PMID: 31832342.

Lakatos P, O'Connell MN, Barczak A, McGinnis T, Neymotin S, Schroeder CE, Smiley JF, Javitt DC. The Thalamocortical Circuit of Auditory Mismatch Negativity. Biol Psychiatry. 2019 Nov 9. PMID: 31924325. Lewin M, Lopachin J, Delorme J, Opendak M, Sullivan RM, Wilson DA. Early Life Trauma Has Lifelong Consequences for Sleep and Behavior. Sci Rep. 2019 Nov 13;9(1):16701. PMID: 31723235.

Lewis CF, Lekas HM, Rivera A, Williams SZ, Crawford ND, Pérez-Figueroa RE, Joseph AM, Amesty S. Pharmacy PEP Access Intervention Among Persons Who Use Drugs in New York City: iPEPcare Study-Rethinking Biomedical HIV Prevention Strategies. AIDS Behav. 2020 Jan 10. PMID: 31925608.

Long Y, Cao H, Yan C, Chen X, Li L, Castellanos FX, et al. Altered resting-state dynamic functional brain networks in major depressive disorder: Findings from the REST-meta-MDD consortium. Neuroimage Clin. 2020 Jan 7:102163. PMID: 31953148.

Margolis AE, Banker S, Pagliaccio D, De Water E, Curtin P, Bonilla A, Herbstman JB, Whyatt R, Bansal R, Sjödin A, Milham MP, Peterson BS, Factor-Litvak P, Horton MK. Functional connectivity of the reading network is associated with prenatal polybrominated diphenyl ether concentrations in a community sample of 5 year-old children: A preliminary study. Environ Int. 2020 Jan; 134: 105212. PMID: 31743804.

Mathews PM, Levy E. Exosome Production Is Key to Neuronal Endosomal Pathway Integrity in Neurodegenerative Diseases. Front Neurosci. 2019 Dec 12; 13:1347. PMID: 31911768.

McKenna F, Babb J, Miles L, Goff D, Lazar M. Reduced Microstructural Lateralization in Males with Chronic Schizophrenia: A Diffusional Kurtosis Imaging Study. Cereb Cortex. 2019 Dec 10. PMID: 31819950.

Meftah AM, Deckler E, Citrome L, Kantrowitz JT. New discoveries for an old drug: a review of recent olanzapine research. Postgrad Med. 2020 Jan 3:1-11. PMID: 31813311.

Millen AM, Levinson A, Linkovski O, Shuer L, Thaler T, Nick GA, et al. Pilot Study Evaluating Critical Time Intervention for Individuals with Hoarding Disorder at Risk for Eviction. Psychiatr Serv. 2020 Jan 8. PMID: 31910750.

Miller M, Zemon V, Nolan-Kenney R, Balcer LJ, Goff DC, Worthington M, Hasanaj L, Butler PD. Optical coherence tomography of the retina in schizophrenia: Inter-device agreement and relations with perceptual function. Schizophr Res. 2020 Jan 11. PMID: 31937481.

Morris LS, Costi S, Tan A, Stern ER, Charney DS, Murrough JW. Ketamine normalizes subgenual cingulate cortex hyper-activity in depression. Neuropsychopharmacology. 2020 Jan 2. PMID: 31896116.

Naismith SL, Duffy SL, Cross N, Grunstein R, Terpening Z, Hoyos C, D'Rozario A, Lagopoulos J, Osorio RS, Shine JM, McKinnon AC. Nocturnal Hypoxemia Is Associated with Altered Parahippocampal Functional Brain Connectivity in Older Adults at Risk for Dementia. J Alzheimers Dis. 2019 Dec 2. PMID: 31815696.

Olofsson JK, Larsson M, Roa C, Wilson DA, Jonsson Laukka E. Interaction Between Odor Identification Deficit and APOE4 Predicts 6-Year Cognitive Decline in Elderly Individuals. Behav Genet. 2020 Jan;50(1):3-13. PMID: 31760549.

Ostroff LE, Santini E, Sears R, Deane Z, Kanadia RN, LeDoux JE, Lhakhang T, Tsirigos A, Heguy A, Klann E. Axon TRAP reveals learning-associated alterations in cortical axonal mRNAs in the lateral amgydala. Elife. 2019 Dec 11; 8:e51607. PMID: 31825308.

Perry RE, Rincón-Cortés M, Braren SH, Brandes-Aitken AN, Opendak M, Pollonini G, Chopra D, Raver CC, Alberini CM, Blair C, Sullivan RM. Corticosterone administration targeting a hyporeactive HPA axis rescues a socially-avoidant phenotype in scarcity-adversity reared rats. Dev Cogn Neurosci. 2019 Dec; 40:100716. PMID: 31704654.

Perry RE, Braren SH, Rincón-Cortés M, Brandes-Aitken AN, Chopra D, Opendak M, Alberini CM, Sullivan RM, Blair C. Enhancing Executive Functions Through Social Interactions: Causal Evidence Using a Cross-Species Model. Front Psychol. 2019 Nov 19; 10:2472. PMID: 31803087.

Petkova E, Park H, Ciarleglio A, Todd Ogden R, Tarpey T. Optimising treatment decision rules through generated effect modifiers: a precision medicine tutorial. BJPsych Open. 2019 Dec 3; 6(1):e2. PMID: 31791433.

Pillai A, Bruno D, Nierenberg J, Pandya C, Feng T, Reichert C, Ramos-Cejudo J, Osorio R, Zetterberg H, Blennow K, Pomara N. Complement component 3 levels in the cerebrospinal fluid of cognitively intact elderly individuals with major depressive disorder. Biomark Neuropsychiatry. 2019 Dec; 1:100007. PMID: 31942568.

Potkin SG, Kane JM, Correll CU, Lindenmayer JP, Agid O, Marder SR, Olfson M, Howes OD. The neurobiology of treatment-resistant schizophrenia: paths to antipsychotic resistance and a roadmap for future research. NPJ Schizophr. 2020 Jan 7; 6(1):1. PMID: 31911624.

Respino M, Hoptman MJ, Victoria LW, Alexopoulos GS, Solomonov N, Stein AT, Coluccio M, Morimoto SS, Blau CJ, Abreu L, Burdick KE, Liston C, Gunning FM. Cognitive Control Network Homogeneity and Executive Functions in Late-Life Depression. Biol Psychiatry Cogn Neurosci Neuroimaging. 2019 Nov 7. PMID: 31901436.

Roy ER, Wang B, Wan YW, Chiu GS, Cole AL, Yin Z, Propson NE, Xu Y, Jankowsky JL, Liu Z, Lee VM, Trojanowski JQ, Ginsberg SD, Butovsky O, Zheng H, Cao W. Type I interferon response drives neuro-inflammation and synapse loss in Alzheimer disease. J Clin Invest. 2020 Jan 9. 133737. PMID: 31917687.

Sidtis JJ, Sidtis DVL, Ramdhani R, Tagliati M. Speech Intelligibility During Clinical and Low Frequency. Brain Sci. 2020 Jan 2; 10(1). E26. PMID: 31906549.

Slifstein M, Abi-Dargham A, Girgis RR, Suckow RF, Cooper TB, Divgi CR, Sokoloff P, Leriche L, Carberry P, Oya S, Joseph SK, Guiraud M, Montagne A, Brunner V, Gaudoux F, Tonner F. Binding of the D3-preferring antipsychotic candidate F17464 to dopamine D3 and D2 receptors: a PET study in healthy subjects with [(11)C]-(+)-PHNO. Psychopharmacology (Berl). 2019 Nov 26. PMID: 31773210.

Smith C, Gwynn N, Lindenmayer JP. Pisa Syndrome and Aripiprazole. J Clin Psychopharmacol. 2020 Jan/Feb; 40(1):99-101. PMID: 31834091.

Smith RC, Md WL, Wang Y, Jiang J, Wang J, Szabo V, Faull R, Jin H, Davis JM, Li C. Effects of transcranial direct current stimulation on cognition and symptoms in Chinese patients with schizophrenia. Psychiatry Res. 2019 Nov 2: 112617. PMID: 31806403.

Stern ER, Brown C, Ludlow M, Shahab R, Collins K, Lieval A, Tobe RH, Iosifescu DV, Burdick KE, Fleysher L. The buildup of an urge in obsessive-compulsive disorder: Behavioral and neuroimaging correlates. Hum Brain Mapp. 2020 Jan 9. PMID: 31916668.

Tompary A, Davachi L. Consolidation Promotes the Emergence of Representational Overlap in the Hippocampus and Medial Prefrontal Cortex. Neuron. 2020 Jan 8; 105(1):199-200. PMID: 31917954.

Tompary A, Davachi L. Editorial Note to: Consolidation Promotes the Emergence of Representational Overlap in the Hippocampus and Medial Prefrontal Cortex. Neuron. 2020 Jan 8; 105(1):198. PMID: 31917953.

Tosun Ş, Tosun M, Akansel G, Gökbakan AM, Ünver H, Tural Ü. Proton magnetic resonance spectroscopic analysis of changes in brain metabolites following electroconvulsive therapy in patients with major depressive disorder. Int J

Psychiatry Clin Pract. 2019 Dec 11: 1-6. PMID: 31825726.

Wilson DA, Fleming G, Vervoordt SM, Coureaud G. Cortical processing of configurally perceived odor mixtures. Brain Res. 2020 Feb 15; 1729:146617. PMID: 31866364.

Barnes SK. Monocrystalline Iron Oxide
Nanoparticle [MION] Sensitivity in a Rhesus
Macaque (Macaca mulatta). <u>Journal of the</u>
<u>American Association for Laboratory Animal</u>
<u>Science 58[1]</u>, 94. 2019. [Abstract, 46th Association of Primate Veterinarians Workshop, APV 2018]

Coureaud G, Wilson DA. Configural Perception of Odor Mixtures: Functional Early in Life, Convergent Between Species. <u>Chemical Senses 44[7]</u>, e74. 2019. [Abstract]

East BS, Wilson DA. Posterior Piriform Cortical Modulation of Odor Fear Memory. <u>Chemical Senses 44[7]</u>, e103. 2019. [Abstract]

Khan A, Peechatka A, Dias NR, Lima V, Seddo M, Inja A et al. Patient perspective in the development of electronic patient-reported outcomes (ePROs) in seizure disorders: A patient-centric approach. Patient Preference and Adherence 2020; 14:13-21.

LeDoux J. <u>The Deep History of Ourselves: The</u>
<u>Four-Billion-Year Story of How We Got Conscious</u>
Brains. New York: Viking; 2019.