### The NKInformer



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

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Antonio Convit, MD, Deputy Director
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March – April 2022 Stuart Moss, MLS, Editor

# C-BIN Gains EEG Data Analyzing Power

The Center for Biomedical Imaging and Neuromodulation (C-BIN) recently welcomed Eduardo Gonzalez-Moreira to its staff. Dr. Gonzalez-Moreira has joined Dr. Alexandre Franco's Computational Neuroimaging Laboratories as a Research Scientist. To introduce himself, Dr. Gonzalez-Moreira graciously answered a few questions for the Informer.



Please tell us a bit about your research interests and what brought you to NKI.

involve Mγ long-term research interests computational neuroscience to estimate neural activity and connectivity based on non-invasive electrophysiological recordings and biomarker assessment for the characterization neurodegenerative diseases. Since NKI is a wellknown research center with long-standing strengths in dementia research, neuroimaging, and the application of computer technology to mental health services, it was an easy decision to apply for a position to work in electrophysiology data analysis here.

You have been a researcher in at least four countries – Cuba, Mexico, China, and the US – which sounds like an interesting experience. What have been some of the highlights?

I have had the luck to work and learn from very talented professors during my professional career. In Cuba, I worked on an outstanding team led at that time by Juan Lorenzo Ginori and Alberto Taboada Crispi. My direct supervisor, Carlos A. Ferrer, pushed me into the fantastic world of digital signal processing and data analysis.

Later, I moved to China for my Ph.D. Traveling to Hangzhou was a great challenge since I did not speak Mandarin or the Hangzhou dialect at that time, and just a few people spoke English in the city.

Furthermore, the informatization of Chinese society was not like today, where with a smartphone and WeChat, you can live in China without any significant issues, even without speaking Mandarin. There I worked for the first time on EEG data analysis under the supervision of Walter J. Freeman. Professor Freeman was a person full of energy and wisdom. I went back to China some years later for my postdoc, this time under the supervision of Pedro Valdes Sosa. My technical skills related to mathematical models and EEG data analysis improved significantly during my time in Pedro's lab.

I later moved to Mexico to work with Thalia Harmony. She is a world leader in EEG data analysis with a special focus on the pediatric population. With all her love and enthusiasm for pediatric electrophysiology, Professor Thalia helped to improve my knowledge about the nature of EEG data and quantitative features of newborn EEG.

What specific project(s) will you be working on at NKI?

I have already been involved in a new proposal project: "Neurobiology and Cognitive Functions of Slow Brain Network Fluctuations." My focus for this project will be related to data aggregation, standardization, and sharing.

How do you like to spend your time when you are not working?

Working on data analysis is like a hobby for me, so I need to be careful with myself since I could be in front of the computer reading papers, looking for hidden patterns in data, etc., for hours without realizing it! However, I also like to hang out with family and friends, travel to new places, and practice sports like baseball and snorkeling.

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#### **KUDOS**

Dr. Ying Jiang from the Center for Dementia Research has been promoted to Research Scientist 4 after a peer review by the Office of Mental Health. Dr. Jiang started her career at the CDR in 1997 where she has dedicated herself to the study of Alzheimer's and other



neurological diseases. In 2005, she was appointed Clinical Instructor at the NYU School of Medicine, followed by a promotion to Research Assistant Professor in the Department of Psychiatry. Dr. Jiang has co-authored over 30 peer reviewed articles, including multiple highly cited publications as first author. She is the co-applicant of a 2002 approved patent and, as a co-investigator on NIH grants, she has generated findings that continue to be fundamental to the successful awarding of research grants to the CDR. The staff at the CDR congratulate Dr. Jiang on her promotion and significant contributions over the past 24 years.



Edenia Menezes (Emotional Brain Institute) has been accepted to the <u>Neurobiology:</u> <u>Mechanisms & Advanced Approaches</u> course at the Woods Hole Marine Biological Laboratory (MBL), with most of the tuition covered by MBL. The course will be held in June and July.

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#### **GRANTS RECEIVED**

### ALZHEIMER'S \\ ASSOCIATION°

Two postdoctoral fellows in the Center for Dementia Research have been awarded <u>Fellowship</u> grants from the Alzheimer's Association.

**Dr. Pasquale D'Acunzo**, from Dr. Efrat Levy's lab, received an Alzheimer's Association Fellowship for the project titled "Propagation of mitochondrial dysfunction in the brain by mitovesicles."

**Dr. David Alcantara-Gonzalez**, from Dr. Helen Scharfman's lab, received an Alzheimer's Association Diversity Fellowship for the project titled "A new prospect in triggering early hyperexcitability in Alzheimer's disease."

#### FROM AROUND THE INSTITUTE



The work of **Kaitlyn Nemani** (Clinical Research) and colleagues, published last year in *JAMA Psychiatry*, was cited in a recent NPR Health News piece. The NPR article is titled "COVID and schizophrenia: Why this deadly mix can deepen understanding of the brain," and Dr. Nemani is quoted discussing her research on the link between schizophrenia and COVID mortality, as well as the potential for scientific and treatment advances.

Dr. Nemani also appears on <u>ABC 10News San Diego'</u> coverage of this topic.

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#### Roberto Rodriguez Jr.

July 31, 1957 - March 6, 2022



The NKI community was saddened to learn of the recent passing of **Roberto Rodriguez**. Roberto worked at NKI for 17 years before retiring from his position as Senior Laboratory Animal Technician in August 2020. We extend our sympathy to Roberto's family at this difficult time.



**Ralph Nixon** and **Helen Scharfman** of the Center for Dementia Research recently posted comments on the Alzforum research networking site. These can be found **here** and **here**.

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#### **PUBLICATIONS OF NOTE**



**Eva Petkova** is a lead author of two recent *JAMA Network Open* articles reporting on a study of the effectiveness of convalescent plasma for COVID patients. An interview with Dr. Petkova about this study appear at <u>MedicalResearch.com</u>.

Park H, Tarpey T, Liu M, Goldfeld K, Wu Y, Wu D, Li Y, Zhang J, Ganguly D, Ray Y, Paul SR, Bhattacharya P, Belov A, Huang Y, Villa C, Forshee R, Verdun NC, Yoon HA, Agarwal A, Simonovich VA, Scibona P, Burgos Pratx L, Belloso W, Avendaño-Solá C, Bar KJ, Duarte RF, Hsue PY, Luetkemeyer AF, Meyfroidt G, Nicola AM, Mukherjee A, Ortigoza MB, Pirofski LA, Rijnders BJA, Troxel A, Antman EM, Petkova E. Development and Validation of a Treatment Benefit Index to Identify Hospitalized Patients With COVID-19 Who May Benefit From Convalescent Plasma. JAMA Netw Open. 2022 Jan 4; 5(1):e2147375. PMID: 35076698.

Troxel AB, Petkova E, Goldfeld K, Liu M, Tarpey T, Wu Y, Wu D, Agarwal A, Avendaño-Solá C, Bainbridge E, Bar KJ, Devos T, Duarte RF, Gharbharan A, Hsue PY, Kumar G, Luetkemeyer AF, Meyfroidt G, Nicola AM, Mukherjee A, Ortigoza MB, Pirofski LA, Rijnders BJA, Rokx C, Sancho-Lopez A, Shaw P, Tebas P, Yoon HA, Grudzen C, Hochman J, Antman EM. <u>Association of Convalescent Plasma Treatment with Clinical Status in Patients Hospitalized With COVID-19:</u> <u>A Meta-analysis</u>. JAMA Netw Open. 2022 Jan 4;5(1):e2147331. PMID: 35076699.

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### nature genetics

Panos Roussos (Dementia Research) is a corresponding author of this recent publication in *Nature Genetics*. Quoting from the abstract, "This integrative analysis identifies candidate causal variants and elucidates potential regulatory mechanisms for genes underlying schizophrenia, bipolar disorder and Alzheimer's disease."

Zeng B, Bendl J, Kosoy R, Fullard JF, Hoffman GE, Roussos P. Multi-ancestry eQTL meta-analysis of human brain identifies candidate causal variants for brain-related traits. Nat Genet. 2022 Feb;54(2):161-169. PMID: 35058635.



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**Babak Ardekani** (Biomedical Imaging & Neuromodulation) has a new paper appearing in *Journal of Neuroscience Methods*.

Ardekani BA; Alzheimer's Disease Neuroimaging Initiative. A New Approach to Symmetric Registration of Longitudinal Structural MRI of the Human Brain. J Neurosci Methods. 2022 Mar 11:109563. PMID: 35288224.



**Mohammed Milad** (Clinical Research) is the corresponding author of this new open access paper in *Molecular Psychiatry*.

Wen Z, Seo J, Pace-Schott EF, Milad MR. Abnormal dynamic functional connectivity during fear extinction learning in PTSD and anxiety disorders. Mol Psychiatry. 2022 Feb 10. PMID: 35145227.

## Cerebral CORTEX

**Goi Khia Eng** (Clinical Research) is the first author of this paper published in Cerebral Cortex with **Emily Stern** and others in NKI's Clinical Research Department.

Eng GK, Collins KA, Brown C, Ludlow M, Tobe RH, losifescu DV, Stern ER. <u>Relationships between interoceptive sensibility and resting-state functional connectivity of the insula in obsessive-compulsive disorder</u>. Cereb Cortex. 2022 Mar 8: bhac014. PMID: 35257146.



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**Elisa Dias**, who just retired from NKI, coauthored this paper in *Psychiatry Research* with colleagues in Brazil.

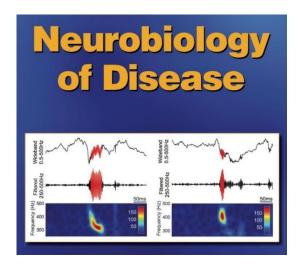
Mota NB, Pimenta J, Tavares M, Palmeira L, Loch AA, Hedin-Pereira C, Dias EC. <u>A Brazilian bottomup strategy to address mental health in a diverse population over a large territorial areaan inspiration for the use of digital mental health</u>. Psychiatry Res. 2022 Feb 25; 311:114477. PMID: 35245744.



The latest publication by **John Sidtis** (Brain & Behavior Laboratory) appears in *Frontiers in Neuroscience*.

Sidtis JJ. Cerebral Blood Flow Is Not a Direct Surrogate of Behavior: Performance Models Suggest a Role for Functional Meta-Networks. Front Neurosci. 2022 Feb 15; 16:771594. PMID: 35242005.

-06660-



This open access article by **Christos Lisgaras** and **Helen Scharfman** (Dementia Research) was published in *Neurobiology of Disease*. An image from their paper showing an epilepsy biomarker in a mouse model of epilepsy was selected to appear on the journal cover.

Lisgaras CP, Scharfman HE. Robust chronic convulsive seizures, high frequency oscillations, and human seizure onset patterns in an intrahippocampal kainic acid model in mice. Neurobiol Dis. 2022 May; 166:105637. PMID: 35091040.



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Matthew Hoptman (Clinical Research), Umit Tural (Clinical Research), and Daniel Javitt (Schizophrenia Research) coauthored this publication in the open access journal *Brain Sciences*.

Hoptman MJ, Tural U, Lim KO, Javitt DC, Oberlin LE. Relationships between Diffusion Tensor Imaging and Resting State Functional Connectivity in Patients with Schizophrenia and Healthy Controls: A Preliminary Study. Brain Sci. 2022 Jan 25;12(2):156. PMID: 35203920.

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**Kerstin Pahl** (Social Solutions & Services) coauthored this article in *Substance Abuse*.

Lee JY, Pahl K, Kim W. Latent triple trajectories of substance use as predictors for the onset of antisocial personality disorder among urban African American and Puerto Rican adults: A 22-year longitudinal study. Subst Abus. 2022; 43(1):442-450. PMID: 35073243.



**Robert Smith** (Neurochemistry) is a first author of this new paper appearing in *Schizophrenia Bulletin Open*.

Hei G, Smith RC, Li R, Ou J, Song X, Zheng Y et al. Sulforaphane Effects on Cognition and Symptoms in First and Early Episode Schizophrenia: A Randomized Double-Blind Trial. Schizophrenia Bulletin Open 2022; sgac024.



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**Daniel Javitt** and **Joshua Kantrowitz** (Schizophrenia Research) contributed this piece in a special issue of *Schizophrenia Research* on "Re-Inventing Schizophrenia: Updating the Construct".

Javitt DC, Kantrowitz JT. The glutamate/N-methyl-d-aspartate receptor (NMDAR) model of schizophrenia at 35: On the path from syndrome to disease. Schizophr Res. 2022 Apr; 242:56-61. PMID: 35125283.

### **Science** Advances

**Brian Russ** (Biomedical Imaging & Neuromodulation) is a coauthor of this new open access paper appearing in *Science Advances*.

Park SH, Koyano KW, Russ BE, Waidmann EN, McMahon DBT, Leopold DA. Parallel functional subnetworks embedded in the macaque face patch system. Sci Adv. 2022 Mar 11; 8(10):eabm2054. PMID: 35263138.

#### INFO UPDATE



The NKI library has purchased a copy of the latest edition of the APA's <u>Diagnostic and Statistical Manual of Mental Disorders</u>. It includes all the updates made to DSM-5 since 2013, and revised diagnostic criteria for several disorders. Also, for the first time ever, the entire text has been reviewed and revised by a Work Group on Ethnoracial Equity and Inclusion, ensuring attention to the impact of culture, race, and racism on diagnosis. The DSM-5-TR is available for reference use and short-term borrowing.



PubMed Central (PMC), the free full-text archive of biomedical and life sciences journal articles linked to PubMed, has an updated user interface. PMC houses more than 7 million full-text records, spanning several centuries of biomedical and life science research, and is used by more than 3 million users every day. Features in PubMed and PMC now have a similar look and feel. For an overview of the new design, see "New PMC Website Design is Live!". And for a more detailed video discussion, see this recent recording of an NLM Office Hours webinar on PMC.



NOVELny is an online virtual library connecting New Yorkers to 21st century information via libraries and library systems statewide. NOVELny gives New Yorkers free online access to the full text of thousands of journals, newspapers, and other reference materials. Access to the current collection of databases has been extended through June 2023. You can access these resources through the NOVELny portal.

In addition, New York State government employees have expanded access privileges to electronic databases, e-journals, and e-books through the New York State Library. For more details see the NYS Library website <a href="https://example.com/here/">here</a>.

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>, etc.).

#### **EVENTS AND SEMINARS**

### Center for Biomedical Imaging and Neuromodulation Science Series

Held on Mondays at 11 am via Zoom (Meeting ID: 214 282 6575)

#### **John Sidtis**

Brain & Behavior Lab, NKI

Cerebral blood flow is not a direct surrogate of behavior: Performance models suggest a role for functional meta-networks

April 18

#### **Anna Zilverstrand**

University of Minnesota

Using "data-mining" of public data sets to characterize the complexity in the mechanisms underlying human drug addiction

April 25

#### Xi-Nian Zuo

Beijing Normal University

May 2

#### Chao-Gan Yan

Institute of Psychology, Chinese Academy of Sciences

May 9

#### Jan Zimmermann

University of Minnesota

Timescales of behavior and neural processing

May 16

#### Mitul Mehta

Kings College London

### Where's the pharmacology in pharmacological imaging with MRI?

May 23

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 ON THE (VIRTUAL) ROAD



On March 2, **Yohan Kim** (Levy Lab, Center for Dementia Research) presented at the NYU Neuroscience Institute Weekly Group Meeting. Dr. Kim's topic was "Sex Differentially Alters Secretion of Brain Extracellular Vesicles During Aging: A Potential Mechanism for Maintaining Brain Homeostasis".



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**Christos Lisgaras** (Scharfman Lab, Center for Dementia Research) is teaching several courses in the <u>Pathogenesis of the Epilepsies</u> program being offered by 4EU+, a consortium between 4 EU Universities.

#### 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 6,800 items dating back to 1995 and can be searched from the myNKI website.

Ardekani BA; Alzheimer's Disease Neuroimaging Initiative. A New Approach to Symmetric Registration of Longitudinal Structural MRI of the Human Brain. J Neurosci Methods. 2022 Mar 11:109563. PMID: 35288224.

Beck JS, Madaj Z, Cheema CT, Kara B, Bennett DA, Schneider JA, Gordon MN, Ginsberg SD, Mufson EJ, Counts SE. Co-expression Network Analysis of Frontal Cortex during the Progression of Alzheimer's Disease. Cereb Cortex. 2022 Jan 24: bhac001. PMID: 35076713.

Castellanos FX. [Skeptical review of the state of neuroimaging in attention deficit hyperactivity disorder]. Medicina (B Aires). 2022 Feb 2;82 Suppl 1:28-32. Spanish. PMID: 35171804.

Castillo-García IM, López-Álvarez J, Osorio R, Olazarán J, Ramos García MI, Agüera-Ortiz L. Clinical Trajectories of Neuropsychiatric Symptoms in Mild- Moderate to Advanced Dementia. J Alzheimers Dis. 2022 Feb 8. PMID: 35147532.

Chen NX, Fu G, Chen X, Li L, Milham MP, Lui S et al. The contributions of brain structural and functional variance in predicting age, sex and treatment. Neuroimage: Reports 2021;1(2):100024.

Cheng A, Badolato R, Segoshi A, McDonald R, Malone M, Vasudevan K, Badiei B, Sugarman A, Macdonald R, Mangat J, Giftos J, Lee JD, Tofighi B. Perceptions and experiences toward extended-release buprenorphine among persons leaving jail with opioid use disorders before and during COVID-19: an in-depth qualitative study. Addict Sci Clin Pract. 2022 Jan 29;17(1):4. PMID: 35093164.

Chyzhyk D, Varoquaux G, Milham M, Thirion B. How to remove or control confounds in predictive models, with applications to brain biomarkers. Gigascience. 2022 Mar 12; 11:giac014. PMID: 35277962.

Coureaud G, Thomas-Danguin T, Sandoz JC, Wilson DA. Biological constraints on configural odour mixture perception. J Exp Biol. 2022 Mar 15;225(6):jeb242274. PMID: 35285471.

Eng GK, Collins KA, Brown C, Ludlow M, Tobe RH, Iosifescu DV, Stern ER. Relationships between interoceptive sensibility and resting-state functional connectivity of the insula in obsessive-compulsive disorder. Cereb Cortex. 2022 Mar 8: bhac014. PMID: 35257146.

Esper NB, Franco AR, Soder RB, Bomfim RC, Nunes ML, Radaelli G, Esper KB, Kotoski A, Pripp W, Neto FK, Azambuja LS, Mathias NA, da Costa DI, Portuguez MW, da Costa JC, Buchweitz A. Zika virus congenital microcephaly severity classification and the association of severity with neuropsychomotor development. Pediatr Radiol. 2022 Mar 1. PMID: 35229185.

Fitapelli B, Lindenmayer JP. Advances in Cognitive Remediation Training in Schizophrenia: A Review. Brain Sci. 2022 Jan 18;12(2):129. PMID: 35203893.

Flavin L, Tofighi B, Krawczyk N, Schatz D, McNeely J, Butner J. Low Threshold Telemedicine-based Opioid Treatment for Criminal Justice Involved Adults During the COVID-19 Pandemic: A Case Report. J Addict Med. 2022 Jan-Feb 01;16(1):e59-e61. PMID: 35120069.

Gausman J, Kim R, Li Z, Tu L, Rajpal S, Joe W, Subramanian SV. Comparison of Child Undernutrition Anthropometric Indicators Across 56 Low- and Middle-Income Countries. JAMA Netw Open. 2022 Mar 1;5(3):e221223. PMID: 35275168.

Goff DC. Pathophysiological Theories. In: Lieberman JA, Stroup TS, Perkins DO, Dixon LB, editors. The American Psychiatric Association Publishing Textbook of Schizophrenia, Second Edition. Washington, DC: American Psychiatric Association Publishing; 2020. p. 105-26. Hafez AK, Zimmerman AJ, Papageorgiou G, Chandrasekaran J, Amoah SK, Lin R, Lozano E, Pierotti C, Dell'Orco M, Hartley BJ, Alural B, Lalonde J, Esposito JM, Berretta S, Squassina A, Chillotti C, Voloudakis G, Shao Z, Fullard JF, Brennand KJ, Turecki G, Roussos P, Perlis RH, Haggarty SJ, Perrone-Bizzozero N, Brigman JL, Mellios N. A bidirectional competitive interaction between circHomer1 and Homer1b within the orbitofrontal cortex regulates reversal learning. Cell Rep. 2022 Jan 18;38(3):110282. PMID: 35045295.

Hei G, Smith RC, Li R, Ou J, Song X, Zheng Y et al. Sulforaphane Effects on Cognition and Symptoms in First and Early Episode Schizophrenia: A Randomized Double-Blind Trial. Schizophrenia Bulletin Open 2022; sgac024.

Hoptman MJ, Tural U, Lim KO, Javitt DC, Oberlin LE. Relationships between Diffusion Tensor Imaging and Resting State Functional Connectivity in Patients with Schizophrenia and Healthy Controls: A Preliminary Study. Brain Sci. 2022 Jan 25;12(2):156. PMID: 35203920.

Javitt DC, Kantrowitz JT. The glutamate/N-methyl-d-aspartate receptor (NMDAR) model of schizophrenia at 35: On the path from syndrome to disease. Schizophr Res. 2022 Apr; 242:56-61. PMID: 35125283.

Kelly RE Jr, Ahmed AO, Hoptman MJ. What Do These Findings Tell Us? Comment on Tinella et al. Cognitive Efficiency and Fitness-to-Drive along the Lifespan: The Mediation Effect of Visuospatial Transformations. *Brain Sci.* 2021, *11*, 1028. Brain Sci. 2022 Jan 27;12(2):165. PMID: 35203929.

Köhler-Forsberg O, Sylvia LG, Thase M, Calabrese JR, Tohen M, Bowden CL, McInnis M, Iosifescu DV, Kocsis JH, Friedman ES, Ketter TA, McElroy SL, Shelton RC, Fung V, Ostacher MJ, Nierenberg AA. Lithium plus antipsychotics or anticonvulsants for bipolar disorder: Comparing clinical response and metabolic changes. Aust N Z J Psychiatry. 2022 Feb 15:48674221077619. PMID: 35164524.

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Lee JY, Pahl K, Kim W. Latent triple trajectories of substance use as predictors for the onset of antisocial personality disorder among urban African American and Puerto Rican adults: A 22-year longitudinal study. Subst Abus. 2022; 43(1):442-450. PMID: 35073243.

Lisgaras CP, Scharfman HE. Robust chronic convulsive seizures, high frequency oscillations, and human seizure onset patterns in an intrahippocampal kainic acid model in mice. Neurobiol Dis. 2022 May; 166:105637. PMID: 35091040.

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Martínez A, Tobe RH, Gaspar PA, Malinsky D, Dias EC, Sehatpour P, Lakatos P, Patel GH, Bermudez DH, Silipo G, Javitt DC. Disease-Specific Contribution of Pulvinar Dysfunction to Impaired Emotion Recognition in Schizophrenia. Front Behav Neurosci. 2022 Feb 14; 15:787383. PMID: 35237135.

Medlock L, Sekiguchi K, Hong S, Dura-Bernal S, Lytton WW, Prescott SA. Multiscale computer model of the spinal dorsal horn reveals changes in network processing associated with chronic pain. J Neurosci. 2022 Feb 28: JN-RM-1199-21. PMID: 35232767.

Miller DB, Rassaby MM, Collins KA, Milad MR. Behavioral and neural mechanisms of latent inhibition. Learn Mem. 2022 Jan 18;29(2):38-47. PMID: 35042827.

Mota NB, Pimenta J, Tavares M, Palmeira L, Loch AA, Hedin-Pereira C, Dias EC. A Brazilian bottom-up strategy to address mental health in a diverse population over a large territorial area - an inspiration for the use of digital mental health. Psychiatry Res. 2022 Feb 25; 311:114477. PMID: 35245744.

Nikolaidis A, DeRosa J, Kass M, Droney I, Alexander L, Di Martino A, Bromet E, Merikangas K, Milham MP, Paksarian D. Heterogeneity in COVID-19 pandemic- induced lifestyle stressors predicts future mental health in adults and children in the US and UK. J Psychiatr Res. 2022 Mar; 147:291-300. PMID: 35123338.

Park H, Tarpey T, Liu M, Goldfeld K, Wu Y, Wu D, Li Y, Zhang J, Ganguly D, Ray Y, Paul SR, Bhattacharya P, Belov A, Huang Y, Villa C, Forshee R, Verdun NC, Yoon HA, Agarwal A, Simonovich VA, Scibona P, Burgos Pratx L, Belloso W, Avendaño-Solá C, Bar KJ, Duarte RF, Hsue PY, Luetkemeyer AF, Meyfroidt G, Nicola AM, Mukherjee A, Ortigoza MB, Pirofski LA, Rijnders BJA, Troxel A, Antman EM, Petkova E. Development and Validation of a Treatment Benefit Index to Identify Hospitalized Patients With COVID-19 Who May Benefit From Convalescent Plasma. JAMA Netw Open. 2022 Jan 4; 5(1):e2147375. PMID: 35076698.

Park SH, Koyano KW, Russ BE, Waidmann EN, McMahon DBT, Leopold DA. Parallel functional subnetworks embedded in the macaque face patch system. Sci Adv. 2022 Mar 11; 8(10):eabm2054. PMID: 35263138.

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Reyes-Portillo JA, Warner CM, Kline EA, Bixter MT, Chu BC, Miranda R et al. The Psychological, Academic, and Economic Impact of COVID-19 on College Students in the Epicenter of the Pandemic. Emerging Adulthood 2022;10(2):473-90.

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Sidtis JJ. Cerebral Blood Flow Is Not a Direct Surrogate of Behavior: Performance Models Suggest a Role for Functional Meta-Networks. Front Neurosci. 2022 Feb 15; 16:771594. PMID: 35242005.

Stroup TS, Perkins DO, Javitt DC. Pharmacological and Somatic Therapies. In: Lieberman JA, Stroup TS, Perkins DO, Dixon LB, editors. The American Psychiatric Association Publishing Textbook of Schizophrenia, Second Edition. Washington, DC: American Psychiatric Association Publishing; 2020. p. 149-83.

Troxel AB, Petkova E, Goldfeld K, Liu M, Tarpey T, Wu Y, Wu D, Agarwal A, Avendaño-Solá C, Bainbridge E, Bar KJ, Devos T, Duarte RF, Gharbharan A, Hsue PY, Kumar G, Luetkemeyer AF, Meyfroidt G, Nicola AM, Mukherjee A, Ortigoza MB, Pirofski LA, Rijnders BJA, Rokx C, Sancho-Lopez A, Shaw P, Tebas P, Yoon HA, Grudzen C, Hochman J, Antman EM. Association of Convalescent Plasma Treatment with Clinical Status in Patients Hospitalized With COVID-19: A Meta-analysis. JAMA Netw Open. 2022 Jan 4;5(1):e2147331. PMID: 35076699.

Weeland CJ, Kasprzak S, de Joode NT, Abe Y, Alonso P, Ameis SH, Anticevic A, Arnold PD, Balachander S, Banaj N, Bargallo N, Batistuzzo MC, Benedetti F, Beucke JC, Bollettini I, Brecke V, Brem S, Cappi C, Cheng Y, Cho KIK, Costa DLC, Dallaspezia S, Denys D, Eng GK, et al. The thalamus and its subnuclei-a gateway to obsessive-compulsive disorder. Transl Psychiatry. 2022 Feb 21;12(1):70. PMID: 35190533.

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