

# The NKInformer



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

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Donald C. Goff, MD, Director  
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September – October 2021

*Stuart Moss, MLS, Editor*

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## **MELISSA'S COVID PHILOSOPHY:**

***"You can't go anywhere anyway, so put your head down and get to work!"***

*Melissa Alldred, PhD, came to NKI in 2005 as a postdoctoral fellow in the lab of Dr. Stephen Ginsberg. She now holds the joint titles of Research Scientist in the Center for Dementia Research at NKI and Research Assistant Professor in the Department of Psychiatry, New York University School of Medicine. Melissa has had a banner year in 2021, with four first author papers accepted for publication along with two collaborative publications. For this issue, Melissa described her work at NKI and provided details about her recent research.*

Melissa Alldred studies the molecular and cellular changes in RNA and protein expression in individual neuronal subtypes that are particularly vulnerable to degeneration during the progression of Alzheimer's disease and related neurodegenerative disorders. Pinpointing changes within these vulnerable cell types reveals cell-specific gene expression changes that may underlie neurodegeneration and cognitive impairment. Using a number of innovative interrogative techniques, including laser capture and confocal scanning microscopy of vulnerable neuronal populations in animal, cellular, and postmortem human tissues coupled with newly developed RNA-

seq analysis and Nanostring nCounter validation of RNA expression levels, she assesses gene expression and concomitant protein level changes within neurons of the basal forebrain, hippocampal formation, and neocortex.



Melissa's first 2021 publication, "[Profiling Basal Forebrain Cholinergic Neurons Reveals a Molecular Basis for Vulnerability Within the Ts65Dn Model of Down Syndrome and Alzheimer's Disease](#)", appears in *Molecular Neurobiology*. This is her first RNA sequencing publication, in which she isolated a

single neuronal population from the medial septal region of the basal forebrain in mouse. She examined the cellular gene expression changes in this vulnerable population of neurons at the onset of degeneration. At the cusp of basal forebrain cholinergic (BFCN) degeneration, which is seen in both human Down syndrome (DS) and Alzheimer's disease and is mimicked in the mouse model of DS, gene expression analysis showed several unique canonical pathways with significant dysregulation at onset of BFCN degeneration. This work links single population gene expression changes specifically to medial septal cholinergic neuron degeneration. One such pathway – mitochondrial oxidative phosphorylation – was shown to be dysregulated at the transcript level, which was then examined at both the gene and protein level in the basocortical circuit and [these findings were published](#) in *Frontiers in Aging Neuroscience*. This work demonstrates that downregulation of both protein and RNA in the basal forebrain structures were more severe than in the frontal cortex, indicating that dysregulation within mitochondrial oxidative phosphorylation complexes is an early marker of cognitive decline onset and is specifically linked to BFCN degeneration.

On another research front, Melissa was recruited by Dr. Lotta Granholm to collaboratively guest edit (along with Dr. Alessandra Martini) a [special issue on Down Syndrome and Aging](#) for the *Journal of Clinical Medicine*. [Melissa's own original research contribution to this special issue](#) is a paper on changes in the Type II Diabetes Mellitus pathway in the mouse DS brain, in which cognitive deficits are attenuated by a dietary modification – maternal choline supplementation (MCS) – during gestation. She found that the protein hormone adiponectin is significantly decreased in the DS brain and that this deficit is attenuated in the MCS treated brain. Further study showed MCS treatment also modified the adiponectin receptor levels in the brain at the RNA and protein levels. In addition, Melissa's review, in collaboration with Drs. Martini, Patterson, Hendrix, and Granholm, titled "Aging with Down Syndrome – Where Are We Now and Where Are We Going?" is currently in press.

As if that were not enough, Melissa also contributed to two publications by co-CDR members: Dr. Pasquale D'Acunzo's publication from Dr. Efrat Levy's lab in *Science Advances* ("[Mitovesicles are a novel population of extracellular vesicles of mitochondrial origin altered in Down syndrome](#)"); and Mariah Novy's accepted publication from Dr. Paul Mathews' lab in *Neurobiology of Aging* ("Expression and proteolytic processing of the amyloid precursor protein in the brain is unaltered by apolipoprotein E genotype").

Congratulations to Melissa and the Ginsberg group for their publication success in 2021!

## KUDOS

**ISDP** International Society for  
Developmental Psychobiology

**Regina Sullivan** (Emotional Brain Institute) is the recipient of the 2021 [Senior Investigator Award](#) from the International Society for Developmental Psychobiology, reflecting her significant contributions to developmental psychobiology over the course of her distinguished research career.



## GRANTS RECEIVED



National Science Foundation  
WHERE DISCOVERIES BEGIN

**Drs. J. Thomas Vaughan, Alex Franco and Mike Milham** (Center for Biomedical Imaging and Neuromodulation) received funding from the National Science Foundation for the project “[MRI: Development of a Next Gen 9.4T Magnetic Resonance system for Translational Neuroscience](#)”.



National Institute  
of Mental Health

**Dr. Emily Stern** (Clinical Research) received an R01 from the National Institute of Mental Health (through NYU Grossman School of Medicine) titled “[Behavioral and Neural Heterogeneity in OCD and Depression](#)”.

alzheimer's  association®

**Dr. Dan Iosifescu** (Clinical Research) received a grant from the Alzheimer's Association's [Part the Cloud Bioenergetics/Mitochondria, Clearance Related, Vascular Contributions and Inflammation Clinical Trials Program](#). The grant was received through NYU Grossman School of Medicine and titled “[Photobiomodulation for Early Stage Alzheimer Disease \(PhESAD\)](#)”.



National Institute  
on Aging

**Dr. Nunzio Pomara** (Geriatric Psychiatry) received an R01 from the National Institute on Aging (through NYU Grossman School of Medicine) titled “[Depression treatment and A \$\beta\$  dynamics: A study of Alzheimer's disease risk](#)”.

**Dr. Stephen Ginsberg** (Center for Dementia Research), in collaboration with Dr. Gabriela Chiosis at Sloan-Kettering Institute for Cancer Research, received an R01 from the National Institute on Aging titled “[Impact of Sex Differences on the Trajectory of Interactome Dysfunctions Across the AD Spectrum](#)”.



National Institute of  
Environmental Health Sciences

**Dr. Vinod Yaragudri** (Emotional Brain Institute), in collaboration with Dr. Nagaraja Nagre at Eastern Virginia Medical School, received an R21 from the National Institute of Environmental Health Sciences titled “[Cannabinoid-2 receptor signaling in vesicant induced lung injury](#)”.



National Institute on Alcohol  
Abuse and Alcoholism

**Dr. Yaragudri** also received and R21 from the National Institute on Alcohol Abuse and Alcoholism titled “[GPR55 Receptor Signaling in Binge Alcohol Drinking Behavior](#)”.

## FROM AROUND THE INSTITUTE



**Rosemarie LoFaro** is the new Senior Administrative Assistant for Dr. Ralph Nixon. Rosemarie is a graduate of Fordham University and brings over 25 years of experience to her new position at NKI.



**Meghan Kennedy** (Dementia Research) came to NKI in November 2020 and started in the Animal Facility. She joined Dr. Helen Scharfman's lab part-time at the end of July 2021 and is now a full-time laboratory technician. One of the brain abnormalities studied in Dr. Scharfman's

lab is epilepsy, and Meghan has multiple family members with this disorder. Meghan notes: "I'm excited to learn more about epilepsy and the brain in general. I'm also a huge animal lover; I have a bearded dragon named Reptar and a Senegal parrot named Paulie. When I'm not working, I enjoy escaping to the outdoors to hike, kayak, and ski, to name a few!"



Director of Clinical Research **Dan Iosifescu** provided commentary for a recent Bloomberg [CityLab article](#). The article discusses a study of depression rates in urban areas published in *PNAS*.



On September 12<sup>th</sup> at Rockland Lake, [NAMI Rockland](#) held its 5K Run/Walk for Wellness, celebrating NAMI Rockland's 40<sup>th</sup> anniversary. Several people from NKI were on hand for this event, including **Sebrena Tate**, **Sharifa Williams**, and **Pedro Batista** (Social Solutions & Services). Also participating were **Abraham Goldring** and **Sebastian Prokop** (Manhattan Psychiatric Center). Dr. Goldring finished in 3<sup>rd</sup> place overall in the 5K.



Sebrena Tate, Sharifa Williams, and Pedro Batista



## PUBLICATIONS OF NOTE

# nature

**Regina Sullivan** (Emotional Brain Institute) coauthored this paper published recently in *Nature*.

Carcea I, Caraballo NL, Marlin BJ, Ooyama R, Riceberg JS, Mendoza Navarro JM, Opendak M, Diaz VE, Schuster L, Alvarado Torres MI, Lethin H, Ramos D, Minder J, Mendoza SL, Bair-Marshall CJ, Samadjopoulos GH, Hidema S, Falkner A, Lin D, Mar A, Wadghiri YZ, Nishimori K, Kikusui T, Mogi K, Sullivan RM, Froemke RC. [Oxytocin neurons enable social transmission of maternal behaviour](#). *Nature*. 2021 Aug; 596(7873):553-557. PMID: 34381215.



This review by **Xavier Castellanos** (Clinical Research) was published in the August issue of the *American Journal of Psychiatry*.

Castellanos FX. [A Biased Perspective on Brain Imaging of ADHD](#). *Am J Psychiatry*. 2021 Aug 1;178(8):694-700. PMID: 34383564.



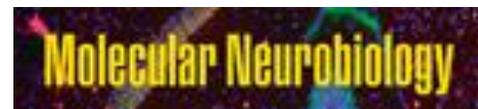
**Marcin Leszczynski** and **Charles Schroeder** (Biomedical Imaging & Neuromodulation) published this open access article in *Scientific Reports* along with German colleagues.

Leszczynski M, Chaieb L, Staudigl T, Enkirch SJ, Fell J, Schroeder CE. [Neural activity in the human anterior thalamus during natural vision](#). *Sci Rep*. 2021 Sep 1;11(1):17480. PMID: 34471183.

# JAMA Psychiatry

**Katlyn Nemani** (Clinical Research) and NKI Director **Donald Goff** are coauthors of this systematic review appearing in *JAMA Psychiatry*. The paper was the subject of a *Psychiatric News* [Alert](#).

Fond G, Nemani K, Etchecopar-Etchart D, Loundou A, Goff DC, Lee SW, Lancon C, Auquier P, Baumstarck K, Llorca PM, Yon DK, Boyer L. [Association Between Mental Health Disorders and Mortality Among Patients With COVID-19 in 7 Countries: A Systematic Review and Meta-analysis](#). *JAMA Psychiatry*. 2021 Jul 27:e212274. PMID: 34313711.



**Melissa Alldred**, **Stephen Ginsberg**, **Panos Roussos** (Dementia Research) and others at NKI have a new article appearing in *Molecular Neurobiology*.

Allred MJ, Penikalapati SC, Lee SH, Heguy A, Roussos P, Ginsberg SD. [Profiling Basal Forebrain Cholinergic Neurons Reveals a Molecular Basis for Vulnerability Within the Ts65Dn Model of Down Syndrome and Alzheimer's Disease](#). *Mol Neurobiol*. 2021 Jul 14. PMID: 34263425.

# PEDIATRICS

**Marilena Lekas** (Social Solutions & Services) is a coauthor of this Ethics Rounds piece in *Pediatrics*.

Taylor LA, Udeagbala O, Biggs A, Lekas HM, Ray K. [Should a Healthcare System Facilitate Racially Concordant Care for Black Patients?](#) *Pediatrics*. 2021 Sep 3:e2021051113. PMID: 34479982.

# Neuron

Center for Biomedical Imaging & Neuromodulation Director **Michael Milham** is a coauthor of this review published in the September 15<sup>th</sup> issue of *Neuron*.

Sydnor VJ, Larsen B, Bassett DS, Alexander-Bloch A, Fair DA, Liston C, Mackey AP, Milham MP, Pines A, Roalf DR, Seidlitz J, Xu T, Raznahan A, Satterthwaite TD. [Neurodevelopment of the association cortices: Patterns, mechanisms, and implications for psychopathology](#). *Neuron*. 2021 Jul 13. PMID: 34270921.



Several NKI papers recently came out in the open access journal *Frontiers in Psychiatry*. The senior authors are **Vilma Gabbay** (Clinical Research), **Emily Stern** (Clinical Research), and **Joshua Kantrowitz** (Schizophrenia Research).

Ely BA, Nguyen TNB, Tobe RH, Walker AM, Gabbay V. [Multimodal Investigations of Reward Circuitry and Anhedonia in Adolescent Depression](#). *Front Psychiatry*. 2021 Jul 23; 12:678709. PMID: 34366915.

Bragdon LB, Eng GK, Belanger A, Collins KA, Stern ER. [Interoception and Obsessive-Compulsive Disorder: A Review of Current Evidence and Future Directions](#). *Front Psychiatry*. 2021 Aug 25; 12:686482. PMID: 34512412.

Meftah A, Hasegawa H, Kantrowitz JT. [D-Serine: A Cross Species Review of Safety](#). *Front Psychiatry*. 2021 Aug 10; 12:726365. PMID: 34447324.

# iScience

**Stephen Ginsberg** (Dementia Research) is a corresponding author of this paper recently published in the Cell Press open science journal *iScience*. This paper was featured in news outlets such as [SciTechDaily](#) and [Genetic Engineering & Biotechnology News](#).

Volkova A, Ruggles K, Schulfer A, Gao Z, Ginsberg SD, Blaser MJ. [Effects of early-life penicillin exposure on the gut microbiome and frontal cortex and amygdala gene expression](#). *iScience*. 2021 Jul 15;24(7):102797. PMID: 34355145.

# Neuropsychopharmacology

**Ralph Nixon**, Director of the Center for Dementia Research, coauthored this Hot Topics article in *Neuropsychopharmacology*.

Alam JJ, Nixon RA. [Disease-modifying pharmacological approaches to correcting basal forebrain cholinergic neuronal \(BFCN\) dysfunction and degeneration](#). *Neuropsychopharmacology*. 2021 Aug 13. PMID: 34389810.

# Alcohol

**John Smiley** (Neurochemistry; corresponding author), **Mariko Saito** (Neurochemistry), and others at NKI have a new paper appearing in *Alcohol*.

Smiley JF, Bleiwas C, Canals-Baker S, Williams SZ, Sears R, Teixeira CM, Wilson DA, Saito M. [Neonatal ethanol causes profound reduction of cholinergic cell number in the basal forebrain of adult animals](#). *Alcohol*. 2021 Aug 28. PMID: 34464696.

**John Orczyk, Yoshinao Kajikawa, Annamaria Barczak, and Jordi Costa-Faidella** (Translational Neuroscience, C-BIN) published their latest paper in *The Journal of Neuroscience*.

Orczyk JJ, Barczak A, Costa-Faidella J, Kajikawa Y. [Cross Laminar Traveling Components of Field Potentials due to Volume Conduction of Non-Traveling Neuronal Activity in Macaque Sensory Cortices](#). *J Neurosci*. 2021 Sep 8;41(36):7578-7590. PMID: 34321312.



Also recently published in *JNeurosci* is this article coauthored by **Lila Davachi** (Biomedical Imaging & Neuromodulation).

Ezzyat Y, Davachi L. [Neural evidence for representational persistence within events](#). *J Neurosci*. 2021 Jul 30. PMID: 34330773.



With colleagues from Italy, **Nunzio Pomara** (Geriatric Psychiatry) recently published this paper in *Ageing Research Reviews*.

Carbone MG, Pagni G, Tagliarini C, Imbimbo BP, Pomara N. [Can platelet activation result in increased plasma A \$\beta\$  levels and contribute to the pathogenesis of Alzheimer's disease?](#) *Ageing Res Rev*. 2021 Aug 8; 71:101420. PMID: 34371202.



## INFO UPDATE



National  
Center for  
Biotechnology  
Information

NCBI has announced a [new virtual workshop series](#) that aims to engage and educate people who use NCBI resources for their biological/biomedical research, science education, and clinical application efforts. See the [workshop web page](#) for a list of topics and dates.

Here are some of the upcoming sessions:

- October 14 – [Using Web BLAST Effectively](#)
- October 26 – [NCBI Resources for Genetic Disease Discovery & Clinical Support](#)
- October 28 – [An NCBI Guide to Finding and Analyzing Metagenomic Data](#)
- November 9 – [Need to amplify your gene or gene region? Use Primer-BLAST!](#)
- November 16 – [An Introduction to NCBI Cloud Computing for Biologists](#)

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

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

You can [link to the NKI Library's website](#) from myNKI. The Library site includes quick links to the NYU Health Sciences Library and to the New York State Library, as well as links to NKI's own library resources ([journal finder](#), [online catalog](#), etc.).

## DEPARTMENT OF WONDER



Brain art is now displayed throughout NKI, but if you can't get enough, check out the 2021 winners of the [Show Us Your BRAINs! Photo & Video Contest](#). Each year, BRAIN Initiative researchers are invited to enter their best photos and short videos for the contest. On the contest web page, you can also find past winners and a downloadable calendar featuring some of the top entries.



In another apparent triumph for the CRISPR gene-editing technology, researchers have succeeded in improving the vision of some patients with a rare genetic eye disease. For the first time, the CRISPR gene editor was injected directly into cells in the patients' bodies. (In earlier experiments, cells were removed, edited in the lab, and then infused back into the patients.) More patients will need to be treated and followed to confirm the safety and effectiveness of the treatment, but the early results are promising. These findings could pave the way to using the same approach to treat other diseases where doctors can't take cells out of the body, including brain disorders like Huntington's. You can [read the whole story](#) (or listen to it) on the NPR website.

## EVENTS AND SEMINARS

### Center for Biomedical Imaging and Neuromodulation Works in Progress (WIP)

Please join us for the Works in Progress (WIP) seminar series. These seminars, originally the in-person C-BIN Science Series at the Nathan Kline Institute, have been converted to an online "Works in Progress" format, where researchers may discuss data sets from ongoing experiments and get feedback, as well as give finished presentations. WIP are held via Zoom on Mondays from 11am – 12pm (Eastern time).

Upcoming schedule:

- Oct 18: Taku Ito, Yale
- Nov 1: Beatriz Luna, UPMC
- Nov 8: Eric Goldwaser, Univ. Maryland
- Nov 15: Arish Alreja, CMU
- Nov 22: Stephen Ginsberg, NKI
- Nov 29: Roman Baravalle, LSU

To join a meeting, go to [zoom.us](https://zoom.us) and enter Meeting ID: **919 544 345**

If you can only join by phone, call: +1 646-558-8656, then enter the zoom meeting ID above.



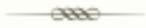
The Third Annual NYU Psychiatry Research Day will be held on October 18<sup>th</sup> from 3pm – 5pm.



Office of  
Mental Health

### Statewide Town Hall

OMH is conducting a [Statewide Virtual Town Hall](#) with Commissioner Ann Sullivan, MD, on Thursday October 28<sup>th</sup> from 2pm – 4pm.



### Statewide Grand Rounds

#### ***Addressing Cognitive Health to Improve Quality of Life***

##### *Presenters*

##### **Alice Medalia, PhD**

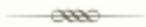
Director of Cognitive Health Services, OMH  
Professor of Medical Psychology, Columbia

##### **Donald Goff, MD**

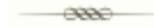
Director, Nathan Kline Institute

Wednesday, October 20<sup>th</sup>, 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](#).



NAMI New York State will hold its annual Education Conference on Friday October 22<sup>nd</sup> and Saturday October 23<sup>rd</sup>. This year's theme is "Recovering Together: Achieving Mental Wellness". For more information about this virtual event and to register, go to the [event page](#).



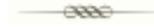
2021 INTERNATIONAL  
MENTAL HEALTH RESEARCH  
VIRTUAL SYMPOSIUM

The Brain & Behavior Foundation's 2021 International Mental Health Research Symposium will be held virtually on October 29<sup>th</sup>. The entire symposium will be available on demand and is free with registration. For more information, including presentations and registration, see the [event web page](#).

### ***NKI ON THE (VIRTUAL) ROAD***



On September 30<sup>th</sup>, **Mohammed Milad** (Clinical Research) gave the NYU Department of Psychiatry Grand Rounds presentation. The topic was "Brain Circuits of Fear Homeostasis".



## 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 6,700 items dating back to 1995 and can be searched from the [myNKI website](#).

Abdulkadir M, Yu D, Osiecki L, King RA, Fernandez TV, Brown LW, Cheon KA, Coffey BJ, et al.

Investigation of gene-environment interactions in relation to tic severity. *J Neural Transm (Vienna)*. 2021 Aug 13. PMID: 34389898.

Abi-Dargham A, Javitch JA, Slifstein M, Anticevic A, Calkins ME, Cho YT, Fonteneau C, Gil R, Girgis R, Gur RE, Gur RC, Grinband J, Kantrowitz J, Kohler C, Krystal J, Murray J, Ranganathan M, Santamauro N, Van Snellenberg J, Tamayo Z, Wolf D; TRANSCENDS Group, Gray D, Lieberman J. Dopamine D1R Receptor Stimulation as a Mechanistic Pro-cognitive Target for Schizophrenia. *Schizophr Bull*. 2021 Aug 23:sbab095. PMID: 34423843.

Alam JJ, Nixon RA. Disease-modifying pharmacological approaches to correcting basal forebrain cholinergic neuronal (BFCN) dysfunction and degeneration. *Neuropsychopharmacology*. 2021 Aug 13. PMID: 34389810.

Allred MJ, Penikalapati SC, Lee SH, Heguy A, Roussos P, Ginsberg SD. Profiling Basal Forebrain Cholinergic Neurons Reveals a Molecular Basis for Vulnerability Within the Ts65Dn Model of Down Syndrome and Alzheimer's Disease. *Mol Neurobiol*. 2021 Jul 14. PMID: 34263425.

Allred MJ, Lee SH, Stutzmann GE, Ginsberg SD. Oxidative Phosphorylation Is Dysregulated Within the Basocortical Circuit in a 6-month old Mouse Model of Down Syndrome and Alzheimer's Disease. *Front Aging Neurosci*. 2021 Aug 19; 13:707950. PMID: 34489678.

Baetz CL, Branson CE, Weinberger E, Rose RE, Petkova E, Horwitz SM, Hoagwood KE. The effectiveness of PTSD treatment for adolescents in the juvenile justice system: A systematic review. *Psychol Trauma*. 2021 Aug 19. PMID: 34410809.

Beckmann ND, Comella PH, Cheng E, Lepow L, Beckmann AG, et al. Downregulation of exhausted cytotoxic T cells in gene expression networks of multisystem inflammatory syndrome in children. *Nat Commun*. 2021 Aug 11;12(1):4854. PMID: 34381049.

Benckek P, Igo RP Jr, Voss-Hoynes H, Wren Y, Miller G, Truitt B, Zhang W, Osterman M, Freebairn L, Tag J, Taylor HG, Chan ER, Roussos P, Lewis B, Stein CM, Iyengar SK. Association between genes regulating neural pathways for quantitative traits of speech and language disorders. *NPJ Genom Med*. 2021 Jul 27;6(1):64. PMID: 34315907.

Bolaender A, Zatorska D, He H, Joshi S, Sharma S, Digwal CS, Patel HJ, Sun W, Imber BS, Ochiana SO, Patel MR, Shrestha L, Shah SK, Wang S, Karimov R, Tao H, Patel PD, Martin AR, Yan P, Panchal P, Almodovar J, Corben A, Rimner A, Ginsberg SD, et al. Chemical tools for epichaperome-mediated interactome dysfunctions of the central nervous system. *Nat Commun*. 2021 Aug 3;12(1):4669. PMID: 34344873.

Bonaiuto JJ, Little S, Neymotin SA, Jones SR, Barnes GR, Bestmann S. Laminar dynamics of high amplitude beta bursts in human motor cortex. *Neuroimage*. 2021 Nov 15; 242:118479. PMID: 34407440.

Bortolato M, Coffey BJ, Gabbay V, Scheggi S. Allopregnanolone: The missing link to explain the effects of stress on tic exacerbation? *J Neuroendocrinol*. 2021 Jul 30:e13022. PMID: 34423500.

Bragdon LB, Eng GK, Belanger A, Collins KA, Stern ER. Interoception and Obsessive-Compulsive Disorder: A Review of Current Evidence and Future Directions. *Front Psychiatry*. 2021 Aug 25; 12:686482. PMID: 34512412.

Carbone MG, Pagni G, Tagliarini C, Imbimbo BP, Pomara N. Can platelet activation result in increased plasma A $\beta$  levels and contribute to the pathogenesis of Alzheimer's disease? *Ageing Res Rev.* 2021 Aug 8; 71:101420. PMID: 34371202.

Carbone MG, Pagni G, Tagliarini C, Marazziti D, Pomara N. Platelet APP Processing: Is It a Tool to Explore the Pathophysiology of Alzheimer's Disease? A Systematic Review. *Life (Basel).* 2021 Jul 26;11(8):750. PMID: 34440494.

Carcea I, Caraballo NL, Marlin BJ, Ooyama R, Riceberg JS, Mendoza Navarro JM, Opendak M, Diaz VE, Schuster L, Alvarado Torres MI, Lethin H, Ramos D, Minder J, Mendoza SL, Bair-Marshall CJ, Samadjopoulos GH, Hidema S, Falkner A, Lin D, Mar A, Wadghiri YZ, Nishimori K, Kikusui T, Mogi K, Sullivan RM, Froemke RC. Oxytocin neurons enable social transmission of maternal behaviour. *Nature.* 2021 Aug; 596(7873):553-557. PMID: 34381215.

Castellanos FX. A Biased Perspective on Brain Imaging of ADHD. *Am J Psychiatry.* 2021 Aug 1;178(8):694-700. PMID: 34383564.

Cowan ET, Liu AA, Henin S, Kothare S, Devinsky O, Davachi L. Time-dependent transformations of memory representations differ along the long axis of the hippocampus. *Learn Mem.* 2021 Aug 16; 28(9):329-340. PMID: 34400534.

Ely BA, Nguyen TNB, Tobe RH, Walker AM, Gabbay V. Multimodal Investigations of Reward Circuitry and Anhedonia in Adolescent Depression. *Front Psychiatry.* 2021 Jul 23; 12:678709. PMID: 34366915.

Ezzyat Y, Davachi L. Neural evidence for representational persistence within events. *J Neurosci.* 2021 Jul 30. PMID: 34330773.

Fond G, Nemani K, Etchecopar-Etchart D, Loundou A, Goff DC, Lee SW, Lancon C, Auquier P, Baumstarck K, Llorca PM, Yon DK, Boyer L. Association Between Mental Health Disorders and Mortality Among Patients With COVID-19 in 7 Countries: A Systematic Review and Meta-analysis. *JAMA Psychiatry.* 2021 Jul 27:e212274. PMID: 34313711.

Fullard JF, Lee HC, Voloudakis G, Suo S, Javidfar B, Shao Z, Peter C, Zhang W, Jiang S, Corvelo A, Wargnier H, Woodoff-Leith E, Purohit DP, Ahuja S, Tsankova NM, Jette N, Hoffman GE, Akbarian S, Fowkes M, Crary JF, Yuan GC, Roussos P. Single-nucleus transcriptome analysis of human brain immune response in patients with severe COVID-19. *Genome Med.* 2021 Jul 19;13(1):118. PMID: 34281603.

Giménez S, Altuna M, Blessing E, Osorio RM, Fortea J. Sleep Disorders in Adults with Down Syndrome. *J Clin Med.* 2021 Jul 6;10(14):3012. PMID: 34300177.

Haegens S, Pathak YJ, Smith EH, Mikell CB, Banks GP, Yates M, Bijanki KR, Schevon CA, McKhann GM, Schroeder CE, Sheth SA. Alpha and broadband high-frequency activity track task dynamics and predict performance in controlled decision-making. *Psychophysiology.* 2021 Jul 20:e13901. PMID: 34287923.

Hendrix JA, Amon A, Abbeduto L, Agiovlasitis S, Alsaied T, et al. Opportunities, barriers, and recommendations in down syndrome research. *Transl Sci Rare Dis.* 2021;5(3-4):99-129. PMID: 34268067.

Horvath L, Colcombe S, Milham M, Ray S, Schwartenbeck P, Ostwald D. Human Belief State-Based Exploration and Exploitation in an Information-Selective Symmetric Reversal Bandit Task. *Comput Brain Behav.* 2021 Aug 2:1-21. PMID: 34368622.

Jaywant A, Dunlop K, Victoria LW, Oberlin L, Lynch CJ, Respino M, Kuceyeski A, Scult M, Hoptman MJ, Liston C, O'Dell MW, Alexopoulos GS, Perlis RH, Gunning FM. Estimated Regional White Matter Hyperintensity Burden, Resting State Functional Connectivity, and Cognitive Functions in Older Adults. *Am J Geriatr Psychiatry.* 2021 Jul 29:S1064-7481(21)00410-3. PMID: 34412936.

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