Newsletter

Stanford Center for Precision Mental Health and Wellness

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Produced by Hosna Omarzad, Executive Director, PMHW











WATCH NOW:

RECORDINGS FROM OUR 2ND ANNUAL PRECISION MENTAL HEALTH & WELLNESS SYMPOSIUM

The future of personalized neuroscience and mental health.

The day included an opening plenary from NIMH Director Dr. Joshua A. Gordon and afternoon plenary from a recent Louisa Gross Horowitz Prize awardee Dr. Karl Deisseroth, Keynote speakers included experts Drs. Olu Ajilore, Zhenan Bao, Boris Heifets, Ruth O'Hara and Alan Schatzberg.

Topics ranged from the acceleration of developing new and personalized interventions to next-generation wearables for wellness and precision mental health. We identified innovative and rapid acting mental health therapeutics, while understanding the translational neuroscience of drug-altered states.









FOUNDING MEMBER FOR PRECISION PSYCHIATRY & THERAPEUTICS, BOEHRINGER INGELHEIM VISIT STANFORD

Boehringer Ingelheim (BI) joined us for our 2nd Annual Symposium and a facilities tour of our Stanford campus.

BI is pioneering a precision mental health approach for treatment development. Click here to learn more. BI joined the Stanford Center for Precision Mental Health and Wellness Corporate Members Program as a founding member of our corporate members program.

We are thrilled to collaborate with BI in our leadership in circuit-based precision medicine. We share a mutual interest in identifying neuro-based behavior and imaging markers to guide the development of targeted therapies for major mental illnesses and subtypes for which no satisfactory treatment option exists to date. By advancing new and innovative approaches and technologies to inform treatment development, we share the goal of redefining mental health to enable people to thrive.

Attendees gained insights on a neuroscience based approach to understanding and treating mental health; learning about neural and digital signatures of affective disorders, cognition, emotion and risk factors across the lifespan.

With an attendance of over 550 attendees spanning across 25 countries, the symposium provided a space for those in the field as well as mental health thought leaders throughout the community to interact and broaden their understanding of the connection between the human brain and mental health, to forge a new roadmap for personalized medicine in mental health.

Visit our **website** for symposium photos and recordings of the talks provided throughout the symposium.







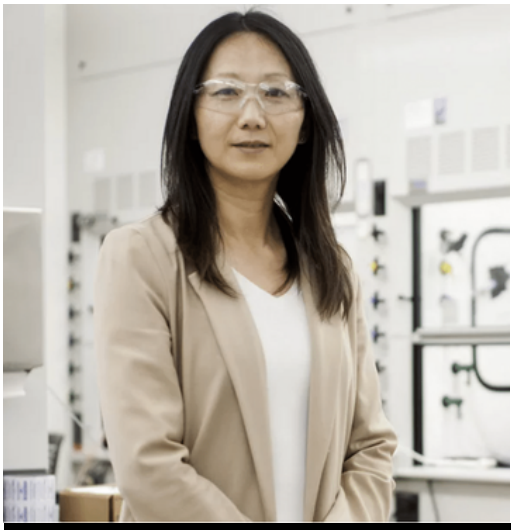
LISTEN NOW:
LATEST EPISODE OF CHAT WITH THE EXPERTS

Listen **here** for Episode 3 of the Stanford Center for Precision Mental Health and Wellness 'Chat with the Experts' series, featuring guest speaker, Nolan Williams, Assistant Professor of Psychiatry and Behavioral Sciences and the founding Director of the Stanford Brain Stimulation Lab.

The latest episode, 'What can brain stimulation tell us about being human?', is now available on **YouTube**, **Spotify** and **SoundCloud**.

Dr. Nolan Williams shares his career trajectory, current studies and key research findings. The episode takes a deep dive into how the latest in neuroscience and technology are being used to develop the new frontier of accelerated neuromodulation for precision psychiatry.

Through current standard of care, patients battling mental health illnesses must fail over 9+ forms of treatment before cutting-edge techniques such as those used by Dr. Williams are an option. Learn more about how precision imaging and biotyping can help get patients to the right treatments sooner.



PMHW CENTER RESEARCH MEMBER SPOTLIGHT:

Zhenan Bao awarded VinFuture Prize for female innovators

The inaugural **VinFuture Prize awarded** Dr. Zhenan Bao, K. K. Lee Professor in the School of Engineering and chair of the Department of Chemical Engineering, the winner of its Female Innovator award.

Dr. Bao is recognized for her scientific advancements and pioneering work on the development of skin-inspired electronics and their applications to a range of medical and energy applications.

This work has contributed to effective, scalable and affordable strategies for mental health. Through a collaborative study, Dr. Bao and fellow researchers are developing and testing a cutting-edge wearable that measures physical signs of stress and changes in these signs. Our research connects these wearable metrics to brain circuit changes that are called 'biotypes' and that characterize mental states and disorders. To learn more about this multidisciplinary collaborative study, visit: **Stanford Catalyst for Collaborative Solutions**



SPECIAL REPORT: PRECISION PSYCHIATRY—ARE WE GETTING CLOSER?

We are witnessing the emergence of precision medicine for psychiatry. This article discusses precision psychiatry as an integrative approach, one that pulls together the scientific foundation of the discipline and recent neuroscientific, technological, and computational advances and directs them at closing the gap between discovery and clinical translation.

Current treatment modalities can be remarkably effective in mitigating the burden of symptoms of many mental disorders, yet finding the right treatment for an individual can be a long, fraught process during which symptoms can increase the risks associated with other health conditions. New and emerging treatments are available to those for whom multiple trials of conventional therapies have failed, but we currently lack strategies for selecting effective treatments for each individual in a timelier manner that limits the need to wait for multiple tries and failures of ineffective treatments.

Precision psychiatry presents a new path forward, connecting each patient with the exact treatments he or she needs, sooner, by using advances in science and technology.

To learn more, read the **Special Report**, released by the American Psychiatric Association.



SPOTLIGHT: NIH AWARDS STANFORD MEDICINE TEAMS $10 MILLION FOR RESEARCH ON SLEEP AND AUTISM

About 80% of children with autism have trouble sleeping, but whether better sleep could lessen other autism symptoms is unknown. A new grant will help Stanford Medicine scientists find out.

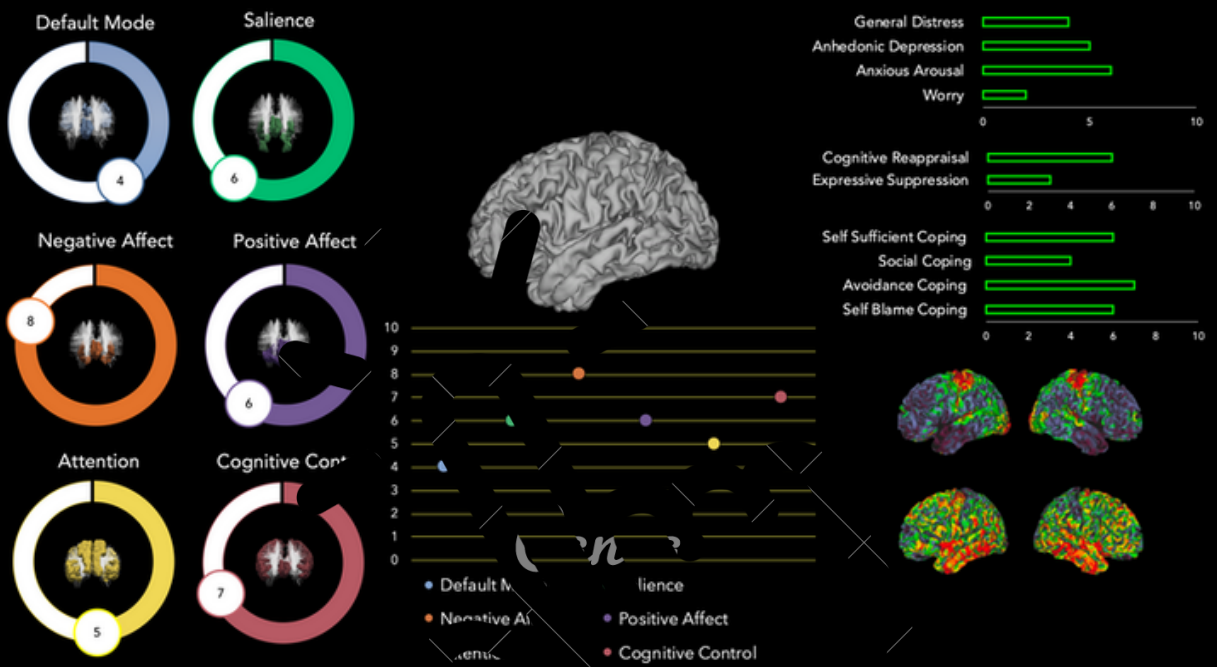
On September 6, the NIH announced support for research on the relationship between sleep dysregulation and autism symptoms. Stanford University, for the first time, has been designated an Autism Center of Excellence by the NIH and is one of nine institutions to receive the designation in this funding cycle.

As one of the three research teams funded, Ruth O'Hara, PhD, the Lowell W. and Josephine Q. Berry Professor of psychiatry and behavioral sciences and senior associate dean for research in the School of Medicine, and Makoto Kawai, MD, clinical associate professor of psychiatry and behavioral sciences, will lead a study that characterizes sleep and brain activity in children with autism as compared to typically developing children.

To learn more, read the announcement **here**.

RESEARCH

The Biomarker Guided (BIG) Study for Depression



The BIG Study for Depression is our center's newest treatment trial that aims to assess whether treatment with a medication called guanfacine, modifies brain activity, decreases cognitive and depressive symptoms, and improves quality of life in individuals with a putative cognitive subtype of depression. Guanfacine is currently FDA-approved for attention deficit disorder and high blood pressure, and it has been shown to improve cognitive problems in adult populations with cognitive dysfunction, however our team is pioneering its study in adults with major depressive disorder.

To read more about this study, visit the website

If you think you might be interested in participating, please fill out our screening survey

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Stay tuned for our upcoming 2023 Seminar Series Schedule.
To enjoy recordings from prior talks, click below.



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REIMAGINE MENTAL HEALTH

Stanford Center for Precision Mental Health and Wellness

Scholarly Publications

Editorial: Suicide prevention in youth.
Berk MS. Child Adolesc Ment Health. 2022 Nov;27(4):325-327. doi: 10.1111/camh.12604. PMID: 36250453

"The journey of a thousand miles begins with one step": An Asian American perspective on mentoring in neuropsychology.
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Intensity of Chronic Low Back Pain and Activity Interference: A Daily Diary Study of the Moderating Role of Cognitive Pain Coping Strategies.
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Johnson DG, Ho VT, Hah JM, Humphreys K, Carroll I, Curtin C, Asch SM, Hernandez-Boussard T. PLOS Digit Health. 2022;1(8):e0000075. doi: 10.1371/journal.pdig.0000075. Epub 2022 Aug 25. PMID: 36203857

Modulation of 5-HT release by dynorphin mediates social deficits during opioid withdrawal.
Pomrenze MB, Cardozo Pinto DF, Neumann PA, Llorach P, Tucciarone JM, Morishita W, Eshel N, Heifets BD, Malenka RC. Neuron. 2022 Sep 29:S0896-6273(22)00863-7. doi: 10.1016/j.neuron.2022.09.024. PMID: 36202097

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Clinical Markers Associated with Risk of Suicide or Drug Overdose Among Heavy Smokers - A Longitudinal Follow-Up Study of the COPDGene Cohort.
Adviento BA, Regan EA, Make BJ, Han MK, Foreman MG, Iyer AS, Bhatt SP, Kim V, Bon J, Soler X, Kinney GL, Hanania NA, Lowe KE, Holm KE, Yohannes AM, Shinozaki G, Hoth KF, Fiedorowicz JG; COPDGene Investigators. Chest. 2022 Sep 24:S0012-3692(22)03891-0. doi: 10.1016/j.chest.2022.09.022. PMID: 36167120

Mindfulness-Based Stress Reduction, Cognitive Behavioral Therapy, and Acupuncture in Chronic Low Back Pain: Protocol for Two Linked Randomized Controlled Trials.
Mackey S, Gilam G, Darnall B, Goldin P, Kong JT, Law C, Heirich M, Karayannis N, Kao MC, Tian L, Manber R, Gross J. JMIR Res Protoc. 2022 Sep 27; 11(9):e37823. doi: 10.2196/37823. PMID: 36166279

Improving Care Linkage for Racial-Ethnic Minority Youths Receiving Emergency Department Treatment for Suicidality: SAFETY-A.
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Promoting benzodiazepine cessation through an electronically-delivered patient self-management intervention (EMPOWER-ED): Randomized controlled trial protocol.
Cucciare MA, Hagedorn HJ, Bounthavong M, Abraham TH, Greene CJ, Han X, Kemp L, Marchant K, White P, Humphreys K. Contemp Clin Trials Commun. 2022 Sep 5;29:100994. doi: 10.1016/j.conctc.2022.100994. eCollection 2022 Oct. PMID: 36111174

Cognitive Improvement Following Physical Exercise and Cognitive Training Intervention for Older Adults with MCI.
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The impact of the COVID-19 pandemic on addictive disorders-an update.
Marsden J, Brown J, Clark L, Cousijn J, Hall W, Hickman M, Holmes J, Humphreys K, Jackson SE, Peacock A, Tucker J. Addiction. 2022 Sep 6. doi: 10.1111/add.16033. PMID: 36068188

Scholarly Publications

Efficacy of a food response and attention training treatment for obesity: A randomized placebo controlled trial.
Stice E, Yokum S, Gau J, Veling H, Lawrence N, Kemps E. Behav Res Ther. 2022 Aug 29;158:104183. doi: 10.1016/j.brat.2022.104183. PMID: 36058135

Pilot study of responsive nucleus accumbens deep brain stimulation for loss-of-control eating.
Shivacharan RS, Rolle CE, Barbosa DAN, Cunningham TN, Feng A, Johnson ND, Safer DL, Bohon C, Keller C, Buch VP, Parker JJ, Azagury DE, Tass PA, Bhati MT, Malenka RC, Lock JD, Halpern CH. Nat Med. 2022 Aug 29. doi: 10.1038/s41591-022-01941-w. PMID: 36038628

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Li L, Huang X, Xiao J, Zheng Q, Shan X, He C, Liao W, Chen H, Menon V, Duan X. Proc Natl Acad Sci U S A. 2022 Aug 23;119(34):e2202515119. doi: 10.1073/pnas.2202515119. Epub 2022 Aug 18. PMID: 35981139

Precision dynamical mapping using topological data analysis reveals a hub-like transition state at rest.
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The Benton Visual Form Discrimination Test as a Predictor of Neurocognitive Disorder in Older Veterans.
Maruyama BA, Alipio Jocson VZ, Gretler J, Doudell K, Lazzeroni LC, Hernandez B, Noda A, Yesavage JA, Kinoshita LM. Arch Clin Neuropsychol. 2022 Aug 13:acac067. doi: 10.1093/arclin/acac067. PMID: 35965251

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Nair N, Hegarty JP 2nd, Cirstea CM, Gu M, Appling CB, Beversdorf DQ. Front Psychiatry. 2022 Jul 22;13:898006. doi: 10.3389/fpsyt.2022.898006. PMID: 35935413

Oxytocin and the social facilitation of placebo effects
Itskovich E, Bowling DL, Garner JP, Parker KJ. Molecular psychiatry. 2022 Jun 27; doi: 10.1038/s41380-022-01515-9. PMID: 35338314