

Stanford



Andrea Goldstein-Piekarski

Assistant Professor (Research) of Psychiatry and Behavioral Sciences (Sleep Medicine)
Psychiatry and Behavioral Sciences - Sleep Medicine

Bio

BIO

Dr. Goldstein-Piekarski directs the Computational Psychiatry, Neuroscience, and Sleep Laboratory (CoPsyN Sleep Lab) as an Assistant Professor in the Department of Psychiatry and Behavioral Sciences at Stanford University School of Medicine and PI within the Sierra-Pacific Mental Illness Research, Education and Clinical Center (MIRECC) at the Palo Alto VA. She received her PhD in 2014 at the University of California, Berkeley where she studied the consequences of sleep on emotional brain function. She then completed a Postdoctoral fellowship at Stanford focusing on understanding the brain basis of anxiety and depression.

As the director of the CoPsyN Sleep Lab she is developing a translational, interdisciplinary research program that combines human neuroimaging, high-density EEG sleep recording, and computational modeling to understand the neural mechanisms through which sleep disruption contributes to affective disorders, particularly depression, across the lifespan. The ultimate goals of this research are to (1) develop mechanistically-informed interventions that directly target aspects of sleep and brain function to prevent and treat affective disorders and (2) identify novel biomarkers which can identify which individuals are most likely to experience improved mood following targeted sleep interventions.

This work is currently supported by The KLS Foundation, a R01 from National Institute of Mental Health, and a R61 from the National Institute of Mental Health.

ACADEMIC APPOINTMENTS

- Assistant Professor (Research), Psychiatry and Behavioral Sciences - Sleep Medicine
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Merit Based Travel Award, American College of Neuropsychopharmacology (2017)
- Merit based Travel Fellowship Award, Society of Biological Psychiatry (2017)
- Seed Grant Recipient, Center for Neurobiological Imaging (CNI) (2017)
- NRSA F32 Title: Neuroimaging and Machine Learning to Redefine Anxiety and Depression, NIMH (2016-2019)
- Merit Based Professional Development Travel Award, Society for Neuroscience (2016)
- Clinical Loan Repayment Award, National Institute of Health (2015-2016)
- Seed Grant Recipient, Center for Neurobiological Imaging (CNI) (2015)

- Merit Based Trainee Travel Award, Sleep Research Society (2012)
- NRSA F31 Title: Sleep Loss, Trait Anxiety and Emotional Brain Reactivity, NIMH (2011-2014)
- Honorable Mention, NSF Graduate Research Fellowship (2009)
- Graduated Summa Cum Laude, University of California, San Diego (2006)

PROFESSIONAL EDUCATION

- PhD, University of California Berkeley , Neuroscience/Psychology (2014)
- BS, University of California San Diego , Cognitive Science (2006)
- BS, University of California San Diego , Psychology (2006)

LINKS

- CoPsyN Sleep Lab: <http://med.stanford.edu/copsynsleeplab.html>

Research & Scholarship

CLINICAL TRIALS

- Sleep Disturbance and Emotion Regulation Brain Dysfunction as Mechanisms of Neuropsychiatric Symptoms in Alzheimer's Dementia, Recruiting
- A Novel Use of a Sleep Intervention to Target the Emotion Regulation Brain Network to Treat Depression and Anxiety, Not Recruiting
- Brief Telehealth CBT-I Intervention in the Context of the COVID-19 Pandemic, Not Recruiting

Teaching

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Paula Munoz Rodriguez

Postdoctoral Faculty Sponsor

Adam Krause

Doctoral Dissertation Advisor (AC)

Sarah Izabel

Publications

PUBLICATIONS

- **Mediating Effects of Neural Targets on Depression, Weight, and Anxiety Outcomes of an Integrated Collaborative Care Intervention: The ENGAGE-2 Mechanistic Pilot Randomized Clinical Trial.** *Biological psychiatry global open science*
Lv, N., Ajilore, O. A., Xiao, L., Venditti, E. M., Lavori, P. W., Gerber, B. S., Snowden, M. B., Wittels, N. E., Ronneberg, C. R., Stetz, P., Barve, A., Shrestha, R., Dosala, et al
2023; 3 (3): 430-442
- **Daytime affect and sleep EEG activity: A data-driven exploration.** *Journal of sleep research*
Zhang, J. X., Ten Brink, M., Yan, Y., Goldstein-Piekarski, A., Krause, A. J., Manber, R., Kreibig, S., Gross, J. J.
2023; e13916
- **Amygdala neurocircuitry at the interface between emotional regulation and narcolepsy with cataplexy.** *Frontiers in neuroscience*
Sardar, H., Goldstein-Piekarski, A. N., Giardino, W. J.
2023; 17: 1152594
- **Amygdala neurocircuitry at the interface between emotional regulation and narcolepsy with cataplexy** *FRONTIERS IN NEUROSCIENCE*
Sardar, H., Goldstein-Piekarski, A. N., Giardino, W. J.

2023; 17

- **Pre-sleep affect predicts subsequent REM frontal theta in nonlinear fashion.** *Cognitive, affective & behavioral neuroscience*
Ten Brink, M., Yan, Y., Zhang, J., Goldstein-Piekarski, A., Krause, A., Kreibig, S., Manber, R., Gross, J.
2023
- **Effects of Acceptance and Commitment Therapy (ACT) and Mindfulness-Based Stress Reduction (MBSR) on symptoms and emotional competencies in individuals with multiple sclerosis.** *Multiple sclerosis and related disorders*
Sadeghi-Bahmani, D., Esmaili, L., Mokhtari, F., Sadeghi Bahmani, L., Afsharzadeh, M., Shaygannejad, V., Mirmosayyeb, O., Goldstein-Piekarski, A. N., Gross, J.
2022; 67: 104029
- **Baseline Intrinsic Functional Brain Connectomes Predict Treatment Outcome for Depression Comorbid With Obesity: A Report From the Engage Randomized Controlled Trial**
Zhang, X., Stetz, P., Goldstein-Piekarski, A. N., Xiao, L., Lv, N., Rosas, L. G., Snowden, M. B., Smyth, J. M., Suppes, T., Ajilore, O., Williams, L. M.
SPRINGERNATURE.2021: 281
- **Problem-solving therapy-induced amygdala engagement mediates lifestyle behavior change in obesity with comorbid depression: a randomized proof-of-mechanism trial.** *The American journal of clinical nutrition*
Lv, N., Lefferts, W. K., Xiao, L., Goldstein-Piekarski, A. N., Wielgosz, J., Lavori, P. W., Simmons, J. M., Smyth, J. M., Stetz, P., Venditti, E. M., Lewis, M. A., Rosas, L. G., Snowden, et al
2021
- **Association of Short and Long Sleep Duration With Amyloid-beta Burden and Cognition in Aging.** *JAMA neurology*
Winer, J. R., Deters, K. D., Kennedy, G., Jin, M., Goldstein-Piekarski, A., Poston, K. L., Mormino, E. C.
2021
- **Mapping Neural Circuit Biotypes to Symptoms and Behavioral Dimensions of Depression and Anxiety.** *Biological psychiatry*
Goldstein-Piekarski, A. N., Ball, T. M., Samara, Z., Staveland, B. R., Keller, A. S., Fleming, S. L., Grisanzio, K. A., Holt-Gosselin, B., Stetz, P., Ma, J., Williams, L. M.
2021
- **Early changes in neural circuit function engaged by negative emotion and modified by behavioural intervention are associated with depression and problem-solving outcomes: A report from the ENGAGE randomized controlled trial.** *EBioMedicine*
Goldstein-Piekarski, A. N., Wielgosz, J., Xiao, L., Stetz, P., Correa, C. G., Chang, S. E., Lv, N., Rosas, L. G., Lavori, P. W., Snowden, M. B., Venditti, E. M., Simmons, J. M., Smyth, et al
2021; 67: 10387
- **Accelerated Neuromodulation Therapy for Obsessive-Compulsive Disorder.** *Brain stimulation*
Williams, N. R., Sudheimer, K. D., Cole, E. J., Varias, A. D., Goldstein-Piekarski, A. N., Stetz, P. n., Lombardi, A. n., Filippou-Frye, M. n., van Roessel, P. n., Anderson, K. n., McCarthy, E. A., Wright, B. n., Sandhu, et al
2021
- **The ENGAGE-2 study: Engaging self-regulation targets to understand the mechanisms of behavior change and improve mood and weight outcomes in a randomized controlled trial (Phase 2).** *Contemporary clinical trials*
Lv, N., Ajilore, O. A., Ronneberg, C. R., Venditti, E. M., Snowden, M. B., Lavori, P. W., Xiao, L., Goldstein-Piekarski, A. N., Wielgosz, J., Wittels, N. E., Barve, A., Patel, A. S., Eckley, et al
2020: 106072
- **Understanding mechanisms of integrated behavioral therapy for co-occurring obesity and depression in primary care: a mediation analysis in the RAINBOW trial.** *Translational behavioral medicine*
Rosas, L. G., Xiao, L., Lv, N., Lavori, P. W., Venditti, E. M., Snowden, M. B., Smyth, J. M., Lewis, M. A., Williams, L. M., Suppes, T., Goldstein-Piekarski, A. N., Ma, J.
2020
- **Reduced Nonconscious Reactivity to Threat in Amygdala Mediates Physical Activity and Energy Expenditure in Integrated Behavior Therapy for Adults With Obesity and Comorbid Depression**
Ma, J., Lv, N., Xiao, L., Goldstein-Piekarski, A., Wielgosz, J., Lavori, P., Stetz, P., Rosas, L., Venditti, E., Snowden, M., Smyth, J., Lewis, M., Suppes, et al
LIPPINCOTT WILLIAMS & WILKINS.2020
- **Sleep-wake disorders in Alzheimer's disease: further genetic analyses in relation to objective sleep measures.** *International psychogeriatrics*

Yesavage, J. A., Noda, A., Heath, A., McNerney, M. W., Domingue, B. W., Hernandez, Y., Benson, G., Hallmayer, J., O'Hara, R., Williams, L. M., Goldstein-Piekarski, A. N., Zeitzer, J. M., Fairchild, et al
2019; 1–7

- **Intrinsic connectomes are a predictive biomarker of remission in major depressive disorder.** *Molecular psychiatry*
Korgaonkar, M. S., Goldstein-Piekarski, A. N., Fornito, A., Williams, L. M.
2019

- **Functional Impacts of Acute Stress on Negative Affective Circuit Function in Anxiety and Depression**
Goldstein, A., Tozzi, L., Sudheimer, K., Schatzberg, A., Williams, L.
ELSEVIER SCIENCE INC.2019: S134

- **Connectivity of the Cognitive Control Network During Response Inhibition as a Predictive and Response Biomarker in Major Depression: Evidence From a Randomized Clinical Trial.** *Biological psychiatry*
Tozzi, L. n., Goldstein-Piekarski, A. N., Korgaonkar, M. S., Williams, L. M.
2019

- **Integrating sleep, neuroimaging, and computational approaches for precision psychiatry.** *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology*
Goldstein-Piekarski, A. N., Holt-Gosselin, B. n., O'Hora, K. n., Williams, L. M.
2019

- **Sex, Sleep Deprivation, and the Anxious Brain** *JOURNAL OF COGNITIVE NEUROSCIENCE*
Goldstein-Piekarski, A. N., Greer, S. M., Saletin, J. M., Harvey, A. G., Williams, L. M., Walker, M. P.
2018; 30 (4): 565–78

- **Intrinsic functional connectivity predicts remission on antidepressants: a randomized controlled trial to identify clinically applicable imaging biomarkers** *TRANSLATIONAL PSYCHIATRY*
Goldstein-Piekarski, A. N., Staveland, B. R., Ball, T. M., Yesavage, J., Korgaonkar, M. S., Williams, L. M.
2018; 8: 57

- **Antidepressant Outcomes Predicted by Genetic Variation in Corticotropin-Releasing Hormone Binding Protein** *AMERICAN JOURNAL OF PSYCHIATRY*
O'Connell, C. P., Goldstein-Piekarski, A. N., Nemeroff, C. B., Schatzberg, A. F., Debattista, C., Carrillo-Roa, T., Binder, E. B., Dunlop, B. W., Craighead, W., Mayberg, H. S., Williams, L. M.
2018; 175 (3): 251–61

- **Transdiagnostic Symptom Clusters and Associations With Brain, Behavior, and Daily Function in Mood, Anxiety, and Trauma Disorders**
Grisanzio, K. A., Goldstein-Piekarski, A. N., Wang, M., Ahmed, A., Samara, Z., Williams, L. M.
AMER MEDICAL ASSOC.2018: 201–9

- **Antidepressant Outcomes Predicted by Genetic Variation in Corticotropin-Releasing Hormone Binding Protein.** *The American journal of psychiatry*
O'Connell, C. P., Goldstein-Piekarski, A. N., Nemeroff, C. B., Schatzberg, A. F., Debattista, C. n., Carrillo-Roa, T. n., Binder, E. B., Dunlop, B. W., Craighead, W. E., Mayberg, H. S., Williams, L. M.
2018; 175 (3): 251–61

- **The ENGAGE study: Integrating neuroimaging, virtual reality and smartphone sensing to understand self-regulation for managing depression and obesity in a precision medicine model.** *Behaviour research and therapy*
Williams, L. M., Pines, A. n., Goldstein-Piekarski, A. N., Rosas, L. G., Kullar, M. n., Sacchet, M. D., Gevaert, O. n., Bailenson, J. n., Lavori, P. W., Dagum, P. n., Wandell, B. n., Correa, C. n., Greenleaf, et al
2018; 101: 58–70

- **Clustering Identifies Symptom-Brain-Behavior Subtypes That cut Across Mood, Anxiety, and Trauma Disorders**
Grisanzio, K. A., Goldstein-Piekarski, A. N., Wang, M., Ahmed, A., Samara, Z., Williams, L.
NATURE PUBLISHING GROUP.2017: S371–S372

- **Computational Psychiatry: New Perspectives on Mental Illness (Book Review)** *AMERICAN JOURNAL OF PSYCHIATRY*
Book Review Authored by: Ball, T. M., Goldstein-Piekarski, A. N.
2017; 174 (7): 698–+

- **Clustering by Salience Network Activation to Emotional Faces Identifies a Transdiagnostic Subtype that is Associated with Specific Interoceptive Related Symptoms**

Goldstein-Piekarski, A., Ball, T., Samara, Z., Yesavage, J., Schatzberg, A., Korgaonkar, M., Williams, L.
ELSEVIER SCIENCE INC.2017: S133–S134

- **Functional Connectome Networks Underlying Outcomes of Antidepressant Medication in Major Depressive Disorders**

Korgaonkar, M., Goldstein-Piekarski, A., Fornito, A., Williams, L.
ELSEVIER SCIENCE INC.2017: S104

- **Sex Differences Modulating Serotonergic Polymorphisms Implicated in the Mechanistic Pathways of Risk for Depression and Related Disorders** *JOURNAL OF NEUROSCIENCE RESEARCH*

Perry, L. M., Goldstein-Piekarski, A. N., Williams, L. M.
2017; 95 (1-2): 737-762

- **Functional Connectivity in the Default Mode Network: Establishing Reproducibility and Individual Norms**

Ball, T., Goldstein-Piekarski, A. N., Gatt, J., Fornito, A., Williams, L. M.
NATURE PUBLISHING GROUP.2016: S299–S300

- **Human Amygdala Engagement Moderated by Early Life Stress Exposure is a Biobehavioral Target for Predicting Recovery on Antidepressants**

Goldstein, A., Korgaonkar, M. S., Green, E., Suppes, T., Schatzberg, A., Hastie, T., Nemeroff, C., Williams, L.
NATURE PUBLISHING GROUP.2016: S373

- **Resting-State Functional Connectivity Dysfunction in Anhedonia as a Transdiagnostic Process: An RDoC Investigation**

Samara, Z., Goldstein-Piekarski, A. N., Suppes, T., Yesavage, J., Williams, L.
NATURE PUBLISHING GROUP.2016: S503

- **Human amygdala engagement moderated by early life stress exposure is a biobehavioral target for predicting recovery on antidepressants** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*

Goldstein-Piekarski, A. N., Korgaonkar, M. S., Green, E., Suppes, T., Schatzberg, A. F., Hastie, T., Nemeroff, C. B., Williams, L. M.
2016; 113 (42): 11955-11960

- **A Genetic Polymorphism of the Human Dopamine Transporter Determines the Impact of Sleep Deprivation on Brain Responses to Rewards and Punishments** *JOURNAL OF COGNITIVE NEUROSCIENCE*

Greer, S. M., Goldstein, A. N., Knutson, B., Walker, M. P.
2016; 28 (6): 803-810

- **Brain Morphology Determines Female-specific Vulnerability to the Anxiogenic Impact of Sleep Loss**

Goldstein-Piekarski, A. M., Greer, S. M., Saletin, J. M., Williams, L. M., Walker, M. P.
ELSEVIER SCIENCE INC.2016: 409S

- **Developing a clinical translational neuroscience taxonomy for anxiety and mood disorder: protocol for the baseline-follow up Research domain criteria Anxiety and Depression ("RAD") project** *BMC PSYCHIATRY*

Williams, L. M., Goldstein-Piekarski, A. N., Chowdhry, N., Grisanzio, K. A., Haug, N. A., Samara, Z., Etkin, A., O'Hara, R., Schatzberg, A. F., Suppes, T., Yesavage, J.
2016; 16

- **Human Hippocampal Structure: A Novel Biomarker Predicting Mnemonic Vulnerability to, and Recovery from, Sleep Deprivation** *JOURNAL OF NEUROSCIENCE*

Saletin, J. M., Goldstein-Piekarski, A. N., Greer, S. M., Stark, S., Stark, C. E., Walker, M. P.
2016; 36 (8): 2355-2363

- **Developing a clinical translational neuroscience taxonomy for anxiety and mood disorder: protocol for the baseline-follow up Research domain criteria Anxiety and Depression ("RAD") project.** *BMC psychiatry*

Williams, L. M., Goldstein-Piekarski, A. N., Chowdhry, N., Grisanzio, K. A., Haug, N. A., Samara, Z., Etkin, A., O'Hara, R., Schatzberg, A. F., Suppes, T., Yesavage, J.
2016; 16 (1): 68-?

- **A trans-diagnostic review of anxiety disorder comorbidity and the impact of multiple exclusion criteria on studying clinical outcomes in anxiety disorders.** *Translational psychiatry*

Goldstein-Piekarski, A. N., Williams, L. M., Humphreys, K.
2016; 6 (6)

- **Resting State Functional Connectivity is a Differential Predictor of Treatment Outcomes in Major Depressive Disorder**

Goldstein-Piekarski, A. N., Staveland, B., Korgaonkar, M. S., Williams, L. M.
NATURE PUBLISHING GROUP.2015: S336–S337

- **Amygdala Reactivity to Emotional Faces in the Prediction of General and Medication-Specific Responses to Antidepressant Treatment in the Randomized iSPOT-D Trial** *NEUROPSYCHOPHARMACOLOGY*

Williams, L. M., Korgaonkar, M. S., Song, Y. C., Paton, R., Eagles, S., Goldstein-Piekarski, A., Grieve, S. M., Harris, A. W., Usherwood, T., Etkin, A. 2015; 40 (10): 2398-2408

- **Sleep Deprivation Impairs the Human Central and Peripheral Nervous System Discrimination of Social Threat.** *Journal of neuroscience*

Goldstein-Piekarski, A. N., Greer, S. M., Saletin, J. M., Walker, M. P. 2015; 35 (28): 10135-10145

- **Personalizing the Treatment of Depression: Emotional Reactivity and Early Life Stress Predict Antidepressant Outcomes**

Goldstein-Piekarski, A. N., Yesavage, J., Schatzberg, A., Etkin, A., O'hara, R., Suppes, T., Korgaonkar, M., Williams, L. ELSEVIER SCIENCE INC.2015

- **The International Study to Predict Optimized Treatment in Depression (iSPOT-D): Outcomes from the acute phase of antidepressant treatment.** *Journal of psychiatric research*

Saveanu, R., Etkin, A., Duchemin, A., Goldstein-Piekarski, A., Gyurak, A., DeBattista, C., Schatzberg, A. F., Sood, S., Day, C. V., Palmer, D. M., Rekshan, W. R., Gordon, E., Rush, et al 2015; 61: 1-12

- **Corticotrophin-releasing Hormone Genotype Interacts with Pre-treatment Anxiety Status and Amygdala Reactivity to Predict Treatment Outcomes in Major Depressive Disorder**

Goldstein-Piekarski, A., Schatzberg, A., Korgaonkar, M., Grieve, S., Etkin, A., Williams, L. NATURE PUBLISHING GROUP.2014: S249

- **The Role of Sleep in Emotional Brain Function** *ANNUAL REVIEW OF CLINICAL PSYCHOLOGY, VOL 10*

Goldstein, A. N., Walker, M. P. 2014; 10: 679-708

- **The impact of sleep deprivation on food desire in the human brain** *NATURE COMMUNICATIONS*

Greer, S. M., Goldstein, A. N., Walker, M. P. 2013; 4

- **Tired and Apprehensive: Anxiety Amplifies the Impact of Sleep Loss on Aversive Brain Anticipation** *JOURNAL OF NEUROSCIENCE*

Goldstein, A. N., Greer, S. M., Saletin, J. M., Harvey, A. G., Nitschke, J. B., Walker, M. P. 2013; 33 (26): 10607-10615

- **The Role of Sleep in Directed Forgetting and Remembering of Human Memories** *CEREBRAL CORTEX*

Saletin, J. M., Goldstein, A. N., Walker, M. P. 2011; 21 (11): 2534-2541

- **Photoperiod and Testosterone Interact to Drive Seasonal Changes in Kisspeptin Expression in Siberian Hamsters (*Phodopus sungorus*)** *JOURNAL OF NEUROENDOCRINOLOGY*

Grieves, T. J., Humber, S. A., GOLDSTEIN, A. N., Scotti, M. L., Demas, G. E., Kriegsfeld, L. J. 2008; 20 (12): 1339-1347