

INS Awards Program

Awards Ceremony

Please join us in support of your deserving colleagues at the INS Awards Ceremony on Wednesday, February 14 at 5:45 PM in Ballroom Salon 2-3, where we will honor the recipients of this year's awards.

We wish to thank Roy Kessels and the Awards Committee, as well as Mark McCurdy and the Student Liaison Committee, for their invaluable contributions to this meeting.

About the INS Awards Program

Major INS Awards

Major INS Awards are given in recognition of scientific achievement in *Early Career*, *Mid-Career (the Arthur Benton Award)*, or for a *Lifetime of Achievement* in research, education or service in the field of neuropsychology. The *INS Distinguished Career Award* may be given to recognize those individuals who have enjoyed extended careers and who have made major, sustained contributions to the field of neuropsychology and the Society. The *Paul Satz-INS Career Mentoring Award*, given in honor of Dr. Paul Satz and sponsored by PAR, Inc., is given to recognize mentoring and teaching activities that have profoundly impacted the careers of students in the field of neuropsychology.

INS Program Awards

INS Program Awards are selected by the Program Committee for each INS Meeting in recognition of the Meeting's most outstanding scientific contributions. For the Annual Meeting, program awards include the *Nelson Butters Award* for the most outstanding submission by a postdoctoral fellow, the *Phillip M. Rennick Award* for most outstanding submission by a graduate student, and the *Laird S. Cermak Award* for the best submission in the field of memory or memory disorders. In conjunction with the INS Program and Awards Committees, the INS Student Liaison Committee recognizes an additional five students for their meritorious abstract submissions at each INS meeting through the selection of the *SLC Student Research Awards*.

Nominations & Eligibility for the INS Awards Program

To inquire about award nominations, please visit the-ins.org or email INS@utah.edu.

Nominations for Major INS Awards

The INS Awards Committee accepts nominations annually from INS members for major INS Awards, including Career or Lifetime Awards, and the Paul Satz-INS Career Mentoring Award. Nominations are welcome at any time, but must be submitted by certain dates in order to be considered for an award at specific upcoming meetings.

Winners are selected by the Awards Committee, according to posted criteria, with approval from the INS Governing Board.

Eligibility for INS Program Awards

All abstracts that are submitted to the Annual and Mid-Year Meetings are screened and considered for eligible Program Awards.

INS Awards Committee

The INS Awards Committee was created to recommend current and past members to the Board of Governors for the purpose of recognition of outstanding achievement in areas related to Neuropsychology.

Roy Kessels has served as the Chair of the INS Awards Committee since February 2016.

Previous INS Award Winners

Please visit the INS website for complete descriptions of each INS award and to view previous award winners:

www.the-ins.org/about-ins/ins-awards/

The Arthur Benton Award for Mid-Career Research:

Laurel Buxbaum
Moss Rehabilitation Research Institute

ABSTRACT

Our ability to functionally use manipulative objects rests on a distributed left hemisphere network. Lesions to portions of this network result in a type of limb apraxia characterized by deficits in object action knowledge, while lesions elsewhere in the network are associated with deficits in action selection. Fueled in part by these findings, our laboratory has developed and (over two decades, elaborated) a cognitive neuroanatomical model of the mechanisms and architecture of a distributed two-stream network critical to the representation and selection of object-related actions. Called the "Two Action Systems Plus (2AS+)" framework, the model posits a complementary role for stored object manipulation knowledge ("action semantics") and online computations, and specifies the neurocognitive substrates of task-relevant action selection. This presentation will provide background on current controversies in the domain of object use and semantic manipulation knowledge, explain the 2AS+ architecture in the context of prominent two stream models in the language domain, and provide an overview of how the 2AS+ framework helps us to understand both healthy object use and apraxia.



INS Arthur Benton (Mid-Career) Award Presentation: Tools in the Mind: Objects and Actions in the Healthy and Damaged Brain

Thursday, February 15
2:15 to 3:15 PM
Delaware A-B

The INS Award for Early Career Research:

Marie-José van Tol
University Medical Center
Groningen, University of Groningen,
Department of Neuroscience

ABSTRACT

Major depressive disorder (MDD) is the most prevalent psychiatric disorder, affecting between 10 and 20 % of the world population at some point in their lives. MDD is characterized by a high risk for relapse after recovery (40% within 2 years). Therefore, understanding and changing the highly recurrent course of MDD is of high clinical and societal importance. In this talk, I will review results from the Netherlands Study of Depression and Anxiety (NESDA) Neuroimaging study (n=301), in which we studied risk factors, associations, and consequences of an unfavorable course of major depressive disorders. We investigated functional Magnetic Resonance Imaging (fMRI) characteristics associated with emotional processing, executive functioning, brain connectivity, in addition to structural brain characteristics. Results indicate differential predictors and consequences of an unfavorable course. Implications of these results for neurocognitive models of depression will be discussed. Additionally, a neurocognitive model of relapse and relapse prevention will be presented, which formed the basis of the NEW-PRIDE (Neurocognitive Working Mechanisms of Preventing Relapse in Depression) study. In this Randomized Controlled Trial, fMRI, pupillometry and neuropsychological assessments are employed to 1) understand the working mechanisms of preventive cognitive therapy for preventing relapse and 2) to develop neurocognitive predictors of individual treatment success. This study aims to contribute to effective preventive-treatment allocation, lower relapse-rates, and ultimately lower conversion into chronic-MDD by taking a neurocognitive approach.

Acknowledgement: Many thanks to André Aleman, Rozemarijn van Kleef, Dick J. Veltman, Nic J.A. van der Wee, Jan-Bernard Marsman, Claudi Bockting, Esther Opmeer, and Hui Ai for collaborations on the work presented during this talk.



INS Early Career Award Presentation: Neurocognitive Mechanisms Underlying Development, Course and Treatment of Major Depressive Disorder

Thursday, February 15
4:00 to 5:00 PM
Delaware A-B



Nelson Butters Award for best submission by a postdoctoral fellow

Lauren Salminen, University of Southern California, Imaging Genetics Center

#3. Hippocampal Subregion Abnormalities in Current and Lifetime PTSD: International Analysis from the PGC-ENIGMA PTSD Working Group

AUTHORS: L. Salminen, D. Veltman, S. Koch, M. van Zuiden, M. Olf, D.J. Stein, S. Koopowitz, J. Ipser, K.J. Ressler, J.S. Stevens, T. Jovanovic, S.J. van Rooij, S.J. van der Werff, L.A. Lebois, M.L. Kaufman, S.A. Gruber, S.B. Hill, J.D. Wolff, S.G. Disner, S. Seedat, L. Van Den Heuvel, S. Du Plessis, R. Bryant, M. Korgaonkar, T.G. van Erp, N. Soichiro, M. Hollifield, I. Liberzon, X. Wang, A. King, E. Geuze, K.A. McLaughlin, M. Peverill, P. Saemann, C.G. Abdallah, I. Harpaz-Rotem, I. Levy, K.M. Wrocklage, C. Haswell, N. Jahanshad, P.M. Thompson & R.A. Morey

Appearing in Paper Session 3. Mood and Anxiety Disorders (Thursday 11:45-1:15, Virginia A-C)

Objective: Impaired fear learning and memory are core features of post traumatic stress disorder (PTSD) that are subserved by the hippocampus. Some, but not all, studies report smaller hippocampal volumes in PTSD patients compared to controls, and this inconsistency may reflect underlying differences in hippocampal subregions across cohorts. We tested this in an international sample of patients and controls in the PGC-ENIGMA PTSD Working Group. **Participants and Methods:** Hippocampal subregion volumes were identically computed in 15 cohorts worldwide (732 PTSD; 1,212 controls) using a harmonized protocol. We ran multiple regressions to examine group differences in subregion

volumes according to current PTSD (C-PTSD) in the full sample, lifetime PTSD (L-PTSD) and C-PTSD in a subsample with lifetime data (N=1196), and PTSD status after covarying for child trauma (N=821). Covariates for age, sex, cohort, and military vs. civilian status were included in all analyses.

Results: C-PTSD (vs. controls) was associated with smaller volumes in the bilateral hippocampal tail ($p < .001$; left $d = -.15$, right $d = -.16$) after false discovery rate (FDR) corrections. In subsample analyses, L-PTSD (vs. controls) was associated with larger CA3 volumes bilaterally ($p < .001$; left $d = .31$, right $d = .21$), and smaller volumes in the right presubiculum ($p < .001$, $d = -.22$). C-PTSD (vs. controls) was associated

with smaller left CA3 volumes ($p < .001$, $d = -.28$). Subregion associations with PTSD status were not detected after covarying for child trauma, and whole hippocampal volume was not associated with PTSD after FDR corrections.

Conclusions: Results suggest that subregion volumes are more closely associated with PTSD than whole hippocampal volume, and that L-PTSD and C-PTSD are uniquely associated with structural differences in the CA3 - an important structure for memory encoding and retrieval. We are recruiting additional cohorts to conduct highly powered analyses of hippocampal subregions and key variables related to PTSD (depression, alcohol use, child trauma).



Laird S. Cermak Award for best submission in memory or memory disorders

Karen Blackmon, New York University School of Medicine, Neurology

#5. Temporal lobe gray-white blurring and Wada memory impairment in MRI-negative temporal lobe epilepsy

AUTHORS: K. Blackmon, W. Barr, C. Morrison, W.S. MacAllister, M. Kruse, X. Wang, P. Dugan, A.A. Liu, O. Devinsky, R. Kuzniecky & T. Thesen

Appearing in Paper Session 19. Cerebrovascular Issues & Epilepsy (Saturday 10:45-12:15, Virginia A-C)

Objective: MRI-negative temporal lobe epilepsy (TLE) may be a distinct syndrome from TLE with mesial temporal sclerosis (MTS). Common imaging and neuropsychological features of TLE with MTS are well known; yet, distinguishing features in MRI-negative TLE are only beginning to be described. This study aims to identify quantitative MRI markers of memory impairment in MRI-negative TLE.

Participants and Methods: Gray and white matter blurring (GWB) from 34 cortical regions and hippocampal volumes were quantified and compared across 28 people with MRI-negative treatment resistant TLE (18 left; 10 right) and 51

healthy controls (HCs). Regions with abnormally elevated GWB were correlated with memory scores obtained from the Intracarotid Amobarbital Procedure (IAP; i.e., Wada test).

Results: There were no hippocampal volume abnormalities in patients with MRI-negative TLE. GWB was elevated across several temporal lobe regions ipsilateral to the seizure onset zone (superior temporal sulcus: $p = 0.0003$; temporal pole: $p = 0.0001$; parahippocampal: $p = 0.001$; entorhinal: $p = 0.002$). There was no relationship between hippocampal volume and IAP memory scores in left or right MRI-negative TLE; however, decreased ipsilateral IAP memory scores were correlated with elevated GWB in the ipsilateral

superior temporal sulcus of people with left MRI-negative TLE.

Conclusions: Localization of GWB abnormalities to the temporal lobe in people with MRI-negative TLE validates this metric as a measure of structural integrity in TLE. Extramesial temporal lobe GWB abnormalities were associated with decreased memory function. Thus, although hippocampal abnormalities might drive memory impairment in TLE with MTS, a loss of structural integrity in extramesial temporal lobe regions might be a marker for memory dysfunction in TLE without MTS. This suggests that reduced IAP memory scores do not necessarily implicate hippocampal pathology in MRI-negative TLE.



Phillip M. Rennick Award for best submission by a graduate student

Kaltra Dhima, University of Texas Southwestern Medical Center, Psychiatry

#3. A Preliminary Examination of Parkinson's Disease Subtypes and Associated Differences in Cognitive and Motor Symptom Trajectories

AUTHORS: K. Dhima, L.S. Hynan, G. Rodriguez-Larrain, S.M. McClintock, R.B. Dewey, D. German & L. Lacritz

Appearing in Paper Session 5. Parkinson Disease & Movement Disorders (Thursday 2:15-3:45, Virginia A-C)

Objective: Establishing distinct Parkinson's disease (PD) subtypes could inform physiological underpinnings related to PD's heterogeneous phenotype and progression. This study examined PD subtypes in recently diagnosed de novo patients based on multiple clinical variables and analyzed associated cognitive and motor symptom trajectories.

Participants and Methods: Subjects included 384 PD patients from the Parkinson's Progression Markers Initiative, assessed at baseline (T1) and 4 years (T2). Variables included PD onset age and motor, cognitive, psychiatric, and behavioral measures (MDS-UPDRS, Animal Fluency, B-JLO, SDMT, WMS-III LNS, HVLt-R, MoCA, GDS-15, STAI, ESS, RBDQ, MS&E-ADL,

UPSIT, QUIP-RS, SCOPA-AUT). DaTscan SPECT (caudate/putamen) and CSF biomarkers (α -synuclein, A β 1-42, total tau, P-tau181P) were also included. T1 subtypes were extracted via hierarchical Ward's cluster analysis with squared Euclidean distances. Repeated measure ANCOVAs (covarying for levodopa dose at T2) were used to analyze differences in motor and cognitive function between subtypes across time.

Results: A 3-Cluster solution was found based on 1)low, 2) medium, and 3)high CSF biomarker concentrations with respective 1)high and 2)low anxiety scores. Repeated measure ANCOVAs found Cluster 1 performed significantly worse over time on visuospatial function (B-JLO; $p = .02$)

and verbal memory [HVLt-R delay ($p = .03$) and recognition discrimination ($p = .03$)] vs. Clusters 2 and 3. No significant differences emerged for motor measures over time.

Conclusions: This study found that recently diagnosed de novo PD patients with higher anxiety and lower CSF concentrations of α -synuclein, A β 1-42, total tau, and P-tau181P exhibited worse memory and visuospatial function over a 4-year period. The extent to which this is associated with distinct subtypes warrants further investigation. However, these findings suggest that anxiety and CSF biomarkers could be used to help predict risk for cognitive decline and inform the development of personalized medicine in PD.

SLC AWARDS

The INS Student Liaison Committee (SLC), in conjunction with the INS Annual Meeting Program Committee, recognizes the following five students and trainees as well-deserving recipients of the SLC Student Research Award.

These awards are presented to the five highest-rated abstracts from among all first-author student research submissions. Winners are selected for their quality in research design, novelty in scientific approach, clarity in communication of study results, and significance to the field of neuropsychology. Each awardee receives \$200 USD to assist with expenses related to conference attendance.



Tatiana Karpouzian
Northwestern University,
Psychiatry and
Behavioral Sciences

#3. Reduced Task-Evoked Pupillary Response on an Executive Control Task in Individuals across the Psychosis Spectrum and Relatives with Elevated Psychosis Spectrum Personality Traits
AUTHORS: T. KARPOUZIAN, J. SWEENEY, L. RUBIN, B. CLEMENTZ, E. GERSHON, M. KESHAVAN, G. PEARLSON, C. TAMMINGA & J. REILLY

Appearing in Paper Session 10. Bipolar Disorder and Schizophrenia
Friday, 1:45 PM-3:15 PM, Maryland A-C



Tanya Nguyen
University of California,
San Diego, Psychiatry

#6. Apolipoprotein E (APOE) Genotype is Associated with Poorer Executive Function in Bipolar Disorder
AUTHORS: T.T. NGUYEN, A.N. SUTHERLAND, T. SHEKHTMAN, J. KELSOE & L.T. EYLER

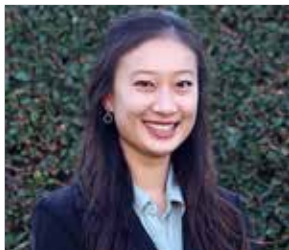
Appearing in Paper Session 10. Bipolar Disorder and Schizophrenia
Friday, 1:45 PM-3:15 PM, Maryland A-C



Zinat Taiwo
Georgia State University

#3. Sleep Fragmentation is Related to Altered Structural Brain Volume among Older Adults Free of Dementia: The Vanderbilt Memory & Aging Project
AUTHORS: Z. TAIWO, J.E. NEAL, D. LIU, K.E. OSBORN, K.R. PECHMAN, F.S. BADAMI, H.A. KRESGE, T.M. SHONE, J.E. BOGNER, S.L. LAMBROS, C. SEABOLT, J. THOMPSON, L. WALLJASPER, S.P. BELL, L. ACOSTA, K. GIFFORD, T.J. HOHMAN, K. BLENNOW, H. ZETTERBERG & A.L. JEFFERSON

Appearing in Paper Session 16. Sleep, Stress, and Exercise
Saturday, 9:00 AM-10:30 AM, Virginia A-C



Michelle You
University of California,
San Francisco

#3. Subjective Cognitive Symptoms Predict Cognitive and Structural Brain Aging Trajectories in Otherwise Healthy Older Adults
AUTHORS: M.Y. YOU, K.B. CASALETTO, A.M. STAFFARONI, R. SALONER, P. MUMFORD, E. FOX, M. ALTENDAHL, J. STIVER & J.H. KRAMER

Appearing in Paper Session 8. Neurocognitive Trajectory and Aging
Thursday, 4:00 PM-5:30 PM, Virginia A-C



Jessica Zakrzewski
University of Florida,
Clinical and Health
Psychology

#1. Effect of Treatment on Neurocognitive Function in a Treatment Seeking Sample of Individuals with Hoarding Disorder
AUTHORS: J.J. ZAKRZEWSKI, S. MACKIN, C. CHOU, S.Y. UHM, L. BAIN, S.J. STARK, M. GAUSE, O.R. VIGIL, J. FRANKLIN, M. SALAZAR, J. PLUMADORE, L.C. SMITH, K. KOMAIKO, G. HOWELL, E. VEGA, J. CHAN, M. ECKFIELD, J.Y. TSOH, K. DELUCCHI & C.A. MATHEWS

Appearing in Paper Session 3. Mood and Anxiety Disorders
Thursday, 11:45 AM-1:15 PM, Virginia A-C