

BASIC SCIENCE POSTERS 2023

1. Plasma-derived Alpha-Synuclein Strains Distinguish Parkinson's Disease from Dementia with Lewy Bodies

Presenter: George Kannarkat

Authors: George T. Kannarkat, MD PhD, Rebecca Zack, R. Tyler Skrinak, James F. Morley, MD PhD, Roseanne Davila-Rivera, Sanaz Arezoumandan, MD, Katherine Dorfmann, Kelvin Luk, PhD, Daniel Weintraub, MD, Thomas F. Tropea, MD, Edward B. Lee, MD PhD, Virginia M.-Y. Lee, PhD, David Irwin, MD, Rizwan S. Akhtar, MD PhD, Alice Chen-Plotkin, MD

Affiliation: Neurology - University of Pennsylvania

2. Pyramidal neurodegeneration is linked to select cytoarchitecture and cognitive impairment in behavioral variant frontotemporal dementia with tau or TDP-43 pathology

Presenter: Daniel Ohm

Authors: Daniel T. Ohm PhD, Sharon X. Xie PhD, Noah Capp, Katheryn A.Q. Cousins PhD, Sanaz Arezoumandan MD, Emily Xie, Winifred Trotman, Alejandra Bahena, MaKayla Lowe, Philip Sabitini, Katya Rascovsky PhD, David A. Wolk MD, Viviana M. Van Deerlin MD, PhD, Edward B. Lee MD, PhD, Corey T. McMillan PhD, David J. Irwin MD

Affiliation: University of Pennsylvania Frontotemporal Degeneration Center

3. Evaluation of Quantitative Measurements of Tau Pathology with Semi-Quantitative Ratings and Age

Presenter: Amanda Denning

Authors: Amanda E. Denning, Ranjit Ittyerah, Niyousha Sadeghpour, Eunice Chung, Sadhana Ravikumar, Shokufeh Sadaghiani, Noah Capp, Eric Teunissen-Bermeo, Sanaz Arezoumandan, Daniel T. Ohm, Theresa Schuck, John Robinson, Murray Grossman, Edward B. Lee, John Q. Trojanowski, Laura E.M. Wisse, Sandhitsu R. Das, David A. Wolk, David J. Irwin, Paul A. Yushkevich

Affiliation: Department of Radiology

4. 7 T postmortem MRI for quantitative analysis of structure-pathology correlations in neurodegenerative diseases

Presenter: Pulkit Khandelwal

Authors: Pulkit Khandelwal, Michael Tran Duong, Shokufeh Sadaghiani, Sydney Lim, Amanda Denning, Eunice Chung, Sadhana Ravikumar, Sanaz Arezoumandan, Claire Peterson, Madigan Bedard, Noah Capp, Ranjit Ittyerah, Elyse Migdal, Grace Choi, Emily Kopp, Bridget Loja, Eusha Hasan, Jiacheng Li, Alejandra Bahena, Karthik Prabhakaran, Gabor Mizsei, Marianna Gabrielyan, Theresa Schuck, Winifred Trotman, John Robinson, Daniel Ohm, Edward B. Lee, John Q. Trojanowski, Corey McMillan, Murray Grossman, David J. Irwin, John Detre, M. Dylan Tisdall, Sandhitsu R. Das, Laura E.M. Wisse, David A. Wolk, Paul A. Yushkevich

Affiliation: University of Pennsylvania

5. DNA methylation associates with regional tau pathology beyond age and APOE: A Univariate Approach

Presenter: Anil Wadhvani

Authors: Anil Wadhvani MD PhD*

David Goldberg*, David A. Wolk MD, Edward B. Lee MD PhD, David Bennett MD, Philip De Jager MD PhD, Kurt Farrell PhD, John Crary MD PhD, PART Working Group, Wanding Zhou, PhD and Corey T. McMillan, PhD

Affiliation: Hospital of the University of Pennsylvania

6. Adapting Evidence-Based Practice Implementation to Address the Mental & Behavioral Health Needs of Aging Adults

Presenter: Faith Dempsey

Authors: Faith Dempsey

Affiliation: Penn LDI SUMR Scholar

7. Systematic Investigation of Disease-Relevant Lysine Acetylation Sites in α -Synuclein Reveals Perturbations in Membrane Binding and Aggregation

Presenter: Marie Shimogawa

Authors: Shimogawa, M.; Ramirez, J.; Lee, H.; Zhu, R.; Peng, C.; Eliezer, D.; Rhoades, E.; Petersson, E. J.

Affiliation: Department of Chemistry, University of Pennsylvania

8. Graph Theoretical Measurements of Alzheimer's Disease Connectomes Across Multiple Parcellation Scales

Presenter: Frederick Xu

Authors: Frederick H. Xu, BS, Sumita Garai, PhD, Duy Anh Duong-Tran, PhD, Andrew J. Saykin, PhD, Yize Zhao, PhD, Li Shen, PhD

Affiliation: Univ. of Pennsylvania Department of Bioengineering

9. Organotypic Hippocampal Slice Culture Models to Study the Mechanism/s of TAR DNA-binding protein 43 Aggregation

Presenter: Ummayh Siddiqua

Authors: Ummayh Siddiqua, Silvia Porta

Affiliation: University of Pennsylvania

10. Optimizing Ultrasensitive RT-QuIC Assay on AD tau Seed-Monomer Reactions

Presenter: Richard Chen

Authors: Richard Chen, BA Candidate, Ethan Farber, BA Candidate, Virginia Man-Yee Lee, PhD
Hong Xu, PhD

Affiliation: Center for Neurodegenerative Disease Research, Department of Pathology and Laboratory Medicine, Institute on Aging, University of Pennsylvania School of Medicine

11. Evaluate the Efficacy of AXL inhibitor Bemcentinib in 5xFAD mouse model for Alzheimer's Disease

Presenter: Guyin Chen

Authors: Guyin Chen, Gizem Ozturk, Sílvia Porta, PhD, Virginia M-Y Lee, PhD

Affiliation: CNDR

12. Single nucleus transcriptome analysis of human reactive astrocytes

Presenter: David Dai

Authors: David L. Dai, BA, Karishma Gupta, Mingyao Li, PhD, Edward B. Lee, MD, PhD

Affiliation: Pathology & Laboratory Medicine

13. Structural desegregation of intrinsic brain networks in behavioral variant frontotemporal dementia

Presenter: Melanie Matyi, PhD

Authors: Melanie A. Matyi, PhD, Hamsanandini Radhakrishnan, PhD, Jeffrey S. Phillips, PhD, Emma Rhodes, PhD, David J. Irwin, MD, Corey T. McMillan, PhD, Lauren Massimo, PhD, CRNP

Affiliation: Penn Frontotemporal Degeneration Center, Department of Neurology, University of Pennsylvania

14. Chemical Tools for Studying the Role of α -Synuclein in Neurodegeneration

Presenter: E. James Petersson

Authors: John J. Ferrie, Sam Giannakoulis, Marshall G. Lougee, Vinayak V. Pagar, Buyan Pan, Grace Park, Joo Hyung Park, Ryann M. Perez, Jennifer Ramirez, Marie Shimogawa, Kohei Sato, David Eliezer, Ben Garcia, Anna Kashina, Virginia M.-Y. Lee, Robert H. Mach, Ronen Marmorstein, Chao Peng, Elizabeth Rhoades, and E. James Petersson

Affiliation: SAS/Chemistry

15. DNA methylation associates with regional tau pathology beyond age and APOE

Presenter: David Goldberg

Authors: David Goldberg*, Anil Wadhvani*, David A. Wolk, Edward B. Lee, David Bennett, Philip De Jager, Kurt Farrell, John Crary, PART Working Group, Wanding Zhou, and Corey T. McMillan

Affiliation: University of Pennsylvania; Children's Hospital of Philadelphia

16. Automatic subregion segmentation of the medial temporal lobe in multimodality MRI

Presenter: Yue Li

Authors: Yue Li, Sandhitsu R. Das, David A. Wolk, Paul A. Yushkevich

Affiliation: Penn Image Computing and Science Laboratory, Department of Radiology, University of Pennsylvania, Philadelphia, PA

17. Annexin A11 is a major disease protein in FTLD-TDP Type C and related TDP-43 proteinopathies

Presenter: John Robinson

Authors: John L Robinson, Eun Ran Suh, Yan Xu, Vivianna M Van Deerlin, Sílvia Porta, Edward B Lee

Affiliation: University of Pennsylvania

18. Comparison of Focal Hippocampal T2-Weighted MRI and T1-weighted MRI for Detection of Longitudinal Atrophy Using Deep Learning-based and Conventional Approaches

Presenter: Mengjin Dong

Authors: Mengjin Dong PhD, Long Xie PhD, Jiancong Wang, Laura Wisse PhD, Robin deFlores PhD, Sandhitsu Das PhD, David Wolk MD, Paul Yushkevich PhD.

Affiliation: Radiology

19. Short tandem repeats as a novel genetic driver of Alzheimer's disease

Presenter: Michael Guo (*CLARK SCHOLAR*)

Authors: Michael H. Guo, MD, PhD, Wan-Ping Lee, PhD, Badri Vardarajan, PhD, Gerard Schellenberg, PhD, Jennifer Phillips-Cremins, PhD

Affiliation: Department of Neurology

2023 POSTER SESSION: Clinical Research, Education, and Other

20. A Pragmatic, Investigator-Driven Process for Disclosure of Amyloid PET Results to ADNI-4 Research Participants

Presenter: Claire Erickson, PhD (*CLARK SCHOLAR*)

Authors: Jason Karlawish, Joshua D. Grill, Kristin Harkins, Susan M. Landau, Monica G. Rivera-Mindt, Ozioma Okonkwo, Ronald C. Petersen, Paul S. Aisen, Michael W. Weiner, Emily A. Largent

Affiliation: Penn Memory Center

21. Estimating and Communicating Risk: Drug Overdose Deaths Among Middle-Aged Black and White Men

Presenter: Rebecca Harris

Authors: Rebecca Arden Harris, MD MSc

Affiliation: University of Pennsylvania

22. Time Together: An Intergenerational Respite, Mentorship, and Training Program

Presenter: Megan Kalafsky

Authors: Felicia Greenfield, MSW, LCSW, Lauren Massimo, PhD, CRNP, Megan Kalafsky, MCHI, Leah Fein, MPH, MSW, LSW, Carolyn Rogers, BS, Brianna Morgan, Ph.D., CNRP, Alison Lynn, MSW, LCSW

Affiliation: University of Pennsylvania, Philadelphia, PA, USA & New York University, New York, NY, USA

23. Shared and disparate transcriptomic signatures associated with cortical atrophy change in genetic behavioral variant frontotemporal degeneration

Presenter: Ting Shen

Authors: Ting Shen¹, Jacob W Vogel², Vivianna M Van Deerlin³, Laynie Dratch¹, Edward B Lee³, Jeffrey S. Phillips¹, Murray Grossman¹, Lauren Massimo¹, David J. Irwin¹ and Corey T McMillan¹

Affiliation: 1: Frontotemporal Degeneration Center, Department of Neurology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA 2: Department of Clinical Sciences, SciLifeLab, Lund University, Lund, Sweden 3: Center for Neurodegenerative Disease Research, Department of Pathology and Laboratory Medicine, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA

24. Sensitivity of Remote App-Based Assessment of Cognition Among Older Adults to Fatigue-Mediated Differences in Cognitive Functioning

Presenter: Erin Liebenberg

Authors: Erin Liebenberg, Rachel Rovere, Kimberly Halberstadter, David A. Wolk, Dawn Mechanic-Hamilton

Affiliation: Penn Memory Center

25. Microstructural changes in the inferior tubular hypothalamus correlate with daytime sleepiness in Lewy body diseases

Presenter: Jesse Cohen

Authors: Jesse S Cohen, MD; Hamsanandini Radhakrishnan, PhD; Christopher Olm, PhD; Sandhitsu R. Das, PhD; Philip Cook, PhD; David A. Wolk, MD; Daniel Weintraub, MD; David J. Irwin, MD; and Corey T McMillan, PhD

Affiliation: Frontotemporal Degeneration Center

26. Quantifying associations of four major proteinopathies with grey matter atrophy: an imaging-pathology study

Presenter: Jeffrey Phillips, PhD

Authors: Jeffrey S. Phillips, John L. Robinson, Katheryn A. Q. Cousins, Sandhitsu R. Das, Paul A. Yushkevich, David A. Wolk, Edward B. Lee, Corey T. McMillan, John Q. Trojanowski, Murray Grossman, & David J. Irwin

Affiliation: Neurology

27. Exploring Parkinson's disease: A Synergistic Approach to College Education through Personal Patient Encounters

Presenter: Jaskeerat Gujral

Authors: Jaskeerat Gujral; Om H. Gandhi; Udit Garg; Whitley Aamodt, MD, MPH, MSCE

Affiliation: Penn Medicine, Department of Neurology

28. MRI Perfusion and Structural Markers of Pathologic Burden in Frontotemporal Lobar Degeneration due to Tau

Presenter: Christopher Olm, PhD

Authors: Christopher A. Olm, Claire S. Peterson, David J. Irwin, Edward B. Lee, John Q. Trojanowski, Lauren Massimo, John A. Detre, Corey T. McMillan, James C. Gee, Murray Grossman

Affiliation: University of Pennsylvania

29. Bad Questions: Addressing Non-Response and Respondent Feedback in a Social and Structural Determinants of Health (SSDoH) Questionnaire

Presenter: Carolyn Kuz, BS

Authors: Shana D. Stites, PsyD, MS, MA, Kimberly Halberstadter, BA, Jada Jeanette Houston, BS, Rosalie Schumann, BS and Dawn Mechanic-Hamilton, PhD

Affiliation: Penn Alzheimer's Disease Research Center, University of Pennsylvania, Philadelphia, PA, USA

30. Tau maturation in the clinicopathological spectrum of Lewy body and Alzheimer's disease

Presenter: Sanaz Arezoumandan

Authors: Sanaz Arezoumandan, MD, Katheryn A.Q. Cousins, PhD, Daniel T. Ohm, PhD, MaKayla Lowe, Min Chen, PhD, James Gee, PhD, Jeffrey S. Phillips, PhD, Corey T. McMillan, PhD, Kelvin C. Luk, PhD, Andres Deik, MD, MSED, Meredith A. Spindler, MD, Thomas F. Tropea, DO, Daniel Weintraub, MD, David A. Wolk, MD, Murray Grossman, MD, Virginia Lee, PhD, Alice S. Chen-Plotkin, MD, Edward B. Lee, MD, PhD, David J. Irwin, MD

Affiliation: University of Pennsylvania

31. Tau-neurodegeneration mismatch from inter-modality image translation using deep learning

Presenter: Xueying Lyu

Authors: Xueying Lyu, Pulkit Khandelwal, Mengjin Dong, Michael Duong, Jiancong Wang, Long Xie, Laura Wisse, Paul Yushkevich, Sandhitsu Das*, David Wolk*

Affiliation: University of Pennsylvania

32. Differences between stress hormones and metabolic profiles in depressed patients

Presenter: Francis Osei

Authors: Francis Osei, Pia-Maria Wippert and Andrea Block

Affiliation: University of Potsdam

33. Role of Body Composition Analysis in Aging Related Effects

Presenter: Mostafa Alnoury

Authors: Mostafa Alnoury MD, Jayaram K. Udupa PhD, Yubing Tong PhD, Drew A. Torigian MD

Affiliation: University of Pennsylvania

34. Functional MRI to Predict Recovery from Disorders of Consciousness after Brain Injury

Presenter: Bianca Rodriguez

Authors: Bianca Rodriguez, Christopher Boivin, David Fischer M.D.

Affiliation: Division of Neurocritical Care, Department of Neurology, Perelman School of Medicine at the University of Pennsylvania