



Aging Reimagined: Innovation in the Era of AI

A SYLVAN M. COHEAN ANNUAL RETREAT AND POSTER SESSION

Hosted by the Institute on Aging and PennAITech

BASIC SCIENCE POSTERS

1. Spatiotemporal Spreading of Pathological TDP-43 from the Motor Cortex in the CamKIIa-hTDP-43NLSm Inducible Mouse Model of FTL D/ALS

Presenter: Sam Johnson

Authors: Sam Johnson, Guyin Chen, Yan Xu, Kevt'her Hoxha, Thallyah Baffic, Virginia M-Y Lee, Sílvia Porta

Affiliation: Center for Neurodegenerative Disease Research

2. The Role of Annexin A11 in RNA Granule Transport in Health and ALS/FTD

Presenter: Katherine Dorfman

Authors: Katherine Dorfman, Edward Lee, Erika Holzbaur

Affiliation: University of Pennsylvania

3. Examining VCP-Dependent Degradation of Diverse Protein Structures

Presenter: Katherine Xia

Authors: Kat Xia, Stephanie Uroda, Jordi Hintzen, Mohammad Shafiqur Rahman, George Burslem, Edward B. Lee

Affiliation: Perelman School of Medicine

4. Ultra-high resolution 7T T2*w ex vivo MRI patterns differentiate underlying FTD pathology in behavioral variant FTD

Presenter: Sheina Emrani

Authors: Sheina Emrani, PhD Eric Teunissen-Bermeo, Winifred Trotman, Alejandra Bahena, Noah Capp, MA, Daniel Ohm, PhD, Sandhitsu R Das PhD, David A Wolk, MD, Eddie B Lee, MD, PhD, Corey T McMillan, PhD, James Gee PhD, Paul Yushkevich PhD, M Dylan Tisdall PhD, David J Irwin, MD

Affiliation: Neurology

5. Four subtypes of Alzheimer's disease: clinical, demographic and genetic characteristics

Presenter: Helen Cai

Authors: Helen Cai, John L Robinson, Nicholas J Loh, Zahra Khodakaramimaghsoud, Daniel T Ohm, Jeffrey S Phillips, David J Irwin, Edward B Lee

Affiliation: Center for Neurodegenerative Disease Research (CNDP), University of Pennsylvania Perelman School of Medicine

6. Integrated single cell gene expression atlas for Alzheimer's disease

Presenter: Zane Hamdan

Authors: Zane Hamdan, MS, Michael Guo, MD, PhD

Affiliation: Department of Neurology

7. Secretion of an alpha-synuclein-HMGB2 isopeptide heterodimer in Alzheimer's disease

Presenter: Elaine Liu

Authors: Elaine Liu, Jingqi Fan, George Kannarkat, David J. Irwin, Katheryn A.Q. Cousins, Ian A. Blair

Affiliation: University of Pennsylvania

8. Applying Split-Pool Combinatorial Barcoding to Dissect Transcriptional Changes in Neurodegenerative Diseases

Presenter: Amy Yang

Authors: Amy Yang, BA; Michael Guo, MD, PhD

Affiliation: Penn Neurology

9. Epigenetic Signatures of Tau Pathology in the Aging and Pathological Brain

Presenter: Anil Wadhvani

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

Affiliation: University of Pennsylvania

10. Causal Network of TRIM11: Exploring Druggable Pathways in Alzheimer's Disease

Presenter: Tianhua Zhai

Authors: Alvin T. Pham^{1*}, Sumita Garai, PhD^{2*}, Tianhua Zhai, PhD^{2*}, Mengyuan Kan, PhD², Li Shen, PhD²

Affiliation: Department of Biostatistics, Epidemiology and Informatics

11. The Role of ABCA1 in Alzheimer's Disease

Presenter: Noelle Sterling

Authors: Noelle A. Sterling, Guoyi Yang, Amrith Rodrigues, Goncalo Dias do Vale, Jeffrey McDonald, Kate Townsend-Creasy, Daniel J. Rader

Affiliation: Perelman School of Medicine - University of Pennsylvania

12. Annexin A11 driven TDP-43 dysfunction in proteinopathies

Presenter: Courtney Smith

Authors: Courtney Smith, Edward Lee

Affiliation: Department of Pathology and Laboratory Medicine

13. Detection of tau seeding activities in archived human brain tissue

Presenter: Hong Xu

Authors: Damian Moizer, Richard Chen, Edward B. Lee, Virginia M. Y. Lee, Hong Xu

Affiliation: CNDR

14. Hippocampal Glutamate and Healthy Aging: Mapping Age-Related Changes Using In Vivo GluCEST MRI and Automatic Segmentation of Hippocampal Subfields (ASHS)

Presenter: Maggie Pecsok

Authors: Maggie K. Pecsok, Yue Li, Heather Robinson B.S., Ally Atkins1 B.S., Monica E. Calkins, Ph.D., Mark A. Elliott, Ph.D., Jacqueline Stifelman B.S., Ruben C. Gur, Ph.D., Paul J. Moberg, Ph.D., Ravi Prakash Reddy Nanga, Ph.D., Kosha Ruparel, M.S.E, Russell T. Shinohara, Ph.D., David A. Wolk, M.D., Ravinder Reddy, Ph.D., & David R. Roalf, Ph.D.

Affiliation: University of Pennsylvania Perelman School of Medicine

CLINICAL RESEARCH, EDUCATION, AND OTHER POSTERS

15. Enrolling Persons with Dementia in Hospice: A Qualitative Synthesis of Caregivers' Experiences

Presenter: Oonjee Oh

Authors: Oonjee Oh, MSN, RN, Connie Ulrich, PhD, RN, Lauren Massimo, PhD, CRNP, & George Demiris, PhD, FACMI

Affiliation: University of Pennsylvania School of Nursing

16. Exploring the Influence of SSDOH and Self-Identified Race on Resilience and Vulnerability using Machine Learning for NACC UDS

Presenter: Emma Fischer

Authors: Emma P. Fischer, Zahra Khodakarami, Christopher A. Brown, Dawn Mechanic-Hamilton, Paul Yushkevich, Sandhitsu R. Das, David A. Wolk

Affiliation: Neuroscience Graduate Group

17. Spatial covariance of glutamatergic receptors and cortical atrophy in frontotemporal degeneration

Presenter: Melanie Matyi, PhD

Authors: Melanie A. Matyi, Maggie K. Pecsok, Christopher Olm, Hamsanandini Radhakrishnan, Jeffrey S. Phillips, Philip A. Cook, James Gee, David J. Irwin, Corey T. McMillan, David Roalf & Lauren Massimo

Affiliation: University of Pennsylvania

18. Prevalence of Adverse Childhood Experiences in FTLT

Presenter: Ashlyn O'Halloran

Authors: Ashlyn O'Halloran, Melanie A. Matyi, Shana Stites, Emma Rhodes, David J. Irwin, Corey T. McMillan & Lauren Massimo

Affiliation: Penn FTD Center

19. Building Trust in Vulnerable Populations: Returning Results to Caregivers via Innovative Animation

Presenter: Emma Max, BSN, RN, CCRN-K

Authors: Emma Max, BSN, RN, CCRN-K; Lauren Fisher, BSN, RN; Ellen Munsterman, MSN, RN, AGCNS-BC, GERO-BC; Hannah Cho, PhD, AGPCNP-BC Emily Summerhayes, BA; Nancy A. Hodgson, PhD, RN, FAAN, FGSA

Affiliation: NewCourtland Center of Transitions and Health at the University of Pennsylvania

20. Interaction of smoking status x A β on hippocampal volume and cognition

Presenter: Astrid Ramos-Rolón

Authors: Astrid P. Ramos-Rolón, Zhenhao Shi, Sandhitsu Das, Jeffrey S. Phillips, John A. Detre, Corinde E. Wiers

Affiliation: Department of Psychiatry, University of Pennsylvania

21. Enrichment of patients with concomitant LATE on the Alzheimer's disease continuum: comparing structural and cognitive trajectories

Presenter: Nidhi Mundada

Authors: Nidhi S Mundada, Xueying Lyu, Niyousha Sadeghpour, Christopher Brown, Emily McGrew, Long Xie, Paul Yushkevich, Sandhitsu R. Das, David A. Wolk

Affiliation: Department of Bioengineering

22. Understanding Dementia Caregiver Needs: A Qualitative Analysis of National Helpline Calls

Presenter: Sonia Talwar, MBA

Authors: Todd Myers, BSN, RN; Sonia Talwar, MBA; Kerry Finegan, MSW; Liming Huang, PhD; Nancy A. Hodgson, PhD, RN, FAAN, FGSA

Affiliation: University of Pennsylvania School of Nursing

23. Confirmatory Factor Analysis Modeling of Neuropsychiatric Symptom Measurement in the National Alzheimer's Coordinating Center

Presenter: Emma Rhodes

Authors: Emma Rhodes, PhD,¹ Rich Jones, ScD,² Sheina Emrani, PhD,¹ Paul K Crane, MD, MPH³ and Seo-Eun Choi, PhD³

Affiliation: 1 Frontotemporal Degeneration Center, Department of Neurology, University of Pennsylvania; 2 Department of Psychiatry, Brown University; 3 Division of GIM, Department of Medicine, University of Washington

24. Neuropsychiatric Features of Concomitant LATE and Alzheimer's Disease

Presenter: Ashlyn O'Halloran

Authors: Ashlyn O'Halloran, Nidhi S. Mundada, David A. Wolk MD, Corey T. McMillan PhD & Emma Rhodes PhD

Affiliation: University of Pennsylvania Frontotemporal Degeneration Center, Department of Bioengineering University of Pennsylvania, Penn Alzheimer's Disease Research Center University of Pennsylvania

25. Semi-automated pathology prediction in ex vivo MRI for FTLD through radiomics features

Presenter: Mohammed Saqib

Authors: Mohammed Saqib, Sandhitsu Das, Corey McMillan

Affiliation: FTDC/PICSL

26. Medial temporal lobe Tau-Neurodegeneration mismatch from MRI and plasma biomarkers identifies vulnerable and resilient phenotypes with AD

Presenter: Xueying Lyu

Authors: Xueying Lyu¹, Nidhi S. Mundada¹, Christopher A. Brown¹, Niyousha Sadeghpour¹, Emily McGrew¹, Long Xie¹, Yue Li¹, Anika Wuestefeld², Michael Tran Duong¹, Philip Cook¹, James Gee¹, Ilya M Nasrallah¹, Alice S. Chen-Plotkin¹, Leslie M. Shaw¹, Dawn Mechanic-Hamilton¹, L.E.M. Wisse², Paul A Yushkevich^{1*}, Sandhitsu R Das^{1*}, David A Wolk^{1*}

Affiliation: University of Pennsylvania

27. Community engagement efforts for recruitment in a study of adult women with urinary incontinence at risk for falls: the MoVEonUP Study

Presenter: Simone Reaves, MD

Authors: Simone Reaves, MD, Diane K. Newman, DNP, ANP-BC, FAUNA, FAAN, Yelizaveta L. Borodyanskaya, Jean Wyman, PhD, Wendy Walsh, PhD, Lily Arya, MD, Rebecca Brown, MD, Uduak U. Andy, MD

Affiliation: University of Pennsylvania

28. Analyzing the clinical efficacy of Lecanemab in Anti-Amyloid Therapy Monitoring Cohort

Presenter: Farraday Johnson

Authors: Farraday Johnson, Christopher A. Brown, MD, PhD, Dawn Mechanic-Hamilton, PhD, Danielle Hing, Valerie Humphreys, Leslie Shaw, PhD, David A. Wolk, MD

Affiliation: University of Pennsylvania

29. Microstructural and Water Exchange Alterations in ARIA-E in a Real-World Cohort Receiving Anti-Amyloid Therapy

Presenter: Christopher Brown, MD, PhD

Authors: Christopher Brown, MD, PhD, Manuel Taso, PhD, Sandhitsu Das, PhD, Danielle Hing, Emily McGrew, Paul Yushkevich, PhD, Dawn Mechanic-Hamilton, PhD, Ilya Nasrallah, MD, PhD, David Alsop, PhD, John Detre, MD, David Wolk, MD

Affiliation: Department of Neurology

30. Omitted medications among hospitalized older adults and persons with dementia using MIMIC-IV

Presenter: Ellen Munsterman

Authors: Ellen Munsterman, MSN, RN, AGCNS-BC, GERO-BC, Jiyou Song, PhD, AGACNP-BC, APRN, Marie Boltz, PhD, GNP-BC, FGSA, FAAN, Pamela Cacchione, PhD, CRNP, BC, FGSA, FAAN

Affiliation: University of Pennsylvania School of Nursing

DESIGN AND IMPLEMENT AI SOLUTIONS POSTERS

31. WATCH-SS: Developing a Trustworthy and Explainable Modular Framework for Detecting Cognitive Impairment from Spontaneous Speech

Presenter: Matthew Hill

Authors: Sydney Pugh, PhD, Matthew Hill, Sy Hwang, MS, Rachel Wu, Kuk Jang, Stacy Iannone, DHSc, MS, Karen O'Connor, MS, Kyra O'Brien, MS, MSHP, Eric Eaton, PhD, Kevin Johnson, MD, MS

Affiliation: University of Pennsylvania

32. Artificial Intelligence in Hospice Dementia care: Perspectives of Hospice Staff and Family Caregiver

Presenter: Oonjee Oh

Authors: Oonjee Oh, MSN, RN & George Demiris, PhD, FACMI

Affiliation: University of Pennsylvania School of Nursing

33. Exploring Experiences Utilizing Technology of Dementia Caregivers in Hospice

Presenter: Hannah Cho

Authors: Hannah Cho, PhD, AGPCNP-BC, RN, Justine S. Sefcik, PhD, RN, George Demiris, PhD, FACMI

Affiliation: University of Pennsylvania School of Nursing

34. IMA COMPUTER; AI Training for older adults - potential impact on loneliness and enhancing self-efficiency

Presenter: Tobey Dichter

Authors: Tobey Gordon Dichter M.Ed. and Kathleen Burke MBA

Affiliation: Generations on Line

35. Aging Our Way, PA

Presenter: Nathan Lampenfeld

Authors: Nathan Lampenfeld, Gabby Szymanski, Jessie Pierce, Kevin Hancock

Affiliation: PA Department of Aging

36. A Unified Framework for Cross-Sectional Brain Age and Longitudinal Aging Rate Estimation from MRI

Presenter: Yuanwang Zhang

Authors: Yuanwang Zhang, Hongming Li, Yong Fan

Affiliation: University of Pennsylvania