

Molecular Heterogeneity in Alzheimer's Disease at the Cellular and Individual Level

April 14

Tuesday, 12:30 pm

Billings Building—Rosedale Room

SPEAKER:



Vilas Menon, Ph.D.

*Assistant Professor & Ludwig
Scholar*

*Center for Translational and
Computational Neuroimmunology*

Department of Neurology

*Columbia University Irving Medical
Center*

Host: Edmund Au, Ph.D.

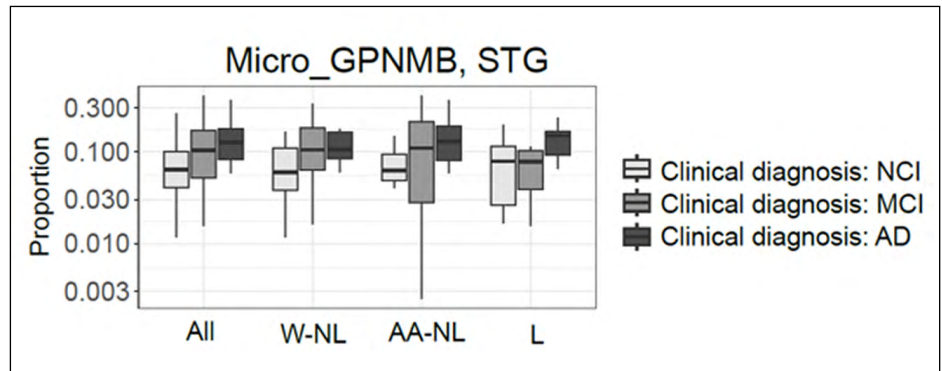
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Abstract

Vilas Menon is currently an Assistant Professor of Neurological Sciences in the Division of Neuroimmunology at Columbia University Irving Medical Center. His lab applies computational and experimental methods to generate and analyze large-scale molecular data in the context of neurological disease. In particular, his group investigates signatures of differential vulnerability and resistance at both the cell type and individual level in neurodegenerative diseases (including Alzheimer's and Parkinson's) and neuroimmune diseases (such as Multiple Sclerosis). He obtained his PhD in Applied Mathematics from Northwestern University, where he studied signal integration and information processing in neurons. Prior to joining Columbia, he spent several years as a scientist at the Allen Institute for Brain Science in Seattle, WA, and as a Fellow at the Howard Hughes Medical Institute's Janelia Research Campus, developing new analytical methods for large-scale single-cell and bulk molecular data analysis.



Publications

- Green GS, Fujita M, Yang HS, Taga M, Cain A, McCabe C, Comandante-Lou N, White CC, Schmidner AK, Zeng L, Sigalov A, Wang Y, Regev A, Klein HU, Menon V*, Bennett DA*, Habib N*, De Jager PL* (2024) *Cellular communities reveal trajectories of brain ageing and Alzheimer's disease*. Nature 633(8030):634-45.
- Gaur, P, Bryois J, Calini D, Foo L, Hoozemans JM, Yadav A, Malhotra D, Menon V* (2025) *Single-nucleus and spatial transcriptomic profiling of human temporal cortex and white matter reveals novel associations with AD pathology*. Nature Communications 16(1):10395.
- Fujita M, Gao Z, Zeng L, McCabe C, White CC, Ng B, Green GS, Rozenblatt-Rosen O, Phillips D, Amir-Zilberstein L, Lee H, Pearse RV 2nd, Khan A, Vardarajan BN, Kiryluk K, Ye CJ, Klein HU, Wang G, Regev A, Habib N, Schneider JA, Wang Y, Young-Pearse T, Mostafavi S, Bennett DA, Menon V*, De Jager PL* (2024). *Cell subtype-specific effects of genetic variation in the Alzheimer's disease brain*. Nature Genetics 56(4):605-14.