Li-San Wang, Ph.D.

Peter C. Nowell, M.D. Professor, Department of Pathology and Laboratory Medicine
Associate Dean for Computing, Perelman School of Medicine
University of Pennsylvania

Email: lswang@pennmedicine.upenn.edu / lisanwang@gmail.com
LinkedIn: https://www.linkedin.com/in/lisanwang/

Last revised: September 18, 2025

Executive Summary

- Internationally recognized for integrating computer science, human genetics, genomics, and clinical research to build transformative platforms in Alzheimer's disease and precision medicine.
- Proven leader in securing over $120M in NIH research funding as PI/MPI, driving large-scale programs in genomics, AI, and academic medicine.

Vision and Future Directions

My career has been guided by the conviction that transformative science emerges from the integration of **innovative discovery, robust infrastructure, and strategic collaboration**. Over the next decade, I aim to **orchestrate a new system for science** that unites infrastructure, insight, and innovation while transitioning my leadership roles to ensure sustainability beyond my tenure. My priorities are to:

- Forge secure, large-scale genomics hubs for international collaboration
- Advance AI-integrated biomedical research based on first principles in biology
- Design institutional models that unite computing, diagnostics, and data science
- Foster the next generation of leaders in genomics, AI, and translational science

Core Competencies

- **Strategic Leadership in Academic Medicine**: Driving vision, institutional growth, and cross-disciplinary impact.
- **Executive Leadership of Large Research Consortia**: Founding and leading multi-institutional, high-impact collaborations.

- **Genomics, AI & Data-Driven Discovery**: Integrating AI-ready dataset and knowledge base with genomics, multi-omics, and precision medicine.
- **Research Infrastructure Innovation**: Developing data platforms and interoperability standards for global science.
- **Mentorship & Talent Development**: Cultivating future leaders across career stages, from undergraduates to faculty.
- **Global Collaboration & Diversity in Science**: Advancing inclusive, multiethnic research and capacity-building worldwide.

Key Leadership Roles

2024-Present: Associate Dean for Computing, Perelman School of Medicine, University of Pennsylvania
- Leads PSOM's strategic vision for computing, AI, and data science integration across research and clinical domains.
- Chairs the Penn Medicine IS Faculty Advisory Committee, aligning infrastructure and faculty needs with institutional priorities.

2021-2025: Vice Chair for Research, Dept. of Pathology & Laboratory Medicine

2021-Present: Director, Division of Diagnostic Innovation (DDI), Dept. of Pathology & Laboratory Medicine, University of Pennsylvania
- Established DDI as a hub for technology-driven innovation in diagnostics, integrating AI, genomics, and translational research.
- Successfully recruited multiple senior and early-career research faculty members.
- Contributed to the department ranking #1 in NIH funding nationally in 2023 and 2024 (Blue Ridge Institute survey).

2017-Present: Founding Co-Director, Penn Neurodegeneration Genomics Center (PNGC)
- Built a leading Alzheimer's disease genetics research program integrating large-scale genomic, multi-omic, and clinical data.
- Secures $20M annually in NIH funding to support operations and scientific programs.
- Directed development of robust data harmonization and analysis pipelines adopted across national and international consortia.

2012-Present: Principal Investigator, NIA Genetics of Alzheimer's Disease Data Storage Site (NIAGADS)
- Data Coordinating Center for the Alzheimer's Disease Sequencing Project (ADSP) since its launch in 2012.
- Oversees a repository of 135 datasets and 180,000 samples, with FAIR-compliant data sharing, secure computing, and advanced analytics.
- Supports 5,000 registered users and 200 data sharing agreements across the world.
- Designated in 2024 as one of only 20 NIH-Certified Controlled-access repositories implementing Security Best Practices.

2020-Present: Founding Contact Principal Investigator, Asian Cohort for Alzheimer's Disease (ACAD)
- Founded and leads the largest study to date focused on Asian Americans in Alzheimer's disease research, and one of the largest NIH-funded studies ($45M) of Asian American populations.

- Leading 40 investigators from 15 institutions and 9 recruiting sites across the U.S. and Canada to recruit 5,000 participants.
- Established culturally tailored recruitment, phenotyping, and community engagement strategies.

2014-2018: Chair, Genomics and Computational Biology Graduate Group, Biomedical Graduate Studies Program, University of Pennsylvania Perelman School of Medicine
- Directed one of the nation's premier computational genomics doctoral programs.
- Achieved 100% satisfaction in the 2014 institutional review student survey.
- Expanded faculty participation and strengthened cross-departmental training partnerships.

Awards and Honors

2024: Peter C. Nowell, M.D., Professorship, University of Pennsylvania Perelman School of Medicine
2022: Penn Faculty Fellow, University of Pennsylvania
2016: Senior Member, International Society of Computational Biology
2008: Fellow, NIA Experimental Aging Research Training Course

Selected Publications

Publications with significant leadership roles, selected from 225 PubMed Records. H-index=70, 36,427 citations. Full list available upon request or via https://pubmed.ncbi.nlm.nih.gov/?term=li-san+wang.

- Kuzma A, Valladares O, Greenfest-Allen E, et al. NIAGADS: A data repository for Alzheimer's disease and related dementia genomics. *Alzheimer's & Dementia*. 2025. doi:10.1002/alz.70255
- Ho P-C, Yu H, et al. Asian Cohort for Alzheimer's Disease (ACAD) pilot study on genetic and non-genetic risk factors for Alzheimer's disease among Asian Americans and Canadians. *Alzheimer's & Dementia*. 2024;20:2058-2071. doi:10.1002/alz.13570
- Kunkle BW, Grenier-Boley B, Sims R, et al. Genetic meta-analysis of diagnosed Alzheimer's disease identifies new risk loci and implicates A-beta, tau, immunity and lipid processing. *Nature Genetics*. 2019;51:414-430. doi:10.1038/s41588-019-0358-2
- Sims R, van der Lee SJ, Naj AC, et al. Rare coding variants in PLCG2, ABI3 and TREM2 implicate microglial-mediated innate immunity in Alzheimer's disease. *Nature Genetics*. 2017;49:1373-1387. doi:10.1038/ng.3916
- Lambert J-C, Ibrahim-Verbaas CA, Harold D, et al. Meta-analysis of 74,046 individuals identifies 11 new susceptibility loci for Alzheimer's disease. *Nature Genetics*. 2013;45:1452-1458. doi:10.1038/ng.2802
- Neale BM, Kou Y, Liu L, et al. Patterns and rates of exonic de novo mutations in autism spectrum disorders. *Nature*. 2012;485:242-245. doi:10.1038/nature11011
- Naj AC, Jun G, Beecham GW, et al. Common variants at MS4A4/MS4A6E, CD2AP, CD33 and EPHA1 are associated with late-onset Alzheimer's disease. *Nature Genetics*. 2011;43:436-441. doi:10.1038/ng.801

Selected Grants

Primary NIH research funding where I have played overall leadership roles (PI/MPI), spanning initiatives both before and after the establishment of PNGC. Total funding from these grants: $123,383,144.

- 08/2025-04/2030: **Contact MPI**, *Training Grant in Computational Genomics*, NIH/NHGRI. T32HG000046, $2,855,250 total Y26-Y30. MPI: Junhyong Kim, Mingyao Li, Li-San Wang.
- 07/2023-06/2028: **Contact MPI**, *Asian Cohort for Alzheimer's Disease*, NIH/NIA. U19AG079774, $40,532,690 total award period. MPI: Helena Chui, Gyungah Jun, Van Park, Li-San Wang.
- 07/2020-06/2022: **Contact MPI**, *Asian Cohort for Alzheimer's Disease*, NIH/NIA. R56AG069130, $4,869,158 total award period. MPI: Helena Chui, Gyungah Jun, Van Park, Li-San Wang.
- 04/2022-03/2027: **PI**, *The NIA Genetics of Alzheimer's Disease Data Storage Site*, NIH/NIA. U24-AG041689, $42,298,270 total award period.
- 04/2016-03/2026: **MPI**, *Genome Center for Alzheimer's Disease*, NIH/NIA U54AG052427, $32,827,776 total award period. MPI: Gerard Schellenberg, Li-San Wang.

Education

- Ph.D., Computer Sciences, The University of Texas at Austin (1998-2003)
- M.S., Electrical Engineering, National Taiwan University (1994-1996)
- B.S., Electrical Engineering, National Taiwan University (1990-1994)
- Postdoctoral Researcher, University of Pennsylvania (2003-2006)

Mentorship and Trainee Honors

- PhD students mentored: 5
- Postdoctoral fellows mentored: 16
- Undergraduate researchers mentored: 9

Mentees with faculty appointments

- **Kajia Cao**, Assistant Professor, Department of Pathology and Laboratory Medicine, UCLA
- **Wei Fu**, Assistant Professor, Department of Health Management and System Science, University of Louisville
- **Mi-Ryung Han**, Associate Professor, College of Life Sciences and Bioengineering, Incheon National University
- **Steve Hersman**, Associate Professor of Practice, School of Information, University of Texas at Austin

- **Pei-Chuan Ho**, Research Associate, Department of Pathology and Laboratory Medicine, University of Pennsylvania
- **Chien-Yueh Lee**, Associate Professor, Department of Electrical Engineering, National Taiwan University of Technology
- **Yuk Yee Leung**, Research Assistant Professor, Department of Pathology and Laboratory Medicine, University of Pennsylvania
- **Pavel Kuksa**, Research Assistant Professor, Department of Pathology and Laboratory Medicine, University of Pennsylvania
- **Mitchell Tang**, Department of Health Policy and Management, Assistant Professor, Columbia University

<u>Accolades</u>

- **Yih-Chii Hwang** — *Charles J. Epstein Trainee Research Award*, 2014 *(co-mentored with Brian Gregory), American Society for Human Genetics*
- **Fan Li** — *BGS Saul Winegrad Best Dissertation Award (co-mentored with Brian Gregory), University of Pennsylvania Perelman School of Medicine*
- **Kaylyn Clark** — *GCB Student Leadership and Engagement Award, University of Pennsylvania Perelman School of Medicine*
- **Mitchell Tang** — *Barry Goldwater Scholar* (Honorable Mention), 2015
- **Lauren Kleidermacher** — *Thouron Scholar*, 2021

Selected Service

2024-2025: Member (Invited), Ad Hoc Committee, Research Priorities for Preventing and Treating Dementia, National Academies of Science, Engineering and Medicine (NASEM).

2012-Present: Member, Executive Committee, Alzheimer's Disease Sequencing Project (ADSP), National Institute on Aging.

2014-Present: Member of Study Sections and Review Panels, National Institutes of Health, 32 review meetings.