JIANQIAO HU

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EDUCATIONAL BACKGROUND

Boston University, Boston, MA Sept 2016 – May 2020
B.A. Mathematics
B.A. Biology with Specialization in Cell Biology, Molecular Biology & Genetics
- Magna Cum Laude and honors in Biology

University of Washington, Seattle, WA Sept 2022 – Present
Ph.D. Candidate in the Graduate Program in Neuroscience

DISTINCTIONS

Undergraduate Research Opportunities Program Participant Sept 2018 – May 2020
- Co-authored 5 peer-reviewed papers on neurodegenerative diseases through funded, faculty-mentored research.

Recipient of Benjamin Pan Merit Scholarship Fund Sept 2016 – May 2020
- One of two recipients of the Benjamin Pan Scholarship which covers 25% of the total tuition for outstanding Chinese international students.

Dean's List Seven Semesters

RESEARCH EXPERIENCE

University of Washington, Seattle, WA Sept 2022 – Present
Graduate Researcher, mentored by: Dr. Bingni Brunton & Dr. Edgar Walker

Mayo Clinic, Jacksonville, FL July 2021 – Sept 2022
Independent Consultant for Computational Analysis with Dr. Tsuneya Ikezu
- Assessed transcriptional and translational gene expression profiles of various mouse models of Alzheimer's Disease, using Weighted Gene Co-expression Network Analysis (WGCNA)

Boston Children's Hospital, Boston, MA June 2020 – June 2022
Research Data Coordinator with Dr. Frederick W. Alt
- Designed and implemented a novel deduplication tool to address ambiguous nucleotides in gene sequencing data, reducing data processing time by a factor of 160.
- Provided bioinformatics support for 17 research scientists to analyze high-throughput gene sequencing data to study somatic gene recombination.
- System administration and backup/disaster recovery for two academic IT environments.
- Developed a computational pipeline for characterizing B cell clonotypes at the protein-level to elucidate the mechanism of clonal selection in human.

Boston University School of Medicine, Boston, MA July 2018 – May 2020
Undergraduate Researcher with Dr. Tsuneya Ikezu
- Established an analysis workflow for applying an unsupervised dimensionality reduction technique to identify gene modules that are disrupted in neurodegenerative diseases.
- Honors Thesis: microRNA profiling of human primary astrocyte-derived extracellular vesicles upon interleukin-1β stimulation.
  - Characterized the first human exosomal microRNA expression profile of immunoreactive primary astrocytes activated by interleukin-1β, via exosome isolation, RNA extraction, nanoparticle tracking analysis, qPCR, immunocytochemistry, and data analysis.

PUBLICATIONS

Hu, J., Luo, S., Tian, Ming., Alt, F. W., and Ye, A. Y., TrieDedup: A fast trie-based deduplication algorithm to handle ambiguous bases in high-throughput sequencing, *submitted to Bioinformatics*

You, Y., Muraoka, S., Jedrychowski, M. P., **Hu, J.**, McQuade, A. K., Young-Pearse, T., Aslebagh, R., Shaffer, S. A., Gygi, S. P., Blurton-Jones, M., Poon, W. W., & Ikezu, T. (2022). Human neural cell type-specific extracellular vesicle proteome defines disease-related molecules associated with activated astrocytes in Alzheimer's disease brain. *Journal of extracellular vesicles, 11*(1), e12183. https://doi.org/10.1002/jev2.12183

Liang, Z., Kumar, V., le Bouteiller, M., Zurita, J., Kenrick, J., Lin, S. G., Lou, J., **Hu, J.**, Ye, A. Y., Boboila, C., Alt, F. W., & Frock, R. L. (2021). Ku70 suppresses alternative end joining in G1-arrested progenitor B cells. *Proceedings of the National Academy of Sciences*, *118*(21), e2103630118. https://doi.org/10.1073/pnas.2103630118

Muraoka, S., Lin, W., Takamatsu-Yukawa, K., **Hu, J.**, Ikezu, S., DeTure, A. M., Dickson, W. D., Emili, A., & Ikezu, T. (2021). Enrichment of Phosphorylated Tau (Thr181) and Functionally Interacting Molecules in Chronic Traumatic Encephalopathy Brain-derived Extracellular Vesicles. *Aging and Disease*, *12*(3). https://doi.org/10.14336/AD.2020.1007

Muraoka, S., Jedrychowski, M. P., Iwahara, N., Abdullah, M., Onos, K. D., Keezer, K. J., **Hu, J.**, Ikezu, S., Howell, G. R., Gygi, S. P., & Ikezu, T. (2021). Enrichment of Neurodegenerative Microglia Signature in Brain-Derived Extracellular Vesicles Isolated from Alzheimer's Disease Mouse Models. *Journal of Proteome Research*, *20*(3), 1733–1743. https://doi.org/10.1021/acs.jproteome.0c00934

Ruan, Z., Pathak, D., Venkatesan Kalavai, S., Yoshii-Kitahara, A., Muraoka, S., Bhatt, N., Takamatsu-Yukawa, K., **Hu, J.**, Wang, Y., Hersh, S., Ericsson, M., Gorantla, S., Gendelman, H. E., Kayed, R., Ikezu, S., Luebke, J. I., & Ikezu, T. (2020). Alzheimer's disease brain-derived extracellular vesicles spread tau pathology in interneurons. *Brain*, *144*(1), 288–309. https://doi.org/10.1093/brain/awaa376

Ruan, Z., Delpech, J. C., Venkatesan Kalavai, S., van Enoo, A. A., **Hu, J.**, Ikezu, S., & Ikezu, T. (2020). P2RX7 inhibitor suppresses exosome secretion and disease phenotype in P301S tau transgenic mice. *Molecular Neurodegeneration*, *15*(1). https://doi.org/10.1186/s13024-020-00396-2

COMMUNITY SERVICE

China Care Fund, Boston University — Sept 2019 – May 2020
Events Coordinator – E-Board Member

- Organized a fundraising banquet for 50 people and other fundraising events to raise over 500 dollars for underprivileged orphans in China.
- Led weekly team meetings for the event planning team.

Neuroscience Mentorship Program, University of Washington — Sept 2022 – Present
Graduate mentor

- Review and provide feedback on graduate school applications for four undergraduate students

Neuroscience Community Outreach Organization, University of Washington — Sept 2023 – Present
Member

- Taught neuroscience concepts to children from the age of 4 – 14 at the Geek Girl Convention, Seattle, WA.

Art Neureau, University of Washington — Sept 2023 – Present
Executive Committee member

- Organized an annual art show with a theme in neuroscience to promote scientific community outreach

Bioscience Careers Seminar, University of Washington — Nov 2023 – Present
Executive Committee member

- Organize and coordinate external speakers to give seminars on
- 316234pursuing non-traditional careers in science