

# Stanford

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## Zhiyu Wang

Postdoctoral Scholar, Neurosurgery

### Bio

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#### BIO

Wilford Zhiyu Wang is a Postdoctoral Scholar in the Department of Neurosurgery, School of Medicine. He received his Ph.D. degree from University of Toronto in 2021 and joined Stanford in 2022. His research focuses on the drug discovery for the proteopathy and immunopathy of Alzheimer's disease. As a novel approach, his study intends to ameliorate disease progression through the immune system using small molecules. He identified one novel anti-inflammatory compound that enhances autophagy through mTOR and promotes ER-turnover through TEX264 during Alzheimer-associated neuroinflammation.

He has strong interest in Alzheimer-related research, including toxic protein misfolding and neuroinflammation. He is currently working on the assay developments for hit identification, target engagement, and mechanism-of-action (MOA) study, aiming to identify a drug candidate for neurological disorders.

#### HONORS AND AWARDS

- COVID-19 student engagement award, University of Toronto (June-2020)
- Young Investigator Scholarship, Alzheimer's Drug Discovery Foundation (September-2019)
- Biophysical Chemistry, Molecular Toxicology and Neuroscience Group Poster Award, University of Toronto (June-2019)
- Ontario Graduate Student Scholarship, Ontario Province of Canada (September-2018)
- Krembil Research Studentship Award, University Health Network (September-2018)

#### PROFESSIONAL EDUCATION

- Master of Applied Science(s), University of Ottawa (2015)
- Doctor of Philosophy, University of Toronto (2021)
- Doctorate, University of Toronto, Neuroscience and Medicinal Chemistry (2021)

#### STANFORD ADVISORS

- Mehrdad Shamloo, Postdoctoral Faculty Sponsor

#### PATENTS

- "United States Furosemide analogues and compositions and uses thereof for treatment of Alzheimer's Disease"
- "United States Furosemide as a supportive therapy for COVID-19 infection"

#### LINKS

- LinkedIn: <https://www.linkedin.com/in/wilford-zhiyu-wang/>

## Research & Scholarship

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### RESEARCH INTERESTS

- Brain and Learning Sciences

### Publications

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#### PUBLICATIONS

- **Anti-Inflammatory Anthranilate Analogue Enhances Autophagy through mTOR and Promotes ER-Turnover through TEX264 during Alzheimer-Associated Neuroinflammation** *ACS CHEMICAL NEUROSCIENCE*  
Wang, Z., Huang, J., Yang, S., Weaver, D. F.  
2022; 13 (3): 406-422
- **Design, synthesis, and biological evaluation of furosemide analogs as therapeutics for the proteopathy and immunopathy of Alzheimer's disease** *EUROPEAN JOURNAL OF MEDICINAL CHEMISTRY*  
Wang, Z., Wang, Y., Pasangulapati, J., Stover, K. R., Liu, X., Schier, S., Weaver, D. F.  
2021; 222: 113565
- **Furosemide as a Probe Molecule for the Treatment of Neuroinflammation in Alzheimer's Disease** *ACS CHEMICAL NEUROSCIENCE*  
Wang, Z., Vilekar, P., Huang, J., Weaver, D. F.  
2020; 11 (24): 4152-4168
- **Is Inhaled Furosemide a Potential Therapeutic for COVID-19?** *AMERICAN JOURNAL OF THE MEDICAL SCIENCES*  
Brennecke, A., Villar, L., Wang, Z., Doyle, L. M., Meek, A., Reed, M., Barden, C., Weaver, D. F.  
2020; 360 (3): 216-221
- **Small molecule therapeutics for COVID-19: repurposing of inhaled furosemide** *PEERJ*  
Wang, Z., Wang, Y., Vilekar, P., Yang, S., Gupta, M., Oh, M., Meek, A., Doyle, L., Villar, L., Brennecke, A., Liyanage, I., Reed, M., Barden, et al  
2020; 8: e9533
- **Biaryls from Anilines and Aryl Sulfoxides through Sigmatropic Rearrangement** *Synfacts*  
Snieckus, V., Wang, Z., Weaver, D.  
2020; 16 (2)
- **Brønsted Acid Catalyzed Synthesis of #- (3-Indolyl) Ketones** *Synfacts*  
Snieckus, V., Wang, Z., Weaver, D.  
2019; 15 (10)
- **A study on the impact of SO<sub>2</sub> on CO<sub>2</sub> injectivity for CO<sub>2</sub> storage in a Canadian saline aquifer** *APPLIED ENERGY*  
Wang, Z., Wang, J., Lan, C., He, I., Ko, V., Ryan, D., Wigston, A.  
2016; 184: 329-336
- **A study of the effect of impurities on CO<sub>2</sub> storage capacity in geological formations** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*  
Wang, J., Wang, Z., Ryan, D., Lan, C.  
2015; 42: 132-137