

Wuliang Zhang

wuliangzhang2021@u.northwestern.edu · (847) 917-3723

EDUCATION

Northwestern University

Ph.D. Candidate, Chemistry | Cumulative GPA: 3.6/4.0

Evanston, IL
Expected June 2021

University of Michigan

M.S. Chemistry | Cumulative GPA: 3.8/4.0

Ann Arbor, MI

B.S. Chemistry | Minor in Statistics | Cumulative GPA: 3.9/4.0

Apr. 2016

Dec. 2015

- High Distinction (top 10% of class) | Highest Honors in Chemistry

EXPERIENCE

Northwestern University | Mirkin Research Group

Evanston, IL

Ph.D. Research Assistant

Nov. 2016 – present

- Investigate and analyze biological behaviors of liposomes whose surface is co-grafted with nucleic acids and polymers to improve bioavailability and tumor accumulation
- Manage and maintain HPLC, instruments that are frequently used by more than 30 group members and organize annual training sessions over three years
- Collaborated on a project to incorporate active targeting and stealth effects into nanoparticles by coating tailored protein onto their surfaces that led to a first-author manuscript and a patent
- Filed a patent on targeting nanoparticles against tumor while maintaining longevity in the bloodstream by including tumor-associated enzyme cleavable surface protection in the designed construct

Northwestern University | Advanced Degree Consulting Alliance

Evanston, IL

Co-President

Sep. 2019 – Sep. 2020

- Determined the growth strategy and monitor the overall success of an organization consisting of an 8-person executive board and 200+ members
- Delegated event planning and post-event survey designing tasks to board members and collectively coordinate monthly events with 10-30 attendees and one annual event with ~100 attendees

Northwestern University | Department of Chemistry

Evanston, IL

Teaching Fellow

Sep. 2016 – Apr. 2018

- Led and facilitated 4 Northwestern undergraduate chemistry lab courses that met weekly in the size of 10-20 students. > 80% of the students were able to make the desired products by the end of each lab session
- Advised more than 10 students weekly on course material and exam preparation tips

PUBLICATIONS AND PATENTS

- **Zhang, W.**; Meckes, B.; Mirkin, C. A., Spherical Nucleic Acids with Tailored and Active Protein Coronae. *ACS Cent Sci* **2019**, 5 (12), 1983-1990.
- **Zhang, W.**; Callmann, C.; Mirkin, C. A., Impact of Polyethylene Glycol lipid Anchor on Biological Activities of Liposomal Spherical Nucleic Acids. *In preparation*.
- Lee, C. H.; Folz, J.; **Zhang, W.**; Jo, J.; Tan, J. W. Y.; Wang, X.; Kopelman, R., Ion-Selective Nanosensor for Photoacoustic and Fluorescence Imaging of Potassium. *Anal. Chem.* **2017**, 89 (15), 7943-7949.
- U. S. Patent 2020/0246484 A1: "Spherical Nucleic Acids (SNAs) with Sheddable PEG Layers", August 6, 2020.
- U. S. Patent 62/903,223: "Spherical Nucleic Acids with Tailored and Active Protein Coronae", Provisional filed September 20, 2019.

SKILLS

Laboratory: Liposome, polymeric micelle, and gold nanoparticle synthesis, Automatic DNA synthesis, bioconjugation chemistry, HPLC, MALDI-ToF MS, LC-MS, UV-Vis, Confocal microscopy, Fluorolog, Gel electrophoresis, Flow cytometry, ICP-MS, GC-MS, and mammalian cell culture

Computer: Proficient in using MS Office, Adobe Illustrator, and GraphPad Prism. Basic skills in Python and Cinema 4D

Languages: English (full professional proficiency), Mandarin Chinese (native)