

Mary Zhang

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Education

Carleton College, Northfield, MN, Class of 2022

- Bachelor of Arts, Biology major
- Relevant courses: Behavioral Neuroscience, Neuroimmunology, Organic Chemistry I, Cell Biology, Immunology, Developmental Neurobiology, Genetics, Organic Chemistry II
- Cumulative GPA: 3.74

Research Experiences

Lab Intern, Dr. Kiryl D. Piatkevich's lab, Westlake Institute of Advanced Studies **Summer 2020**
Hangzhou, China

- Designed, constructed and screened libraries of a novel near-infrared glucose biosensor based on previous research and protein structure modeling
- Tested dual expression systems to establish a more effective sorting workflow
- Learned and familiarized with skills including FACS, mammalian cell cultivation and transfection and fluorescent microscopy

Research Lab Student Worker, Dr. Raka Mitra's lab, Carleton College **Winter 2019 - Present**
Northfield, Minnesota

- Studying the mechanisms of Ralstonia effector proteins on plants
- Learning wet-lab skills including immunoprecipitation, western blot, and sequencing techniques
- Learned and utilized bioinformatics tools to study Ralstonia protein structures and predict their functions

Lab Intern, Dr. Mark Masino's lab, University of Minnesota Medical School **Summer 2019**
Minneapolis, Minnesota

- Started a pilot study on roles of different spinal glutamate receptors on larval zebrafish locomotion
- Conducted behavioral assays, high-speed camera recording and calcium imaging
- Wrote a brief literature review and a proposal for follow-up projects
- Presented results at Summer Symposium at Carleton College

Research Lab Student Worker, Dr. Gisel Flores-Montoya's lab, Carleton College **Fall 2019 - Winter 2020**
Northfield, Minnesota

- Helping set up the new lab by drafting proposals and looking up relevant training programs
- Reading literature on the neuroimmunological effects of low lead exposure on mice and the anti-inflammatory effects of curcumin and apigenin
- Will be conducting behavioral assays and learning immunology research techniques in the winter

Team Leader and Advisor, International Genetically Engineered Machine Competition (iGEM) **2016-2017**
Shenzhen, Guangdong, China

- Built and tested a project on developing test papers using toe-hold switch technology for Hepatitis C virus with my teammates (2016)
- Cloned DNA and built plasmids, learned basic lab techniques including PCR and fluorescence microscopy, designed all the testing experiment for the test paper expression system and analyzed data (2016)
- Communicated between experiment group and theory group, wrote Wiki pages and presented on the stage of Giant Jamboree (2016)
- Provided guidance on experiment, project development, and team management (2017)

Work Experience

Fellow, Center for Community and Civiv Engagement (CCCE), Carleton College **Fall 2019-present**
Northfield, Minnesota

- Facilitating conversations around political engagements on campus
- Participating in other volunteer programs led by the CCCE office, including Special Olympics, Young Chef and Alzheimer's Buddies

Intern, Cool Brain Science **Summer 2019 - Spring 2020**
Remote

- Translating neuroscience-related articles and books into Chinese
- Writing Podcast scripts that publicize neuroscience knowledge

Skills

- Native Mandarin speaker
- Familiar with python, R, and java
- Molecular biology cloning techniques; mammalian cell cultivation and transfection; FACS; fluorescent microscopy; PyMol