Jessica Luo

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Experience

July 2021 - October 2021

Research trainee - *McGill University*

- Conducted literature review on hydrogel hybrid treatments for brain aneurysms
- Discussed work to Professor Jianyu Li and prepared papers and other material, serving as an introduction of the topic for a masters student

August 2021 - PRESENT

SPARKS president - *Loomis Chaffee School*

- Organized lab kits and led experiment sessions on Zoom and in-person for students in K-5 and raised over $700 for school supply donations for elementary schools in Hartford
- Created virtual learning lessons and activities for teachers and parents, led weekly hands-on lesson at Eli Terry elementary school for two terms (2022-2023)
- Led a club of over 100 volunteers to perform series of chemistry demonstrations at local elementary school, Broad Street Halloween Parade, and Windsor's Shad Derby

September 2020 - PRESENT

COSMOS/STEM Magazine Editor-in-Chief - *Loomis Chaffee School*

- Wrote several articles, edited articles for three publications throughout the school year, managed the website, recruitment, and communications as editor-in-chief

June 2022- August 2022

Research intern- *University of Delaware Department of Biomedical Sciences*

- Worked under Professor Xinqiao Jia in the lab, led by Apoorva Metkari (PhD candidate) on a tissue engineering project for salivary glands regeneration
- Observed HA hydrogels synthesis, cell encapsulation of hS/PC, cell passaging, immunostaining, and mito tracking
- Used Fiji/ImageJ software to collect tracks for Brownian motion simulations in Matlab

June 2023-August 2023

Research trainee- *Brigham and Women's Hospital/Harvard Medical School*

- Worked under Professur Shrike Zhang, led by Xiao Kuang (postdoctoral student) on two projects involving phase-diagram modeling and developing sprayable adhesives for the universal bonding of engineered tissues to dry, inorganic surfaces
- Learned about bioprinting principles and organ-on-chip technology
- Synthesized aqueous two-phase materials, cultured MSC cells for encapsulation, performed robust mechanical testing on synthesized AA-NHS-Chitosan hydrogels

September 2023-Present

Academic Year Research Fellowship- *Jackson Laboratory, Farmington*

- Worked under Professur Sasan Jalili on microneedle patch development and optimization and organ-on-chip technology for modeling intestinal microbiome
- Performed literature review and writing of perspectives paper for publication

Education

September 2020 - PRESENT

Loomis Chaffee School, Windsor, CT - *Grade 12*

Courses

Freshman year

- CL* Chemistry (AP curriculum)
- Advanced Precalculus with Differential Calculus
- Advanced Latin II
- World history
- Wind Ensemble
- English I

Sophomore year

- CL* Microbiology (term course)
- CL* Molecular biology I & II (term courses)
- CL* Calculus BC (AP curriculum)
- Advanced Physics I
- Advanced Latin III
- Wind Ensemble
- English II

Junior year

- CL* Physics II
- CL* Latin IV
- CL* English Seminar III
- CL* U.S. History
- CL* Multivariable Calculus
- Wind Ensemble

Self-study

- CS50: Intro to Computer Science, Harvard/edX - 50%
- Organic chemistry, McMurry
- Python 3, Codecademy - 55%
- Introduction to Genomic Technologies, Coursera - 100%
    - https://www.coursera.org/account/accomplishments/certificate/37NR7NQPYQBP
- Python for Genomic Data Science, Coursera - 95%

Awards

- Anna J. Harrison Award, 2021 - awarded to female with highest score on Chemistry Olympiad Exam in CT valley region
- Chemistry Olympiad, Honorable Mention, 2020 - placed among top 200 in the country among around 17,000 participants for the Chemistry Olympiad exam
- Baxter Award 2021, 2022 - awarded by Loomis Chaffe science department to the “the hardest working, the most passionate, and the best leaders in our science classrooms”