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## EXPERIENCE

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### Whitehead Institute, David Bartel Lab

Cambridge, MA

*Undergraduate Researcher*

April 2021 – Current

- Design independent senior thesis research project
- Investigate the regulation of microRNAs in target directed microRNA degradation (TDMD)
- CRISPR knock-in of synthetic microRNA libraries into mammalian cell lines and quantification of expression levels over time with northern blot and small RNA sequencing

### Biotherapeutics Seminar

Cambridge, MA

*Student*

September 2020 – December 2020

- Designed and wrote 12-page, independent, original research grant proposal: “T cell Epitope Modification of AAV for Immune Escape”
- Reviewed and discussed 20+ scientific papers
- Presented 4 times on recent literature and own original proposal

*Teaching Assistant*

September 2021 – December 2021

- Taught two 2-hour lectures and discussions on oligonucleotide therapy and splicing enhancers for both pre-clinical experiments and clinical trials
- Provided written and verbal feedback on peers’ original proposals

### Anylam Pharmaceuticals

Cambridge, MA

*Analytical Chemistry Co-op, RNAi Discovery Department*

January 2021 – June 2021

- Prepared and analyze siRNA for research and drug discovery collaboration
- Analyzed purity and identity of oligonucleotide single strands and duplexes through mass spectrometry
- Contributed to 100+ *in vitro* and *in vivo* preclinical drug development studies
- Founded and led co-op journal club and presented relevant papers

### AbbVie Pharmaceuticals

Worcester, MA

*Bioinformatics Intern, Biologics Discovery Department*

May - August 2020

- Worked with Protein Engineering and Expression group
- Optimized ribosome profiling analysis pipeline and added small open reading frame detection
- Conducted literature review of rapidly evolving technology in ribosome profiling and small open reading frames
- Presented work to 30+ group members
- Contributed to drug development discovery pipeline for engineering stable cell lines and target discovery

### Timothy Lu Lab, MIT Synthetic Biology Center

Cambridge, MA

*Undergraduate Researcher*

September 2019 - March 2020

- Designed and built genetic circuits for gum disease regeneration
- Expanded on previous work by finding an unfinished project on campus and quickly familiarizing myself
- Created cells that detect inflammation and emit appropriate levels of growth factors for cell proliferation
- Performed mammalian cell culture and molecular cloning

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## EDUCATION

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### Massachusetts Institute of Technology (MIT)

May 2022 | GPA: 4.9/5.0

Degree: Bachelor of Science in Biological Engineering

Relevant courses: Senior design project, Bioengineering instrumentation, Cancer immunology, Biomolecular systems analysis, Genetics, Biochemistry, Cell biology, Organic chemistry, Python intermediate programming

Thesis: RNA-microRNA complementary patterns triggering target-directed microRNA degradation

Extracurriculars: Associate advisor, Varsity sailing (Captain), MIT Spokes (Operations lead), Global teaching labs, High school biology project mentoring

Laboratory Skills: Mammalian cell culture, gene cloning, mass spectrometry, HPLC, NGS sequencing analysis, northern blot, CRISPR

Software: Python, R, MATLAB, and Bash shell scripting