ANN OUYANG
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Education

Massachusetts Institute of Technology Cambridge, MA
Candidate for SB in Chemical-Biological Engineering and SB in Biology, June 2011
Current GPA: 5.0
Honors/Awards: Recipient of Robert C. Bryd Scholarship, member of Tau Beta Pi Engineering Honor Society, member of Sigma Xi Scientific Research Society
Relevant Coursework: Differential Equations, Computer Science, Organic Chemistry, Intro to Chemical Engineering, Thermodynamics and Kinetics, Genetics, Thermodynamics II, Fluid Dynamics, General Biochemistry, Intro to Experimental Biology and Communication, Cell Biology, Transport Processes, Biomaterials: Tissue Interactions, Chemical Kinetics and Reactors, Quantitative Systems Physiology, Immunology, Computational and Systems Biology

Skills

Computer: Python, Matlab, some Java
Laboratory: Proficient in mammalian and yeast cell culture, bacterial assays, gel electrophoresis, PCR, DNA isolation, and other microbiology techniques. Some experience with *C. elegans*.

Research Experience

Laboratory of Biological Modeling, National Institutes of Health Bethesda, MD
Summer Research Program Intern *2010*

- Adapted the lab's previously-developed model for human weight change and metabolism for use in Matlab.
- Adjusted the model for children by modeling effects of growth on bone mass and extracellular water.

Hamel Lab, MIT Cambridge, MA
UROP (Undergraduate Research Opportunities Program) student *2009-2010*

- Studied cellulosic bioethanol production from fermentation of sugarcane bagasse and *Ulva rigida* algae.
- Designed assays to measure ethanol production and growth curves of *P. tannophilus* and *P. stipitis.*

Voldman Lab, MIT Cambridge, MA
UROP (Undergraduate Research Opportunities Program) student *2009*

- Studied the sensitivity and viability of the Bio Flip Chip (BFC), a microfabricated silicone device developed by the Voldman Lab, and optimized protocols for preparing and using the device.
- Analyzed the effects of cell-cell contact and autocrine signaling on the growth of endothelial cells plated with the device.

Rich Lab, MIT Cambridge, MA
UROP (Undergraduate Research Opportunities Program) student *2008-2009*

- Analyzed z-DNA binding domains in the sea urchin ADAR-1 gene using molecular biology techniques such as PCR, cloning, and bacterial transformation.

CombinatoRx, Inc. Cambridge, MA
Discovery Biology Intern *2008*

- Developed high-throughput screening techniques to test an extensive compound library for substances that inhibit *E. coli, K. Pneumoniae, P. aeruginosa*, and *P. acnes.*
- Cultured cancer cells for a separate project.

Lauffenburger Research Group, MIT Cambridge, MA
UROP student *2008*

- Analyzed glioblastoma cell migration with 3D-imaging software.
- Prepared movies and identified cell movement patterns.

Leadership

MISTI (MIT International Science and Technology Initiative) Rome, Italy
Physics Teacher for the Highlights for High Schools Program *2010*
MIT Chemical Engineering Department Cambridge, MA
Associate Advisor, Tutor *2009-2010*
MIT Freshmen Advising Cambridge, MA
Associate Advisor *2008-2009*
Research Science Institute Cambridge, MA
Counselor *2008*
MIT Figure Skating Club Cambridge, MA
President (2009-2010) Treasurer (2008-2009) *2007-Present*