Mariana Duran

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Education

Massachusetts Institute of Technology (MIT) **GPA**: 3.9 / 5.0 Cambridge, MA

- *Candidate for Bachelor of Science in Biological Engineering* *June 2013*
- Relevant Coursework: Molecular, Cellular, and Tissue Biomechanics; Analysis of Biomolecular and Cellular Systems, Biochemistry, Genetics, Thermodynamics, Intro to Computer Science and Programming

Eastlake High School **GPA**: 4.6 / 4.0 Chula Vista, CA

- *Awards: Salutatorian, AP Scholar with Distinction* *June 2009*

Research Experience

Pfizer – Global Biotherapeutic Technologies Cambridge, MA

Therapeutic Antibody Screening Student Worker *May – August 2012*

- Assisted in generation of mouse and rat monoclonal antibodies that neutralize tissue factor pathway inhibitor activity in order to treat hemophilia patients
- Performed capture ELISA assays on hybridoma culture supernatants to select clones for further characterization. 22 clones were found to restore activity over TFPI to various degrees
- Presented results of summer project to ~40 people and participated in intern poster session

MIT Department of Biological Engineering Cambridge, MA

Undergraduate Researcher *September – December 2011*

- Modified gene for EGFP and created plasmid to measure frequency of homologous recombination
- Altered two-component system by screening for mutations in order to increase contrast in bacterial photography system
- Created biologically improved, dye-sensitized solar cell by assembling networks of single-walled carbon nanotubes and titanium dioxide nanoparticles using the bacteriophage M13
- Designed and presented research proposal on use of targeted nanoparticles in Alzheimer's patients to ~25 people

MIT Undergraduate Research Opportunities Program Cambridge, MA

Undergraduate Researcher *June – August 2010*

- Collaborated with graduate student and post-doc on cancer therapy research to analyze use of targeted nanoparticles, essentially combining chemotherapy and siRNA in treatment of cancer, due to their ability to target tumor tissue effectively and minimize undesirable side effects of chemotherapy
- Maintained cancer cell lines, encapsulated siRNA into nano-sized delivery system, and characterized delivery system
- Tested activity of siRNA on expression of genes in cancer cells in order to assess therapeutic efficacy of the treatment

Leadership and Activities

MIT Information Center Cambridge, MA

Undergraduate Campus Tour Guide *July 2011 - Present*

- Lead tour groups of up to 35 people consisting of prospective students, families, and visitors from all over the world
- Assist with planning and running of special events on campus consisting of up to 200 people

MIT Dance Troupe Cambridge, MA

Choreographer *September 2009 – Present*

- Choreograph and dance in 5 regularly sold-out performances each semester. Dance Troupe consists of ~200 students

Other Activities: ReachOut Tutoring Volunteer, In Motion Dance Company (Co-Captain), Chula Vista Public Library Volunteer

Skills

Language*:* Fluent in Spanish

Computer*:* Python, Matlab, Microsoft Office

Lab: PCR and primer design, ELISA, tissue culture, Agarose gel electrophoresis, SDS-PAGE, western blots, spectophotometry