

ANDREA FABRE

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EDUCATION

Massachusetts Institute of Technology (MIT), Cambridge, MA

Candidate for Chemical Engineering Major, and Political Science and Biology Minors

GPA:4.6/5.0

June 2012

RELEVANT SKILLS

- **Languages:** Fluent Spanish, conversational English, intermediate French/Catalan.
- **Programming:** Basic MatLab and Java experience.
- **Research:** Ample experience doing research in labs and protein simulation.

EXPERIENCE

Laboratory for Theoretical Soft Materials

September 2011-Present

Polymer dynamics researcher

- Ran computer simulations of relevant polymers
- Analyzed chainlength and binding/unbinding energy effects on polymer self-assembly
- Developed theories describing the polymer behavior

Procter & Gamble; Gillette, Boston, MA

June 2011-August2011

Product Research Intern

- Designed and executed technical and analytical tests with a variety of products to evaluate their performance.
- Analyzed test results, and found the optimum combination of products with the highest potential of success in Emerging Markets.
- Developed tests and recommendations for further studies on that area.

Laboratory of Atomistic and Molecular Mechanics; Massachusetts Institute of Technology, Cambridge, MA

January 2010-June 2011

Intermediate Filament Simulation's researcher

- Examined intermediate filaments' influence on cell's behavior.
- Used computational modeling and simulations to analyze the effects of human vimetin protein filaments mutations.
- Submitted a research paper, which is currently under revision.

BCS/McGovern Institute for Brain Research; Massachusetts Institute of Technology, Cambridge, MA

October 2009-December 2009

Video Analyst

- Improved an automated computer vision system for the monitoring and analysis of mouse behavior in their home cage.
- Analyzed and scored mice videos to train the computer system.
- Recognized software confusion of similar movements when having soft light or darkness.

Institut Quimic de Sarrià, Barcelona, Spain

May 2009-August 2009

Rapid Manufacturing Team Member

- Searched for a biocompatible powder and binder to use for 3D printing.
- Used the 3D Printer to make complex objects.
- Analyzed the composition of Z-Corp binder and powder for the 310 Plus printer.
- Produced hydroxyapatite and industrial printer binder at the Institute's laboratory.

White Laboratory; Massachusetts Institute of Technology, Cambridge, MA

January 2009-June 2009

Research Assistant

- Grew forty 3T3-L1 cell and thirty cancer cell cultures for the study.
- Analyzed the behavior of fat and cancer cells under different conditions.
- Analyzed the proteins synthesized when the cells were exposed to different types of conditions.

Massachusetts General Hospital Richard B. Simches Research Center, Boston, MA

September 2008-January 2009

Research Assistant for the Search for Extraterrestrial Genomes project

- Worked on finding a universal primer that would bind the 16S gene.
- Collected genomic data from different organisms and analyzed it for similarities on the 16S gene.
- Performed DNA extraction and analysis from ordinary soil.

Massachusetts Institute of Technology, Cambridge, MA

August 2008-May 2009

Volunteer Tutor for the First Generation for College program

- Explained biology, mathematics and chemistry concepts to high school students.
- Advised and encouraged students to further their education.

Edinburg North High School, Edinburg, TX

August 2007-June 2008

AP Biology Tutor and UIL Biology Helper

- Tutored advanced biology to ninth and tenth year students.
- Prepared students for advanced biology tests.

ACADEMIC HONORS

- MIT Laureates and Leaders Scholar.
- Scholar Invited to the Presidential Inauguration
- University Interscholastic League –UIL gold medal on physics and silver medals on chemistry and biology (2006)
- Superintendent's Academic Excellence Award (2006, 2007, 2008)

INTERESTS AND ACTIVITIES

- MIT Resident Associate Advisor
- Society of Women Engineers Big/Lil coordinator chair
- Photo and Video staff for The Tech (MIT's newspaper)
- Community service, Amnesty International member
- Network of Sloan Undergraduate Women Operations chair