

# Marie Burkland

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| <b>Education</b>             | <b>Massachusetts Institute of Technology (MIT)</b><br>Candidate for Bachelor of Science in Chemical Engineering; GPA: 4.6/5.0<br>Relevant coursework: Multivariable Calculus, Differential Equations, Chemistry, Biology, Thermodynamics and Kinetics, Organic Chemistry, Introduction to Chemical Engineering, Engineering Innovation and Design.<br>Current coursework: Chemical and Biological Engineering Thermodynamics, Fluid Mechanics, Biochemistry.   | Cambridge, MA<br>June 2013                                   |
|                              | <b>Almont High School</b><br>Valedictorian in class 146 students; GPA: 4.0   | Almont, MI<br>June 2009                                      |
| <b>Work Experience</b>       | <b>Hammond Research Group, Department of Chemical Engineering, MIT</b><br><i>Laboratory Technician</i> <ul style="list-style-type: none"><li>Explored composite layer-by-layer membranes for fuel cell applications.</li><li>Fabricated membranes by adding thin polyelectrolyte layers via spraying and immersion methods to nylon mats.</li><li>Performed tests on conductivity and methanol permeability of membranes.</li><li>Tested the energy output of membranes in fuel cells to see whether efficiency increased.</li></ul>   | Sept. 2010-present   |
|                              | <b>United States Army Tank Automotive Research, Development and Engineering Center (TARDEC)</b><br><i>Summer Intern for Petroleum and Water Systems</i> <ul style="list-style-type: none"><li>Worked 40 hours per week on four-person team to develop and implement a direct integrity test to determine quality of ultrafiltration membranes on the Lightweight Water Purifier (LWP), used in the field during military operations.</li><li>Researched possible testing methods and developed project phases.</li><li>Built a model filtration system, chose most efficient integrity test, implemented test onto LWP.</li><li>Wrote 18-page technical report on testing procedures and results.</li><li>Presented work to leaders within TARDEC.</li></ul> | Warren, MI<br>June-Aug. 2010                                 |
|                              | <b>Tutoring</b><br><i>Middle School Math Tutor</i> <ul style="list-style-type: none"><li>Assisted 3 students with homework assignments and test preparation for 2 to 4 hours per week.</li><li>Scores of 2 of 3 students improved by 2 full letter grades.</li></ul>   | Almont, MI<br>Nov. 2007-May 2009                             |
| <b>Leadership Experience</b> | <b>Undergraduate Practice Opportunities Program (UPOP), MIT</b><br><i>Participant</i> <ul style="list-style-type: none"><li>Developed professional skills in the areas of leadership, teamwork, presentations, decision-making, networking, project management, and negotiation by attending various workshops and participating in group exercises.</li><li>Managed a seven-person team to design and model an energy-efficient home to meet a budget and regulations.</li></ul>  | Sept. 2010-present   |
|                              | <b>Next House Executive Board, MIT</b><br><i>Dormitory Wing Representative</i> <ul style="list-style-type: none"><li>Determined spending of the wing budget based on input from residents.</li><li>Organized 4 social events for the 50-member wing throughout the semester.</li><li>Ordered appliances to improve the wing's common areas.</li></ul>  | Sept. 2010-Dec. 2010   |
|                              | <b>High School National Honor Society</b><br><i>Secretary</i> <ul style="list-style-type: none"><li>Recorded meeting minutes and attendance, kept records of community service activities for 45 members.</li><li>Headed major service activities, including school's plastic and paper recycling program. Included 25 classrooms, assembled teams to collect and transport recyclables weekly.</li><li>Organized and ran two Red Cross blood drives, collected over 100 blood donations.</li></ul>  | May 2007- May 2009   |
| <b>Activities</b>            | <b>Society of Women Engineers – National Member</b><br><b>MIT Varsity Cross Country, Indoor and Outdoor Track</b><br><b>MIT Women's Club Ice Hockey</b>  | Sept. 2010-present<br>Aug. 2009-present<br>Jan. 2010-present |
| <b>Skills</b>                | <b>Computer:</b> Microsoft Office Suite, familiarity with C++ and MATLAB.<br><b>Language:</b> Intermediate proficiency in Spanish.   |  |