Luzmary Sabino

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OBJECTIVE

To obtain a full-time chemical engineering position that will utilize my strong analytical, interpersonal, and leadership skills with special interest in process design, process control, and process improvement engineering.

EDUCATION

Lehigh University, Bethlehem, PA
Bachelor of Science in Chemical Engineering, May 2015
Overall GPA: 3.20
Successfully received 99 % of my college expenses through scholarships and grants

HONORS

Dean's List (2011, 2015), ACS Project SEED College Scholarship (2011), Hudson County Science Fair Silver Medal Award for Physics and Astronomy (2011), Hudson County Science Fair U.S. Air Force Award (2011)

RELEVANT EXPERIENCE

Process Engineer

Process Design, Lehigh University, Bethlehem, PA — August 2014 – May 2015
Supervisor: Dr. Vince Grassi (610) 758-6452; may be contacted

- Developed an optimized steady state process to produce acetic acid and methanol by hydrolyzing methyl acetate in a reactive distillation column and constructed detailed PFDs for the process. Determined the technical and economic viability of reactive distillation by performing an engineering and economic analysis on the process.
- Designed and tested individual column and plantwide control schemes by introducing feed composition and feed flow disturbances to the process. Developed P&IDs for the controls schemes tested. Found that the plantwide control scheme where the feed entering the process is the throughput manipulator successfully controlled 15 % feed composition and 10 % feed flow disturbances.
- Designed the upstream and downstream process of monoclonal antibody production from CHO cells. The design included methods for procuring equipment, ensuring facility capability, complying with FDA regulations, and determining scheduling of the batch systems within the process in order to maximize equipment usage and minimize total annual cost.

Research Assistant/ NSF-REU Intern

Dept. of Chemical & Biomolecular Engineering, Lehigh University, Bethlehem, PA — May 2014 – 2015
Supervisor: Dr. Israel Wachs (610) 758-4274; may be contacted

- Conducted research on methane coupling to ethane/ethylene using a sodium tungstate on silica catalyst system.
- Synthesized air-sensitive solid acid catalysts for biomass conversion to biofuels using incipient wetness impregnation methods.
- Discovered that microporosity has an effect on biomass pyrolysis products by examining H-ZSM-5 (acidic, microporous), Silicalite (inert, microporous), and SiO_2 (inert, nonporous) catalysts applying state-of-the-art *in situ* spectroscopic methods in real-time.
- Developed catalytic biomass conversion waste disposal procedures to ensure safe chemical handling.
- Documented experimental techniques by preparation of written instructions and process diagrams to improve continuity of knowledge within my research group.
- Presented a poster of my research at the American Institute of Chemical Engineers National Annual Conference in Atlanta, GA (Nov. of 2014).

LEADERSHIP

Project Leader, Technical Consultant, Translator

Engineers Without Borders — September 2011 - May 2015

- Group leader of the piping system and water purification groups; designed piping and purification systems for impoverished communities in Nicaragua and Honduras.
- In charge of proposing system alternatives to community members and government officials within each region and advising them on which alternative would best meet their needs by performing an engineering and cost analysis on the system.
- Primary translator for the March 2014 and January 2015 travel teams to Nicaragua, coordinated with in-country contractors about technical aspects of the project and consulted with government officials about construction permits and zoning laws.

SKILLS

- Advanced technical proficiency in computer software programs such as Microsoft Office (including Word, Excel, Outlook, and PowerPoint), MATLAB and Simulink, Mathcad, Origin Pro, LabVIEW, Aspen Simulations, and SuperPro Designer.
- Hands on experience operating various units within plants such as pilot distillation plants, heat exchangers, pressure swing adsorption, refrigeration, piston and centrifugal pumps, flow meters, gas cylinders, filters, pressure vessels, and process analyzers.
- Experienced in process simulation, process analysis and design, process control, process improvement analysis, project management, project risk and scope, data analysis, and cost and resource estimates.
- Native proficiency in English and Spanish; excellent written and oral communication.

ACTIVITIES American Institute of Chemical Engineers (AIChE), Engineers Without Borders (EWB), Latin Student Alliance, Lehigh University Women's Rugby Club, Society of Women Engineers (SWE), Spanish Club