Maksymilian Nowak

211 Dickinson Hall, 151 Orchard Hill Dr., Amherst, MA 01003
maksymilian.nowak@yahoo.com
(413) 262-0703

SUMMARY STATEMENT

A driven chemical engineering student with a strong academic background, laboratory experience, exceptional organizational and time management skills as well as the ability to both lead and work as part of a group.

EDUCATION

University of Massachusetts Amherst– Commonwealth Honors College — Anticipated May 2013
Bachelor of Science in Chemical Engineering — GPA: 3.9
Self-financed: 100%

AWARDS

Stanley Z. Koplik Certificate of Mastery, Simon and Satenig Ermonian Memorial Scholarship, Honors Research Assistant Fellowship

ADDITIONAL COURSES

Biotechnology Process Engineering Lab, Introduction to Biochemical Engineering, Physics III: Thermodynamics, Waves, and Optics, Introduction to Linear Algebra, Introduction to Java, Cellular and Molecular Biology, Biochemistry for Chemists

ACADEMIC PROJECTS

Biotechnology Process Engineering Lab — Spring 2011

- Worked in a group of three to engineer and ferment E.coli cells that express hPP1, then designed and executed a plan to recover, purify, and analyze the protein; wrote four formal lab reports on the project
- Led group in designing a molecular cloning strategy to insert gene with a pET42 plasmid, using PCR, gel electrophoresis, and restriction mapping to assess our results, then presented our findings to professors and 30 peers
- Collaborated with another group to create a fermentation plan, using data from literature and small scale experiments
- Used ammonium sulfate precipitation, dialysis, gel filtration, and affinity chromatography to purify hPP1 after homogenization
- Directed a group of three in analyzing hPP1 and its kinetic properties, compared our findings to those in literature to determine their accuracy and presented our results to our professors and 30 peers

Biochemical Engineering Research Project — Fall 2010

- Designed a novel process to create spider silk as part of a group of three; our idea consisted of using immobilized cell cultures in a continuous bioreactor to produce spider silk proteins, subsequently purifying and lyophilizing them
- Created a poster of the project and presented it to the professor and 40 peers

WORK EXPERIENCE

University of Massachusetts Amherst: Undergraduate Researcher, Peyton Lab — Spring 2012 – Present

- Design and characterize a patterned biomaterial to be used to study metastatic breast cancer cell motility
- Focus on manipulating the Young's modulus of the material to better determine the role of stiffness in migration
- Account for potential problems including difficulty with replication, successful cell adhesion, toxicity or excessive opacity that would make the material impractical as an experimental tool
- Work under the guidance of Ph.D. candidate Dannielle Ryman and principal investigator Shelly Peyton

University of Massachusetts Amherst: Teaching Assistant, Biotechnology Process Engineering Lab — Spring 2012

- Prepare stock solutions, aliquots, and any necessary equipment for each experiment
- Communicate effectively with professors and other teaching assistants to supervise lab and ensure all questions are answered

University of Massachusetts Amherst: Resident Assistant — Fall 2010 – Present

- Responsible for organizing events for residents, fostering a sense of community, resolving conflicts, being a positive role model, and co-advising a 30 member programming board
- Efficiently work on a staff with 23 peers to collectively create a safe and inclusive community for 700 first-year students

University of Massachusetts Amherst, Learning Resource Center: Tutor — Fall 2010 – Present

- Help students from different backgrounds with different learning styles become more independent learners in General and Organic Chemistry, Biochemistry, Fundamental Chemical Engineering, and Biology

SKILLS

Technical: gel electrophoresis, homogenization, micropipetting, spectrophotometry, gel filtration and affinity chromatography, BCA assays, SDS-PAGE, PCR, plasma treating, Microsoft Office, MathCAD, basic Java, familiarity with MATLAB
Spoken Languages: Polish, French, English

ACTIVITIES AND INTERESTS

University Orchestra- Violin, University Chorale, Ultimate Frisbee