

SAMIKSHA NAYAK

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(315) 256-3679

Education	Massachusetts Institute of Technology Candidate for Bachelor of Science in Chemical-Biological Engineering, June 2010.	Cambridge, MA
	Fayetteville-Manlius High School Graduated top 5% of the class with Advanced Regents Diploma, June 2006.	Manlius, NY
Experience	Bristol-Myers Squibb Company <i>Summer Intern</i> Project goal was to reduce protein aggregation occurring during bioprocessing by supplementing cell culture medium with reducing reagents to lower high molecular weight levels of desired proteins. Set up a screening study of various reducing reagents, examined effects of adding various reducing/oxidizing components to cell culture medium in shake flask environment, looked at effect of pH, dissolved oxygen and temperature on high molecular weight levels, single chain and free thiol content of protein cultured in 5 liter production bioreactors. Maintained mammalian cell cultures in shake flasks, set up and operated 7 bioreactors in a full production run, performed size exclusion chromatography (SEC) analysis using high performance liquid chromatography (HPLC), carried out Protein A purification, used Cedex and Nova bioprofile machines.	Syracuse, NY <i>May-August 2009</i>
	Harvard-MIT Division of Health, Science & Technology/ Massachusetts General Hospital-Shriner's Institute <i>Research Assistant</i> Involved in projects in understanding and developing therapeutic applications of mesenchymal stem cells in the context of acute renal failure, as well as understanding mesenchymal stem cell effects on cancer cell growth and metastasis. Carried out mammalian cell culture, cell migration assays, immunostaining, fluorescence microscopy and quantitative image analysis. Involved in protein quantification methods using colorimetry and ELISA and histology techniques for tissue preservation and analysis.	Boston, MA <i>Sept. 2008-present</i>
	MIT Department of Material Sciences & Engineering- Irvine Laboratory <i>Research Assistant</i> Involved in vaccine design projects, relating to designing synthetic pathogens as potential HIV vaccines as well as developing an in-vitro model for vaccine testing. Maintained cell cultures, carried out immunostaining experiments, assisted in ELISA assays and blood isolation processes for obtaining peripheral blood mononuclear cells. Gained experience in cell and tissue culture, confocal microscopy and use of particle size analyzers.	Cambridge, MA <i>Jun. 2007-Aug. 2007</i>
	MIT Independent Activities Period Research Mentor Program <i>Participant</i> Shadowed an undergraduate research assistant in MIT's Littleton Laboratory in the Biology Department, who was studying the pathway of seizure generation in a Drosophila model. Exposed to lab techniques such as pouring plates, making yeast paste, assaying for seizure behavior, creating protein samples, and running Western blots to examine protein expression levels.	Cambridge, MA <i>Jan. 2007</i>
	MIT Public Service Center Fellowship <i>Public Service Fellow</i> Established computer center in rural village school in southern India. Donated stipend to the purchase of materials and services. Instructed primary school teachers and students on basic computer use and helped integrate computer into curriculum to enhance learning environment. Fellowship awarded for efforts in promoting universal primary education and bridging the digital divide in developing nations.	Karnataka, India <i>Dec. 2007-Jan. 2008</i>
Leadership	Other <i>Executive Board/Chair Positions</i> Women in Science & Engineering Program Coordinator (2007), MIT House Government - co-chair of MIT's Annual Campus Preview Weekend (2007), Keys to Empowering Youth Mentor, SaveTFP task force	Cambridge, MA <i>Sept. 2006-present</i>

Service	<div> St. Joseph's Hospital Health Center <div>Syracuse, NY</div> <i>Volunteer</i> <div>Apr.2008-May 2008</div> </div> <p>Served over 200 hours in hospital pharmacy to assist in sorting patient medication, allocating gastrointestinal labeling fluid, assembling safety and instructional warnings for medication.</p>
Skills	<p>Chemical/Biological Engineering: cell culture techniques, confocal and fluorescent microscopes Computer: Familiar with Windows XP & Vista OS, Microsoft Office, MATLAB coding. Foreign languages: Conversational in French & Kannada (South Indian language), basic Hindi knowledge</p>
Awards	<p>MIT Class of 1989 Scholar Award (2008) MIT Public Service Center Fellowship (2008) National Merit Commended Student- Bristol-Myers Squibb Scholarship (2006) AP Scholar with Distinction (2006) New York State Science Honor Society Scholarship– 1st Place Award (2006) Central New York Society of Women Engineers Scholarship (2006) Bausch & Lomb Honorary Science Award (2005) U.S Science Olympiad National Champion (2004) Science Olympiad Medals: Regional : 7 Gold, 2 Silver, 4 Bronze; State: 1 Gold: 2 Silver, 2 Bronze; National: 2 Gold, 1 Bronze</p>
Activities	<p>Member of Society of Women Engineers, MIT Natya (Indian Classical Dance Troupe), South Asian American Students Association</p>