

Maribella Domenech

Objectives

Acquire experiences that could help me to successfully complete my doctoral degree and improve my research and teaching skills as a scientist.

Education

2001-2006 UPR- Mayagüez Campus
5th year Bachelor Degree - Industrial Biotechnology
GPA- 3.70 member of the Dean's list- Honor Award

2006-Present University of Wisconsin-Madison
2nd year M.S./PhD. Candidate- Biomedical Engineering
GPA- 3.65

Skills

-Microfabrication and Microfluidics- fully trained of Silicon and glass devices: device design (Adobe Illustrator), mask generation and photolithography techniques

-Polymer Devices- mold design and fabrication of PDMS based devices

-Trained in use of high resolution microscopes: Confocal Microscope and Scanning Electron Microscope and post-imaging process by Photoshop and Image J

- Experienced in Cell Culture Techniques: culture of several cell lines: PC3, NMuMgs, NIH-3T3 and 3T3-L1, as well as aseptic techniques

-Fully trained in most common Biological Assays and Purification Techniques: PCR, qRT-PCR, Western Blot, ELISA, SDS-PAGE, Molecular Cloning, siRNA, Immunohistochemistry, Affinity Chromatography, Gel-Chromatography and HPLC

-Trained to work with rodents - animal user certified

Work Experience

August 2005- December 2005 - technical operations assistant (coop-student)- analyst Fully trained on SDS-PAGE analysis for purification of monoclonal antibodies and other downstream, large scale purification processes as HPLC and Ultrasonic Filtration. Abbott Biotechnology Laboratories- Barceloneta, PR
Supervisors: Ms. Julie Heflin / Mr. John Ponzio
Phone: 787-970-7260

Research experiences/ teaching experience /internships

August 2002 –UPR-Mayaguez Campus- “T7 Phage Display Technology for the Development of Cyanotoxin Biomarkers”- this project based in the functional genomic and combinatorial chemistry isolated proteins, by protein-protein interaction between T7 and target, to detect presence of toxins. funded by: PROMISE
Presentations: 2002- “Latin American & Caribbean Biotechnology Congress”
2003- “1st Colloquium in Protein Structure Function and Dynamics” - “Sigma Xi VII Poster Day” and “10th Symposium Chemical Engineering”

August 2003-2006– UPR-Mayaguez Campus- “Effects of Aqueous Extracts of Baquiña in Free Calcium Ion Levels Determined with a Calcium Selective Electrode” Folkloric uses (baquiña) claim that their aqueous decoctions are capable to crash and dissolve kidney and bladder stones. We analyzed organic extracts of this plant to look for the presence of agents capable to bind to calcium compounds and complex calcium ions.
funded by: Louis Stokes Alliance for Minority Participation (LSAMP)/ and SURP
Presentations: 2004 and 2005- 39th ACS Junior Technical Meeting and Sigma Xi VIII Poster Day, Puerto Rico

Summer 2004- Cornell University, NY- nanotechnology- fabrication of a biocompatible porous membrane device that can be compatible with nano and microscale devices, for molecular sieving and dialysis applications; using photolithography techniques.
funded by: NSF and NNIN
Presentation: 2004-Annual Biomedical Research Conference (ABRCMS), Dallas, Texas

August 2004-2006 – chemistry mentor- General Chemistry and Biochemistry
chemistry mentor for new undergraduate students, a position that involved instruction in basic chemistry as well as biochemistry and organic chemistry.
UPR-Mayaguez Campus
funded by: LSAMP

Summer 2005 - UW-Madison, WI- Biomedical Engineering “Tracking Bovine Sperm Distribution within a Microchannel using Micro-PIV Concepts” - use of microscopic particle image velocimeter (μ PIV) to explain the specifics in flow rate patterns and motions of the sperm within the microchannel and determine the reasons for improved in vitro fertilization.
Presentation: 2005-Annual Biomedical Research Conference (ABRCMS), Atlanta, Georgia

August 2006-Present –Research Assistant -UW-Madison -developing co-culture platforms with a controllable micro-environment to study how soluble factor interactions and cell-cell interactions between the mammary gland cell populations influence cell behavior in order to elucidate possible targets for breast cancer therapies.
Research Advisor: Prof. David J. Beebe- Biomedical Engineering Department
Presentations: 2007/08 1st/2nd Annual UWCCC Scientific Retreat at Health Sciences Learning Center, UW-Madison

Awards: NIH-Computational Informatics in Biology and Medicine Program – trainee/ GERS Scholar
PRIDCO- Supplementary Scholarship

References

Available if required