

Biographical Sketch

Nadja E. Solis-Marcano

Current Status

PhD Student

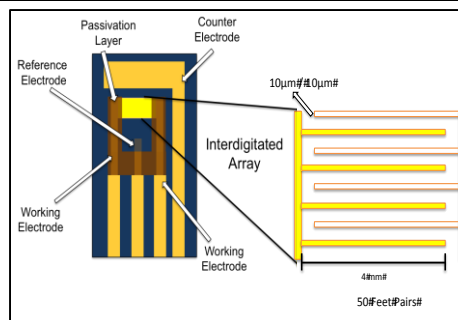
Dept. of Chemistry, UPR-RP

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Education

2005-2010 UPR-Rio Piedras (BS-Chemistry)

2011-present UPR-Rio Piedras (Doctoral student, Analytical Chemistry)



Research Interests

I am a graduate student working in the electrochemistry and interphase laboratory of Dr. Carlos R. Cabrera. My research is to develop an electrochemical, unlabeled, non-faradaic DNA biosensor for the detection of diseases. The characteristics that make my sensor innovative are easy handling, fast detection, minimal use of reagents and inexpensiveness. The microelectrodes utilized are custom made in collaboration with Dr. James Watkins from University of Massachusetts. In the future I plan to continue postdoctoral studies in the biomedical sensors field.

Research Experience

August 2010 - May 2011

UPR-Rio Piedras

Carlos Torres, Ph.D.

“Characterization of Triazatriborinine Dimers and Study of the Thermodynamic Properties in Relation with Separation Distance” (Computational Chemistry Laboratory)

June 2012 – Present

UPR-Rio Piedras

Carlos R. Cabrera, Ph.D.

“Non-Faradaic Unlabeled Electrochemical Capacitive Detection of DNA Modifications and Hybridization Process Using Custom-made Gold Interdigital Microelectrode Arrays” (Analytical Chemistry Laboratory)

May 2013

University of Massachusetts, Amherst, MA, USA

James Watkins,
Ph.D.

Photolithography Technique Training (Polymer Science Laboratory)

February 2014

University of Massachusetts, Amherst, MA, USA

James Watkins,
Ph.D.

Microelectrode Fabrication (Polymer Science Laboratory)

June 2014 – Present

UPR-Mayagüez

Yi Jia, Ph.D.

“Experimental Evaluation and Characteristics of Wireless DNA Biosensor” (Mechanical Engineer Laboratory)

December 2014

University of Massachusetts, Amherst, MA, USA

James Watkins,
Ph.D.

Microelectrode Fabrication (Polymer Science Laboratory)

June 2015 – August 2015 NASA Ames Research Center, Moffett Field, CA, USA.

Ram P. Gandhiraman, Ph.D.

“Morphological and Chemical Changes of Aerosolized E. coli Treated with a Dielectric Barrier Discharge” (Nanotechnology Laboratory)

Professional Experience

August 2011 – May 2012 UPR-Rio Piedras Carlos M. Torres, Ph.D.

Teacher Assistantship for Physical Chemistry Laboratory class

Out-reach Activities

August 2012 Open House University of Puerto Rico, Rio Piedras, PR

March 2013 NANO Days Plaza las Americas Mall, San Juan, PR

March 2015 STEM Challenge San Juan Convention Center, PR

September 2015 Bioscience Week Plaza las Americas Mall, San Juan PR

Presentations at Local Meetings

March 2014 ACS 49th Junior Technical Meeting Cayey, PR

“Electrochemical Capacitive Label-Free Detection of DNA Hybridization Process using Custom Made Interdigitated Gold Micro Electrodes” (Poster Presentation)

Presentations at National Meetings

October 2014 ECS and SMEQ Joint International Meeting Cancún, MX

“Electrochemical Capacitive Label-Free Detection of DNA Hybridization Process using Custom Made Interdigitated Gold Microelectrodes” (Oral Presentation)

Conferences Attended

November 2012 ACS 36th Senior Technical Meeting Ponce, PR

March 2013 ACS 48th Junior Technical Meeting Caguas, PR

May 2013 Amherst MA, USA
Materials and Processes for Flexible Devices and Electronics

November 2013 ACS 37th Senior Technical Meeting Aguadilla, PR

October 2014 Mentoring
Atlanta GA, USA
Compact for Faculty Diversity Institute on Teaching and