Navaneet Ramabadran

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Objective: Electrochemical Engineer with hands-on experience in Lithium-ion battery design and testing seeking a challenging opportunity to leverage strong scientific thinking, proven leadership and results-oriented attitude

Education

San Jose State University
M.S. Engineering - Battery Technologies
2017-Present

University of California, Riverside
Material Science and Engineering *(Graduate Studies)*
2015-2016

University of California, Santa Barbara
B.S. Chemical Engineering
2011-2015

Experience

Electrochemical Engineer - QuSwami Inc. (*San Francisco, CA*) May 2017 - Present

- Developed several wet processes for the deposition of a catalytic interface on QuSwami's novel solid-state energy conversion device
- Executed Design of Experiments (DOEs) for new materials, cleaning processes and fabrication methods
- Improved sample device electrochemical performance three-fold
- Proposed device design changes to overcome reliability, longevity and fabrication challenges

Electrochemical Research Engineer - Innovation Economy Laboratory (*Riverside, CA*) August 2015 - January 2017

- Executed Design of Experiments (DOEs) for new cells and materials, overseeing cell builds, and evaluating cell test results
- Selection, characterization, and validation of lithium-ion cell materials and components
- Statistical data analysis for electrode & cell quality
- Propose cell and/or electrolyte design changes to optimize battery performance

Battery Engineering Summer Intern - Semiconductor Research Corporation (*Riverside, CA*) June 2015 - August 2015

- Fabricated MoS_2/WS_2 semiconductor monolayers for Li-Ion batteries, transistors, optoelectronics, solar cells, gas sensors and catalysis
- Improved Photoluminescence and Raman peak count with careful study of Chemical Vapor Deposition (CVD) growth parameters
- Studied the CVD nucleation and growth of Volmer-Weber monolayer films of MoS_2, WS_2 and graphene for p-type transistors

Battery Engineering Summer Intern - National Science Foundation (*El Paso, TX*) June 2014 - August 2014

- Fabricated reduced graphene oxide thin-films with the Improved Hummers' Method for Li-Ion batteries, optoelectronics & aerospace
- Fabricated ZnO nanowires from nanoparticle solution for carbon fiber strengthening and high temperature piezoelectric gas sensors
- Collaborated on a variety piezoelectric gas sensor designs for cyclic voltammetry in high temperature conditions
- Coated graphene thin-film on silicon with electrophoretic deposition and created graphene-epoxy composite with epoxy residue
- Performed tensile strength and thermal testing for graphene sample and SEM imaging for graphene samples and ZnO samples

Microfluidics Engineer/Intern - Materials Research Lab (*Santa Barbara, CA*) March 2013 - June 2015

- Studied and visualized the dynamics of lipid bilayers and pulmonary surfactants with a Langmuir trough apparatus for drug design
- Re-designed Langmuir trough design in the Microfluidics Lab and Machine Shop to overcome limitations of polar interactions
- Performed mixing experiments utilizing pulmonary surfactants and lipids including DPPC, POPG & PA

Skills

Deposition:	Chemical Vapor Deposition, Electrophoretic Deposition, Sputtering, Electrospinning, Dip/Spin/Spray Coating
Spectroscopy:	Raman, Photoluminescence (PL), X-Ray Diffraction (XRD), Energy Dispersive X-Ray (EDX), Thermogravimetric (TGA)
Other Characterization:	Scanning Electron Microscopy (SEM), Hydrogen Analyzer, Viscometer, Tensiometer, Conductivity/Dielectric Probe
Statistical Analysis:	Design of Experiment (DOE), Statistical Process Control, Pareto Analysis
Programming Languages:	C++, MATLAB, Mathematica, Java, Python, HTML5, CSS3
Software:	Project, Word, Excel, PowerPoint, Visio, Pages, Numbers, Keynote, iBooks Author, HYSYS, Origin, ImageJ
Machine Shop:	Laser cutting, milling, turning, grinding, wire and sinker EDM, CNC, lathes, band saws, drill presses

Publication

Shuvo, M. A. I., Rodriguez, G., Islam, M. T., Karim, H., Ramabadran, N., Noveron, J. C., & Lin, Y. (2015). Microwave exfoliated graphene oxide/TiO_2 nanowire hybrid for high performance lithium ion battery. Journal of Applied Physics, 118(12), 125102.

Leadership

MSE Graduate Student Association President	January 2016 - January 2017
MSE Graduate Student Association Vice President	October 2015 - January 2016
SPIE Optical Society Secretary	October 2015 - June 2016
AIChE Senior Class Representative, Fundraising Chair and Webmaster	September 2014 - June 2015
NHS Journal of Science Scientist Advisory Board Member	July 2014-Present

Awards

National Science Foundation	Graduate Research Fellowship Honorable Mention	2016
UCR Bourn's College of Engineering	Dean's Distinguished Fellowship	2015
Semiconductor Research Corporation	STARnet Research Fellowship	2015
National Science Foundation	Partnership for Research and Education in Materials (PREM) Scholarship	2014
UCSB Materials Research Laboratory	Research in Science and Engineering (RISE) Undergraduate Scholarship	2014
UCSB College of Engineering	Dean's List	2013