Benjamin G. Steyer

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EDUCATION

2012 - Present — **MD/PhD** (3rd year overall, 1st year grad student)
University of Wisconsin-Madison, Madison, WI

2006 - 2010 — **B.S. Bioengineering** (GPA: 3.90/4.00)
Oregon State University, Corvallis, OR

WORK / RESEARCH EXPERIENCE

Graduate Research Assistant 2013 - present
University of Wisconsin-Madison, Madison, WI

- *Genetic engineering of stem cells for disease modeling and therapeutic applications.*
- *Spatiotemporal control of gene expression in 3D culture systems.*

Engineering Consultant 2012
Universal Bio Mining, San Francisco, CA

- *Designed processes for novel bioleach mining operations.*
- *Named inventor on patent pending "industrial bio-synthesized molecule."*

Associate Scientist I 2011 - 2012
Corium International, Menlo Park, CA

- *Trans-dermal drug delivery device R&D concerning biocompatible/bioerodible polymer adhesives.*

Research Assistant 2009 - 2010
Oregon State University, School of Chem, Bio, and Env Engineering (CBEE)
Advisor: Dr. Joe McGuire, PhD

- *Studied elution of antimicrobial peptides from PEG/PPO co-polymer coated central venous catheters.*

Amgen Scholars Program Summer 2009
Massachusetts Institute of Technology, HST
Advisor: Dr. Elazer Edelman, MD, PhD

- *Designed and carried out experiments to investigate the role of transmembrane proteoglycans in mechanically induced signaling pathways (mechanotransduction) in vascular smooth muscle cells.*

BRITE NSF REU Program Summer 2008
University of California at Riverside, Bourns College of Engineering
Advisor: Dr. Valentine Vullev, PhD

- *Synthesized and conducted charge transfer studies of bioinspired organic fluorophore compounds for application in photovoltaic devices.*

PUBLICATIONS AND PRESENTATIONS

Peer-Reviewed Journal Publications:

Gajbhiye V, Escalante L, Chen G, Laperle A, Zheng Q, **Steyer B**, Gong S, Saha K. Drug-loaded nanoparticles induce gene expression in human pluripotent stem cell derivatives. *Nanoscale* 6: 521-531, 2014. DOI: 10.1039/c3nr04794f.

Bao D, Millare B, Xia W, **Steyer B**, Gerasimenko A, Ferreira A, Contreras A, Vullev V. Electrochemical Oxidation of Ferrocene: A Strong Dependence on the Concentration of the Supporting Electrolyte for Nonpolar Solvents. *J Phys Chem A* 113:1259-1267, 2009.

Conference Presentations:

"Chain Length Effects on Nisin Adsorption to Polyethylene Oxide Coated Surfaces." School of Engineering Senior Project Symposium, Oregon State University. May 2010.

"Solvent Dependence on the Driving Force of Charge Transfer on the Size of the Electron Donor and Acceptor." BRITE Symposium, UC Riverside. August 2008.

Poster Presentations:

"Coupling synthetic gene circuits to biomaterials in human stem-cell derived organoids." Regenerative Medicine Symposium: "Emerging Technologies in Regenerative Medicine," Cedars-Sinai Medical Center. November 2014.

"The Role of Syndecan-1 in Arterial Mechanotransduction." Amgen Scholars Symposium, MIT. August 2009.

HONORS AND ACTIVITIES

- VitreoRetinal Surgery Foundation Fellowship, 2014-current
- Amgen Scholars Program Alumni Travel Award, 2014
- Whitaker Scholar Award, 2012 - (declined)
- Fulbright Scholar Award (Sweden), 2012 - Alternate
- President, Oregon State Triathlon Club, 2008 - 2010
- Student Athlete, Oregon State Men's Rowing, 2006 - 2007

REFERENCES

Krishanu Saha, PhD, Assistant Professor, Biomedical Engineering
University of Wisconsin, Madison, WI
Email: ksaha@wisc.edu
Tel: 608.890.3423

Joseph McGuire, PhD, Professor, Chemical Engineering
Oregon State University, Corvallis, OR
Email: joseph.mcguire@oregonstate.edu
Tel: 541.737.6306