Richard Boeri Decal

updated February 21, 2017

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crypdick

Education

Udacity Nanodegree Program — Udacity.com
Artificial Intelligence Engineer — Jan. 2017 → Now

New College of Florida — Sarasota, FL
B.A., Chemistry/Biology (Honors) — Aug. 2007 → May 2011
Thesis: "Ebbs and Glows: Quantifying Small RNA Concentrations in *C. elegans*"

Harriet L. Wilkes Honors College — Jupiter, FL
Early admission in lieu of a high school senior year — Sep. 2006 → May 2007

Skills

Computation

Operating Systems - Proficient: MS Windows, Mac OS X, iOS, Linux, and Android.

Software - Proficient: office suites, image manipulation and analysis software, and other common productivity packages.

Programming - Proficient: Python.

Academic Projects

Multisensory Integration in Mosquitos — Seatle, WA
Fairhall Lab, University of Washington — Oct. 2014 → Now
I create agent-based dynamical models of mosquito flight behavior and benchmark the models against wind-tunnel behavioral data.

Humpback Whale Census — James Price Point, Australia
Kimberley Community Whale Research Project — Aug. 2012 → Oct. 2012
A community-initiated peer-review at the proposed site of the world's second-largest liquefied gas processing port. This peer-review's estimates of humpback migration and breeding activity near James Price Point revealed gross discrepancies in the original oil conglomerate's survey.

Honors Baccalaureate Thesis — Sarasota, FL
Walstrom Lab, New College of Florida — Aug. 2010 → May 2011
My capstone thesis project proposes a model for RNA Helicase A function in endogenous *C. elegans* RNAi pathways.

Tutorials — Sarasota, FL
New College of Florida — Aug. 2007 → May 2011
I created classes using New College's tutorial system, in which students are able to design courses in

collaboration with faculty. Highlights: "Wikipedia: Community, Technology, Society", "Quantitative RT-PCR", "Arduino Programming", "Floridian Invasive Species", and "Organic Lab Research".

Genomics Outreach for Minorities Project (NSF-REU) Seattle, WA
Pallanck Lab, University of Washington May 2010 → Aug. 2010
I helped establish a method to grow, stain, and image primary dopaminergic neural culture from *Drosophila* embryos in order to test whether Parkin and PINK1, proteins involved in Parkinson's disease, are recruited to depolarized mitochondria in dopaminergic neurons. This research was published in *PNAS*.

Organic Lab Research Tutorial Sarasota, FL
Scudder Lab, New College of Florida Sep. 2008 → Nov. 2009
I partially synthesized precursors to a novel high-valent iron-stabilizing macrocycle based on the active site of cytochrome P450.

Summer Undergraduate Research Program (NSF-REU) Pittsburgh, PA
McCartney Lab, Carnegie Mellon University May 2009 → Aug. 2009
I determined that APC2, a protein with probable roles in colon cancer tumorogenesis, did not interact with β-catenin of the Wnt pathway's destruction complex. I determined that APC2's conserved N-terminal domain was not essential for its proper localization. This research was published in *Genetics*.

Independent Study Project Sarasota, FL
McCord Lab, New College of Florida Jan. 2008
I studied chromatographic theory and operated gas and high-pressure liquid chromatographs.

Publications

Burman JL, Yu S, Poole AC, **Decal RB** and Pallanck LJ. "Analysis of neural subtypes reveals selective mitochondrial dysfunction in dopaminergic neurons from parkin mutants". *Proc Natl Acad Sci USA*. 2012 Jun 26;109(26):10438-43.

Kunttas-Tatli E, Zhou M, Zimmerman S, Molinar O, Zhouzheng F, Carter K, Kapur M, Cheatle A, **Decal R**, McCartney BM. "Destruction Complex Function in the Wnt Signaling Pathway of Drosophila Requires Multiple Interactions Between Adenomatous Polyposis Coli 2 and Armadillo". *Genetics*. 2012 Mar; 190(3):1059-75.