

# Richard Boeri Decal

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## Education

<b>New College of Florida</b> <i>M.S. Data Science.</i>	Sarasota, FL Aug. 2017 → Now
<b>Artificial Intelligence Engineer</b> <i>Nanodegree.</i>	Udacity.com Feb. 2017 → May 2017
<b>University of Washington</b> <i>Post-baccalaureate researcher.</i>	Seattle, WA Oct. 2014 → Jan. 2016
<b>New College of Florida</b> <i>B.A., Chemistry/Biology (with honors).</i>	Sarasota, FL Aug. 2007 → May 2011
<b>Harriet L. Wilkes Honors College</b> <i>Early admission in lieu of a high school senior year.</i>	Jupiter, FL Sep. 2006 → May 2007

## Academic Projects

<b>Multisensory Integration in Mosquitos</b> <i>Fairhall Lab, University of Washington</i>	Seattle, WA Oct. 2014 → Now
I created agent-based dynamical models of mosquito plume-seeking behavior using wind-tunnel flight data.	
<b>Humpback Whale Census</b> <i>Kimberley Community Whale Research Project</i>	James Price Point, Australia Aug. 2012 → Oct. 2012
A community-initiated peer-review of a study conducted by an oil conglomerate at the proposed site of the world's second-largest liquefied gas processing port. Our research revealed gross discrepancies in the original study.	
<b>Honors Baccalaureate Thesis</b> <i>Walstrom Lab, New College of Florida</i>	Sarasota, FL Aug. 2010 → May 2011
My capstone <a href="#">thesis project</a> proposes a model for RNA Helicase A function in endogenous <i>C. elegans</i> RNAi pathways based on qRT-PCR experiments.	
<b>Tutorials</b> <i>New College of Florida</i>	Sarasota, FL Aug. 2007 → May 2011
I created courses with faculty supervision using New College's tutorial system. Highlights: "Quantitative RT-PCR", "Floridian Invasive Species", and "Synthesis of P450".	
<b>Genomics Outreach for Minorities Project (NSF-REU)</b> <i>Pallanck Lab, University of Washington</i>	Seattle, WA May 2010 → Aug. 2010
I helped establish a method to grow, stain, and image primary dopaminergic neural culture from <i>Drosophila</i> 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 Synthesis of P450-like Molecule**

*Scudder Lab, New College of Florida*

Sarasota, FL

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)**

*McCartney Lab, Carnegie Mellon University*

Pittsburgh, PA

May 2009 → Aug. 2009

I determined that APC2, a protein with probable roles in colon cancer tumorigenesis, did not interact with  $\beta$ -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*.

### **GC and HPLC Instrumental Analysis**

*McCord Lab, New College of Florida*

Sarasota, FL

Jan. 2008

An independent study project where I learned how to operate liquid chromatographs and analyze their spectra.

## **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, Cheattle A, **Decal RB**, 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.

**Decal RB**. "Quantifying Small RNA Concentrations in *C. elegans*". Honors thesis, New College of Florida. May 2011. 108 pages.

## **Presentations**

**Decal RB**, Burman JB, Pallanck L. "Is Parkin Recruited to Damaged Mitochondria in Dopaminergic Neurons?" Society for Advancement of Chicanos and Native Americans in Science. Anaheim, CA. September 2010. Poster.

**Decal RB**, McCartney BM. "APC2 Does Not Interact with in the  $\beta$ -Catenin Destruction Complex". Annual Sigma Xi Conference. The Woodlands, TX. November 2009. Poster.

**Decal RB**, McCartney BM. "APC2 Does Not Interact with in the  $\beta$ -Catenin Destruction Complex". Annual Biomedical Research Conference for Minorities. Phoenix, AZ. November 2009. Poster.

## **Teaching & Outreach**

**Brain Awareness Week 2015.** University of Washington, March 2015.

**Upward Bound.** University of Washington, July 2010.

## **Awards, Grants & Honors**

**Full tuition waver for master's program**

*New College of Florida*

Aug. 2017 → Now

**NIH PA-12-149 Supplement Grant**

*University of Washington*

Jan. 2015 → Jan. 2016

**Florida "First Generation" Scholar** (two-time recipient)

*New College of Florida*

Aug. 2009 → May 2011

**Florida "Bright Futures" Scholar**

*New College of Florida*

Aug. 2007 → May 2011

**Four Winds Silver Scholar**

*New College of Florida*

Aug. 2007 → May 2011

**Student Research Grant**

*Dubois-Felsmann Research Endowment*

Nov. 2010

**Student Travel Grant**

*Dubois-Felsmann Research Endowment*

Sep. 2009

**ABRCMS Travel Award**

*American Society for Microbiology*

Aug. 2009

**Honors Scholarship**

*Harriet L. Wilkes Honors College*

Sep. 2006 → May 2007

**AP Scholar Award**

*J.P. Taravella High*

Apr. 2006