

Resume for Alexander T. Borowsky

Email: aboro002@ucr.edu

Phone: (530)-219-0165

Education

University of California, Riverside
PhD in Plant Biology

Expected 2023

Vanderbilt University, Nashville, Tennessee
Bachelor of Arts in Molecular and Cellular Biology
Minors: French and Scientific Computing

May 2018

Publications

Wisecaver, J. H., **Borowsky, A. T.**, Tzin, V., Jander, G., Kliebenstein, D. J., & Rokas, A.
A Global Co-expression Network Approach for Connecting Genes to Specialized
Metabolic Pathways in Plants. *The Plant Cell*, 2017.
<https://doi.org/10.1105/tpc.17.00009>

Research Experience

Paul Nabity Laboratory, University of California, Riverside Nov 2018 – Jan 2019
Rotation Graduate Student

- Used co-expression network analysis to characterize apple response to wooly aphid infestation

Julia Bailey-Serres Laboratory, University of California, Riverside Sep 2018 - Nov 2018
Rotation Graduate Student

- Used co-expression network analysis of TRAP-seq data to identify suberin biosynthesis genes in rice

Antonis Rokas Laboratory, Vanderbilt University, Nashville, Tennessee August 2015 – May 2018

Undergraduate Research Assistant

- Bioinformatically predicted plant biosynthetic gene clusters and evaluated using co-expression data
- Identified putative horizontal gene transfer events in *Selaginella moellendorffii* and *Physcomitrella patens*
- Linked regulatory transcription factor gene loss events in the tree of life to asexual development morphology in Eurotiomycete fungi

Pierre Pontarotti Laboratory, Aix-Marseille Université, Marseille, France Spring 2017

Undergraduate Intern

- Identified highly polymorphic genes using RNA-seq data in *Pocillopora* coral

Richard Michelmore Laboratory, University of California, Davis,
High School Intern

Spring 2013

- Designed primers and ran PCR to screen downy mildew for RXLR effector genes
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Skills

- Languages: English (Native), French (Full professional proficiency)
 - Computer programming: UNIX, Python, R, HTML
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Leadership

Vanderbilt Student Volunteers for Science

August 2014 – May 2018

An organization of over 600 students, each on a team of 4-5 that teaches four science lessons to a local middle school class throughout a semester and encourages them to pursue higher education, especially in STEM fields.

Outreach Committee Chair (2017); Board Member (2016-2017); Team Leader (2015 – 2018)

- Lead a committee that plans activities beyond classroom lessons, such as middle school science nights and science lessons at a diabetes education day
- Recruited members by making announcements in science courses, train team leaders with hands-on lessons, and attend outreach events
- Lead a team of 4-5 Vanderbilt students teaching hands-on science lessons in local middle school classrooms

Vanderbilt Swim Club

President

2016-2017

- Introduced and coached evening practices to increase the number of undergraduates in the club.
 - Expanded competitive season to include several Masters meets and collegiate club meets.
 - Directed the club's first and second collegiate club meets, the latter with over 300 athletes in attendance
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Additional Experience

Vanderbilt Alternative Spring Break

March 2016, March 2018

Vanderbilt Water Polo Club

Fall 2014 – May 2018

Head Coach of Vanderbilt Acorns Swim Team, Nashville, TN

Summer 2016

Swim Instructor at Vanderbilt Recreation Center, Nashville, TN

August 2015 –

December 2016

Swim Coach for Davis AquaMonsters, Davis, CA

June 2013 – August 2015, Summer

2018