David A. Galambos

Personal Data

Current Address:	300 N College St, Northfield, MN, USA
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Education

Expected June 2020	Bachelor of Arts in Biology, **Carleton College**, Northfield, MN GPA: 3.886/4.0
Relevant Coursework:	Genetics, Cell Biology, Organic Chemistry I, Organic Chemistry II, Computational Biology, Math of Computer Science, Data Structures, Algorithms

Research Experience

Mar. 2018-Oct. 2018 — Calderone Lab, Carleton College, Northfield, MN
Research Assistant

The Calderone Lab investigates the biosynthetic mechanism of the nonribosomal peptide AMB. We expressed and purified a mutated construct of the nonribosomal peptide synthetase AmbE, which is one of the proteins in the *amb* gene cluster for AMB synthesis. We tested several different enzyme/reagent combinations that included other enzymes from the cluster and analyzed the products using HPLC.

Current Sept. 2017 — Anderson Lab, Carleton College, Northfield, MN
Research Assistant

The Anderson Lab studies microbial ecology at deep-sea hydrothermal vents. Based on existing metagenomic and metatranscriptomic data from the Mid-Cayman Rise, we conducted a study of metabolic capabilities in bacteria and archaea. We combined data describing whole vent sites with data for individual genomes recovered at those sites to provide a more complete picture of both community and genome-level metabolic dynamics.

Nov. 2016-Mar. 2017 — IMPACT at Mayo Clinic, Rochester, MN
Student Researcher

Together with a group of 3 other students from Carleton College, we entered a research competition to present a hypothesis about the impacts of obesity and Type 2 diabetes on pancreatic cancer. We performed a survey of primary literature and submitted a report to competition organizers at the Mayo Clinic. The competition culminated in a poster presentation in Rochester, MN with evaluation from Mayo Clinic medical students and faculty.

Research Interests and Objectives

Microbial ecology, mammalian regulation of gene expression, statistical genomics, analysis of high-throughput sequence data.

Career Objectives: My goal is to obtain a PhD in computational biology or a similar field. I would then like to work at a biomedical research institution, where I would use the latest computational methods to analyze large datasets and conduct wet-lab work to verify computational results.

Work Experience

Sept. 2018 | Department of Computer Science, Carleton College
Computational Biology Workshop Assistant
Beta-tested hands-on modules for the Undergraduate Computational Biology Workshop at Carleton College.
Assisted in workshop set-up and logistical operation.

March 2018-June 2018 | Department of Chemistry, Carleton College
Organic Chemistry Tutor
Facilitated problem set help sessions (2x/week).
Guided students in developing effective exam study strategies.
Assessed patterns in student questions to report common conceptual misunderstandings to faculty.

Jan. 2018-March 2018 | Department of Biology, Carleton College
BIO125 Lab Teaching Assistant
Assisted with setup and maintenance of lab materials and equipment.
Answered student questions about lab procedures and associated biological concepts.
Graded and provided feedback for notebooks, quizzes and post-laboratory assignments.

Current
Sept. 2017 | Writing Center, Carleton College
Writing Assistant
Provide individualized one-on-one writing consultations for a first-year seminar of 14 students.
Prepare consultation material and advice consistent with professor's expectations and teaching style.
Offer weekly appointments to general student population.

Lab Techniques

Wet Lab: Miniprep; Heterologous over-expression in *E. coli*; protein purification; SDS-PAGE and DNA gels; Southern Blot; PCR; optical and fluorescence microscopy; ^{1}H-NMR, UV-visible, IR spectroscopy; GC-MS, LC-MS; HPLC (high-performance liquid chromatography), FPLC (fast protein liquid chromatography)

Computational: Comprehensive metagenomic pipeline (genome assembly, mapping, coverage analysis, annotation, binning), metatranscriptome analysis, sequence alignment, phylogenetic trees

Computer Skills

Software: anvi'o; RStudio; Word, Excel, PowerPoint; Prezi; Adobe Illustrator; MNova; Endnote, Mendeley, Zotero
Tools: Git, BLAST, MUSCLE, KEGG, Pfam, RAxML
Languages/Packages: Python (incl. matplotlib, seaborn), R (incl. tidyverse), C, Java, LaTeX

Presentations

Galambos, D. A.; Reveillaud, J.; Anderson, R.E.; Huber, J. A. "Archaeal Metabolic Profiles at Deep-sea Hydrothermal Vents in the Mid-Cayman Rise." 2017 American Geophysical Union (AGU) Fall Meeting, December 11-15, **2017**; New Orleans, LA.

Galambos, D. A.; Reveillaud, J.; Anderson, R.E.; Huber, J. A. "Archaeal Metabolic Profiles at Deep-sea Hydrothermal Vents in the Mid-Cayman Rise." 2017 Carleton College Summer Research Symposium, October 20, **2017**; Northfield, MN.

Lauriello, A. F.; **Galambos, D. A.**; Greengo, S. D.; Kennicott, H. R. "Obesity-Induced T-cell Polarization in Pancreatic Cancer Leads to Immunosuppression and Reduces the Efficacy of Immunotherapy." 2017 Mayo Clinic IMPACT Symposium, March 18, **2017**; Rochester, MN.

Awards

Carleton College Dean's List (2017)
National Merit Scholar (2016)

Languages

French (proficient), Russian (fluent), Hungarian (fluent)

References

Dr. Rika Anderson, Assistant Professor of Biology, Carleton College
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Dr. Chris Calderone, Assistant Professor of Chemistry, Carleton College
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