Colton **Baumler**

GRADUATE STUDENT CANDIDATE

Data Intensive Biology lab of the University of California, Davis

He/Him | ccbaumler@ucdavis.edu | 0000-0002-5926-7792 | ccbaumler | colton-baumler

I am deeply engaged in bioinformatics and mentorship. I excitedly wrangle data, craft software, and create dynamic mentorship opportunities.

Research Interests

- Bioinformatically exploring the world of big, public data in new and interesting ways.
- Combining scientific domains to create a pleasant end-user experience.
- I have overcome many obstacles to be where I am today and I am just happy to be here.

Education

Doctor of Philosophy
California, USA
UNIVERSITY OF CALIFORNIA, DAVIS
2000 - Present

- Biochemistry, Molecular, Cellular, and Developmental Biology Graduate Group

Doctor of Philosophy
California, USA
UNIVERSITY OF CALIFORNIA, DAVIS
2020 - Present

- Space

Bachelors of Arts & Science
Minnesota, USA
CONCORDIA UNIVERSITY, ST. PAUL
2014 - 2018

- Biology, BS
- Chemistry, BA
- Honors in Research
- Minor in Mathematics
- Magna Cum Laude

Associate of Applied Science in Automotive Mechanics
Minnesota, USA
HENNEPIN TECHNICAL COLLEGE
2008 - 2010

- Academic Excellence

Research Experience

Graduate Research
Davis - California
UNIVERSITY OF CALIFORNIA, DAVIS
2020 - Present

- Pangenomic and novel database curation for the sourmash software ecosystem
- Case vs control multiomic investigation of public data
- Image analysis and quantification pipeline for ectodermal derivatives specified in early development
- Professors for the Future (PFTF) Fellow
- NIH Molecular Cell Biology T32 Fellowship Affiliate
- NIH Initiative for Maximizing Student Development (IMSD) Affiliate

Junior Research Specialist
Davis - California
UNIVERSITY OF CALIFORNIA, DAVIS
2019 - 2020

- Molecular evolution of thermal tolerance in coral
- Knot theory topology of dsDNA in bacteriophage DNA packaging

Undergraduate Research
St. Paul - Minnesota
CONCORDIA UNIVERSITY, ST. PAUL
2017 - 2019

- Novel artificial culture vessel for shell-less chick development

Tutor

Concordia University, St. Paul

- In subjects of Calculus, Physics, Chemistry, and Biology

Tutor

Concordia University, St. Paul

St. Paul - Minnesota

2016 - 2018

- In subjects of Calculus, Physics, Chemistry, and Biology

Professional Service

Scholarly Literature Workshop Author and Lead instructor   *University of California, Davis*
DataLab   *2024 - Present*

Gene Regulatory Networks for Development Teaching Assistant   *University of Chicago*
Marine Biology Laboratory   *- 2024*

Admissions Committee Member   *University of California, Davis*
PREP@UCD   *2023 - Present*

Recruitment Colloquium Mentor   *University of California, Davis*
BMCDB Graduate Group   *2020 - 2024*

Biology Graduate Admissions Pathways Mentor   *University of California, Davis*
BioGAP   *2020 - 2021*

NSF GRFP Grant Writing Working Group Creator and Lead Instructor   *University of California, Davis*
Rogers Lab   *2020 - 2021*

Community Involvement

AISES Rocketry Team Founding Co-Mentor   *University of California, Davis*
Letts Lab   *2021 - 2023*

Grad & Post Doc UCD SACNAS Chapter Founding Board Member   *University of California, Davis*
College of Biological Sciences   *2020 - 2021*

Young Scientist Program Volunteer   *University of California, Davis*
College of Biological Sciences   *2019 - 2020*

3D Printing Club Founder and President   *Concordia University, St. Paul*
Math and Biology Department   *2017 - 2018*

Sexual Assault Victim Advocate   *Joint Base McGuire Dix Lakehurst*
United States Air Force   *2012 - 2014*

Flight line Training Leader   *Joint Base McGuire Dix Lakehurst*
United States Air Force   *2012 - 2014*

Physical Training Leader   *Joint Base McGuire Dix Lakehurst*
United States Air Force   *2011 - 2014*

Leadership Mentor   *Sheppard Air Force Base*
United States Air Force   *2010 - 2011*

Treasurer   *Hennepin Technical College*
Student Government   *2009 - 2010*

SkillsUSA participant   *Hennepin Technical College*
Automotive Department   *2009 - 2010*

Funding and Grants

Graduate Research Fellowship Program (GRFP)   *University of California, Davis*
NATIONAL SCIENCE FOUNDATION   *2021 - 2024*

Undergraduate Preparation Fellowship (UPF)   *University of California, Davis*
NATIONAL INSTITUTE OF HEALTH   *2020 - 2021*

Postbaccalaureate Research Education Program (PREP)   *University of California, Davis*
NATIONAL INSTITUTE OF HEALTH   *2019 - 2020*

Post 9/11 GI Bill   *Concordia University, St. Paul*
US DEPARTMENT OF VETERAN AFFAIRS   *2014 - 2018*

Federal Pell Grant   *Hennepin Technical College*
US DEPARTMENT OF EDUCATION   *2008 - 2010*

Honors and Awards

Professors for the Future   *University of California, Davis*
A COMPETITIVE, LEADERSHIP-DEVELOPMENT PROGRAM   *May 2024*

College of Biological Science's Dean's Mentorship Award   *University of California, Davis*
IN RECOGNITION OF GRADUATE STUDENTS WHO HAVE EXCELLED IN THE MENTORSHIP OF UNDERGRADUATE STUDENTS   *May 2022*

NSF Graduate Research Fellowship Program (GRFP) Award   *University of California, Davis*
                                                                   March 2020

NIH Undergraduate Preparation Fellowship (UPF) Award   *University of California, Davis*
                                                                   March 2020

NIH Postbaccalaureate Research Education Program (PREP) Award *University of California, Davis*
                                                                   May 2019

Honors in Research   *Concordia University, St. Paul*
                                                                   Decemeber 2018

Paul W. Stor Biology Award   *Concordia University, St. Paul*
FOR EXCELLENCE AND DEDICATION TO UNDERGRADUATE BIOLOGICAL SCIENCES *May 2018*

Dean's List   *Concordia University, St. Paul*
                                                                   2014 - 2018

Airman of the Quarter   *Joint Base McGuire Dix Lakehurst*
ACKNOWLEDGMENT OF EXCELLENCE WHILE SERVING IN THE UNITED STATES AIR FORCE   *January 2013*

Academic Excellence   *Hennepin Technical College*
                                                                   May 2010

Skills

Programming Languages
BASH, R, JAVASCRIPT, PYTHON, SQL

Markup Languages
CSS, HTML, LATEX, MARKDOWN, RMARKDOWN

Other Languages

Snakemake

Version Control

Git/GitHub

Text Editors

RStudio, VIM/NeoVim

Health

Self-Aid Buddy Care (SABC), CPR Trained, AED Certified

Safety

Self-Defense Coordinator, Sexual Assault Victim Advocate (SAVA)

Mechanics

FCC GROL, Certified Aircraft Mechanic, Certified Automotive Mechanic

Presentations

The Modern, Practical Scholar Workshop Series

An accessible, expanding, perpetual, and continuously updating workshop series focused on training scholars of all career stages in applied technology to streamline and improve their overall scholarship techniques

University of California, Davis

2023-2025

My Successes and Failures of Grad School: How to Think like a Scientist

A discussion to students about who can become a scientist

University of California, Davis

June 2024

My Successes and Failures of Grad School: How to Think like a Scientist

A discussion to students about who can become a scientist

Concordia University, St.Paul

September 2023

Thoughts on academic writing: Emphasis on the GRFP

A lecture on writing the NSF GRFP to IMSD students

University of California, Davis

October 2022-24

Relocation and the meaning of life

A lecture to PREP on personal tips on moving across country for academia

University of California, Davis

May 2022

Student Funding Panel

A discussion to recruits about graduate student grants and funds

University of California, Davis

February 2022

Diversity, Equity, Inclusion Committee (DEIC) Gap Year Seminar

A discussion to students on the impact of taking a gap year

University of California, Davis

March 2021

Diversity and Life Panel

A discussion to recruits on life experience in graduate school

University of California, Davis

March 2021

Fractal, Hausdorff, and the Euclidean Dimension

A capstone presentation on independent mathematics research

Concordia University, St. Paul

December 2018

Mandelbrot and Julia, an Imaginary Relationship

A capstone presentation on independent mathematics research

Concordia University, St. Paul

December 2018

Perserverance in Research

A capstone presentation on independent biology research

Concordia University, St. Paul

November 2018

How to count the Cantor set... You Cant?!

A presentation to the mathematics club, sigma pi

Concordia University, St. Paul

November 2018

3D Printed Koch Snowflake Fractals

A PRESENTATION TO THE MATHEMATICS CLUB, SIGMA PI

Concordia University, St. Paul

April 2018

Science Department Research Symposium

AN UPDATE ON CURRENT STATE OF UNDERGRADUATE RESEARCH

Concordia University, St. Paul

2017, 2018