

# Colton Baumler

GRADUATE STUDENT CANDIDATE

Data Intensive Biology lab of the University of California, Davis

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*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

UNIVERSITY OF CALIFORNIA, DAVIS

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

California, USA

2020 - Present

### Bachelors of Arts & Science

CONCORDIA UNIVERSITY, ST. PAUL

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

Minnesota, USA

2014 - 2018

### Associate of Applied Science in Automotive Mechanics

HENNEPIN TECHNICAL COLLEGE

- Academic Excellence

Minnesota, USA

2008 - 2010

## Research Experience

### Graduate Research

UNIVERSITY OF CALIFORNIA, DAVIS

- 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
- NIH Initiative for Maximizing Student Development (IMSD) Affiliate
- NIH Molecular Cell Biology T32 Fellowship Affiliate

Davis - California

2020 - Present

### Junior Research Specialist

UNIVERSITY OF CALIFORNIA, DAVIS

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

Davis - California

2019 - 2020

### Undergraduate Research

CONCORDIA UNIVERSITY, ST. PAUL

- Novel artificial culture vessel for shell-less chick development

St. Paul - Minnesota

2017 - 2019

### Tutor

CONCORDIA UNIVERSITY, ST. PAUL

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

St. Paul - Minnesota

2016 - 2018

## Professional Service

### Scholarly literature workshop Author and Lead instructor

DATALAB

University of California, Davis

2024 - Present

### Admissions Committee Member

PREP@UCD

University of California, Davis

2023 - Present

### Recruitment Colloquium Mentor

BMCDB GRADUATE GROUP

University of California, Davis

2020 - Present

### Biology Graduate Admissions Pathways Mentor

BioGAP

University of California, Davis

2020 - 2021

### NSF GRFP Grant Writing Working Group Creator and Lead Instructor

ROGERS LAB

University of California, Davis

2020 - 2021

## Community Involvement

### AISES Rocketry Team Founding Co-Mentor

LETT'S LAB

University of California, Davis

2021 - 2023

### Grad & Post Doc UCD SACNAS Chapter Founding Board Member

COLLEGE OF BIOLOGICAL SCIENCES

University of California, Davis

2020 - 2021

### Young Scientist Program Volunteer

COLLEGE OF BIOLOGICAL SCIENCES

University of California, Davis

2019 - 2020

### 3D Printing Club Founder and President

MATH AND BIOLOGY DEPARTMENT

Concordia University, St. Paul

2017 - 2018

### Sexual Assault Victim Advocate

UNITED STATES AIR FORCE

Joint Base McGuire Dix Lakehurst

2012 - 2014

### Flight line Training Leader

UNITED STATES AIR FORCE

Joint Base McGuire Dix Lakehurst

2012 - 2014

### Physical Training Leader

UNITED STATES AIR FORCE

Joint Base McGuire Dix Lakehurst

2011 - 2014

### Leadership Mentor

UNITED STATES AIR FORCE

Sheppard Air Force Base

2010 - 2011

### Treasurer

STUDENT GOVERNMENT

Hennepin Technical College

2009 - 2010

### SkillsUSA participant

AUTOMOTIVE DEPARTMENT

Hennepin Technical College

2009 - 2010

## Funding and Grants

### Graduate Research Fellowship Program (GRFP)

NATIONAL SCIENCE FOUNDATION

University of California, Davis

2021 - 2024

### Undergraduate Preparation Fellowship (UPF)

NATIONAL INSTITUTE OF HEALTH

University of California, Davis

2020 - 2021

### Postbaccalaureate Research Education Program (PREP)

NATIONAL INSTITUTE OF HEALTH

University of California, Davis

2019 - 2020

### Post 9/11 GI Bill

US DEPARTMENT OF VETERAN AFFAIRS

Concordia University, St. Paul

2014 - 2018

### Federal Pell Grant

US DEPARTMENT OF EDUCATION

Hennepin Technical College

2008 - 2010

## Honors and Awards

### College of Biological Science's Dean's Mentorship Award

IN RECOGNITION OF GRADUATE STUDENTS WHO HAVE EXCELLED IN THE MENTORSHIP OF UNDERGRADUATE STUDENTS

University of California, Davis

May 2022

<b>NSF Graduate Research Fellowship Program (GRFP) Award</b>	University of California, Davis March 2020
<b>NIH Undergraduate Preparation Fellowship (UPF) Award</b>	University of California, Davis March 2020
<b>NIH Postbaccalaureate Research Education Program (PREP) Award</b>	University of California, Davis May 2019
<b>Honors in Research</b>	Concordia University, St. Paul Decemeber 2018
<b>Paul W. Stor Biology Award</b> FOR EXCELLENCE AND DEDICATION TO UNDERGRADUATE BIOLOGICAL SCIENCES	Concordia University, St. Paul May 2019
<b>Dean's List</b>	Concordia University, St. Paul 2014 - 2018
<b>Airman of the Quarter</b> ACKNOWLEDGMENT OF EXCELLENCE WHILE SERVING IN THE UNITED STATES AIR FORCE	Joint Base McGuire Dix Lakehurst January 2013
<b>Academic Excellence</b>	Hennepin Technical College May 2010

## Skills

### Programming Languages

BASH, R, JAVASCRIPT, PYTHON, SQL

### Markup Languages

CSS, HTML, L<sup>A</sup>T<sub>E</sub>X, MARKDOWN, RMARKDOWN

### Other Languages

SNAKEMAKE

### Version Control

GIT

### Text Editors

RSTUDIO, VIM

### Health and Safety

SELF-AID BUDDY CARE (SABC), CPR TRAINED, AED CERTIFIED, SELF-DEFENSE COORDINATOR

### Mechanical

FCC GROL, CERTIFIED AIRCRAFT MECHANIC, CERTIFIED AUTOMOTIVE MECHANIC

## Presentations

<b>Relocation and the meaning of life</b> LECTURE TO PREP ON PERSONAL TIPS ON MOVING ACROSS COUNTRY FOR ACADEMIA	University of California, Davis May 2022
<b>Student Funding Panel</b> A DISCUSSION TO RECRUITS ABOUT GRADUATE STUDENT GRANTS AND FUNDS	University of California, Davis February 2022
<b>Diversity, Equity, Inclusion Committee (DEIC) Gap Year Seminar</b> A DISCUSSION TO STUDENTS ON THE IMPACT OF TAKING A GAP YEAR	University of California, Davis March 2021
<b>Diversity and Life Panel</b> A DISCUSSION TO RECRUITS ON LIFE EXPERIENCE IN GRADUATE SCHOOL	University of California, Davis March 2021
<b>Fractal, Hausdorff, and the Euclidean Dimension</b> A CAPSTONE PRESENTATION ON INDEPENDENT MATHEMATICS RESEARCH	Concordia University, St. Paul December 2018
<b>Mandelbrot and Julia, an Imaginary Relationship</b> A CAPSTONE PRESENTATION ON INDEPENDENT MATHEMATICS RESEARCH	Concordia University, St. Paul December 2018
<b>Perserverance in Research</b> 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

## 3D Printed Koch Snowflake Fractals

A PRESENTATION TO THE MATHEMATICS CLUB, SIGMA PI

## Science Department Research Symposium

AN UPDATE ON CURRENT STATE OF UNDERGRADUATE RESEARCH

*Concordia University, St. Paul*

*November 2018*

*Concordia University, St. Paul*

*April 2018*

*Concordia University, St. Paul*

*2017, 2018*