

# Benjamin Adam **Catching**

GRADUATE STUDENT

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## Education

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### University of California, San Francisco

PH.D CANDIDATE IN BIOPHYSICS

San Francisco, California

September 2017 - Present

### California State University, Chico

B.S. IN PHYSICS, MINOR IN MATHEMATICS

Chico, California

August 2011 - May 2016

## Experience

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### California Institute of Technology

LAB TECHNICIAN IN THE PHILLIPS GROUP

Pasadena, California

Aug. 2016 - Aug. 2017

- Assist in oral sample collection, preparation, and analysis pertaining to a 100 day experiment
- Head Teaching Assistant for the Spring 2017 class: Bi 1X, Great Ideas of Biology

### Marine Biological Laboratory

PHYSICAL BIOLOGY OF THE CELL COURSE ASSISTANT

Woods Hole, Massachusetts

Sep. 2016 - October 2016

- Set up course, ensured all materials and apparatus arrived or were procured on time
- Coordinated course events and transitions
- Student in course, worked with Greg Huber of KITP (now Chan Zuckerberg Biohub) on membrane physics of archaeal virus capsids

### Marine Biological Laboratory

PHYSIOLOGY COURSE ASSISTANT

Woods Hole, Massachusetts

Summers of 2014, 2015, and 2016

- Organized and optimized lab space and equipment
- Took part of course classes and attended all course lectures

### California State University, Chico, Physics Department

TEACHER'S ASSISTANT

Chico, California

Aug. 2013 - May 2016

- Assisted Dr. Ayars, Dr. Gaffney, Dr. Arpin, Dr. Anderson
- Graded papers, assisted in lab, proctored tests

### California State University, Chico, Physics Department

STOCKROOM ASSISTANT

Chico, California

Aug. 2012 - Dec. 2013

- Set up lower-division labs under Mrs. Mary Waldorf

## Publications

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### A Type IV-A CRISPR-Cas system in *Pseudomonas aeruginosa* mediates RNA-guided plasmid interference *in vivo*.

Published December 2019

THE CRISPR JOURNAL, VOLUME 2, ISSUE 6

- Developed bioinformatic pipeline to analysis putative CRISPR type IV systems while rotating in the lab of Dr. Bondy-Denomy of UCSF

### Human Phageprints: A high-resolution exploration of oral phages reveals globally-distributed phage families with individual-specific and temporally-stable community compositions

Deposited in Jan. 2019

*bioRxiv*

- Collected, isolated, and prepared oral genomic samples from human subjects as a lab tech in the lab of Dr. Phillips of Caltech

### Magnetic Viscous Drag for Friction Labs

Published Sep. 2016

THE PHYSICS TEACHER, VOL. 54

- Research with Dr. Gaffney of CSU Chico on magnet sliding down non-ferric conducting slab as a friction lab

## **Performance of Metal-Coated Mirrors with Different Protective Dielectric Layers, Part 1: Experiment**

*Presented Apr. 2014*

CSU CHICO COLLEGE OF NATURAL SCIENCES POSTER SESSION

- Comparison of coating and metal's effect on polarization from rotation of azimuthal and elevation mirrors with Dr. Petrova-Mayor of CSU Chico

## **Addressing Students' Difficulties in Charging by Induction: Creation of Experimental Videos**

*Presented Aug. 2013*

AAPT SUMMER MEETING POSTER SESSION

- Investigated effects of video demonstration as a learning device for teaching electromagnetic induction with Dr. Zou of CSU Chico

## **Extracurricular Activity**

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### **Graduate and Professional Student Association**

*San Francisco, California*

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

- External Vice President September 2018 - Present  
Graduate Division Representative  
Member of the University of California Graduate and Professional Council

### **Associated Students of the Graduate Division**

*San Francisco*

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

- Student Affairs Officer September 2018 - May 2019  
Determine the state of graduate student affairs through attendance of outside student meetings

### **Science and Health Education Partnership**

*San Francisco*

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

- Classroom Partnership Volunteer March to April 2018  
Created and implemented a four day physics lesson plan for two classrooms at Balboa High School, San Francisco, Ca

### **Society of Physics Students**

*Chico, California*

CALIFORNIA STATE UNIVERSITY, CHICO CHAPTER

*Member from 2011 to 2016*

- President Aug. 2015 - May 2016  
Chapter won Marsh White Outreach Award  
Oversaw successful 28th Annual Pumpkin Drop  
Catalyzed First CSU Chico, College of Natural Sciences, Science Day  
Oversaw Second Annual SPS Pi Day  
Coordinated tutoring schedule  
Organized student participation in selection of new department physics professors
- Executive Vice President Aug. 2013 - May 2014  
Assisted President  
Helped with Pumpkin Drop
- Vice President of Communications Aug. 2012 - May 2013  
Maintained website, took meeting notes

### **ΑΣΦ Fraternity**

*Chico, California*

ΕΨ CHAPTER

*Initiated Nov. 2012*

- Housing Director Jan. 2014 - May 2014  
Liaison between house occupants and landlord  
Responsible for maintenance and bill payment
- Philanthropy Director Jan. 2013 - May 2013  
Attended Ralph F. Burns Leadership Institute  
Planned and executed "Donuts for Dogs" weeklong fundraiser for Canine Companions for Independence

## California State University, Chico Interfraternity Council

*Chico, California*

NATIONAL INTERFRATERNITY CONFERENCE MEMBER

*Board Member from Aug. 2014 to May  
2015*

- President Aug. 2014 - May 2015
  - Presided as chair of executive council
  - Facilitated weekly meetings between Executive Council and Chapter Presidents Council
  - Guided reformation of Bylaws and Constitution
  - Became nationally recognized through NIC
  - Oversaw first IFC recruitment week
  - Participated in Chico NIC leadership retreat
  - Dealt with Theta Chi Fraternity disaffiliating from IFC

## Honors & Awards

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2016 **Recipient**, Outstanding Student Leader Award

*CSU Chico, College  
of Natural Sciences*

2015 **Recipient**, Archon Award

*CSU Chico, Greek  
Life Office*