

Nicholas Richard Heyer

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Education:

California State University, Monterey Bay, Seaside, California (Fall 2016 - Current)

B.S. Mathematics GPA = 4.00

B.S. Molecular Biology GPA = 3.86

Cumulative GPA = 3.885

Spring 2021 (expected)

Research Interests:

> **Seeding-Competent Proteinopathies**- propagation within-organism and cause of neurodegeneration.

> **Bioinformatics**- Utilisation of computational tools to solve complex problems.

Research Experience:

BD2K Researcher, Dr. Sofie Salama Dr. David Haussler UCSC Genomics Institute (Summer 2018 - Current)

Studied the NOTCH2NL gene family's association with neurodevelopmental disorders and developed genomic pipelines as a part of the BD2K program, and continued as a UROC Scholer, additionally discovered novel neocortical alleles

Fungal lab Researcher, Timothy Miles, CSUMB (Spring 2018)

Studied *Phytophthora. cinnamomi* infection rates blueberry plants in varying conditions common to agriculture.

Presentation Experience:

ABRCMS Poster Presentation:

Presented my research on the discovery of NOTCH2NL alleles to undergraduates at the annual biomedical research conference for minority students

UROC Fall Showcase (Fall 2018 & Fall 2019)

First year included a Ten-minute powerpoint and oral presentation at CSUMB of my research on *NOTCH2NL*. Second year involved disseminating my discovery of 11 novel amino acid changes in the NOTCH2NL genes to a general audience.

SFN Poster Presentation (Fall 2019):

Presented the discoveries including new allies of the neocortical gene family, *NOTCH2NL*, that I discovered to a specialised group.

NCCB Oral Presentation (Fall 2019):

Five-minute powerpoint and oral presentation on the discovery of NOTCH2NL alleles at the Northern California Computational Biology Symposium

SACNAS Poster Presentation (Fall 2018)

Presented summer research in poster format at the annual national conference of Society for Advancement of Chicanos and Native Americans in Science

Presentation at the UCSC Summer Research Symposium (Summer 2018 & 2019)

Presented the discoveries including new allies of the neocortical gene family NOTCH2NL from my continued research in the Salama-Haussler lab.

Achievements:**Fall Showcase Presenter Award (Fall 2019)**

First place at the CSUMB Fall Showcase. Won a monetary prize for my oral presentation

UROC Scholar (Fall 2018 - present)

UROC supports undergraduate researchers on the pathway to graduate school professionally and financially when performing research

Member of Pi Mu Epsilon (Spring 2019 -present)

Pi Mu Epsilon is a mathematics honor society dedicated to the recognition of those pursuing mathematical understanding.

SACNAS Undergraduate Presenter Award (Fall 2018)

Won a monetary poster presenter award in genetics at SACNAS 2018 based on work done in the Haussler-Salama lab.

BD2K Scholar (Summer 2018)

The Big Data 2 Knowledge program, funded by the NIH provides professional development, and funding to undergraduate researchers going into big data

Teaching:**CLC Tutoring: Applied Statistical Methods and Genetics (2017 - present)**

Working to reform information to increase understanding. Communicating with professors to help address difficulties unique difficulties seen. Fostering open discussion and collaboration in groups of up to 14 as a way to learn, and overcome complex problems.

Independent Tutoring (2014-2016)

Tutored mathematics and chemistry, levels including general high school chemistry, AP chemistry, Algebra 2, Pre-Calculus, and AP Calculus AB.

Coding/Computing languages known:

Proficient: R, Python, LaTeX, Unix

Working Knowledge: C++, C

Familiar with: Perl, and MatLab

Training/certifications:**Certifications through CITI:**

Human Subjects Research: Researchers Course (2018)

Responsible Conduct of Research: Biomedical RCR I (2018)