Cody Appa, PhD

Codyrappa@yahoo.com 208-315-2638 [redacted] (Open to Relocation)

linkedin.com/in/cody-appa-a91787379/ cody-appa.github.io/Cody_Website/

Professional Summary:

Accomplished Molecular Biologist with 8+ years of research experience in advanced gene editing technologies including CRISPR interference. Recent PhD graduate with expertise in DNA synthesis and gene editing, mammalian cell culture, and bioinformatics. Published researcher with multiple peer-reviewed publications including an Editor's Pick first-author paper in mSphere. I am looking for a Research Scientist role in Biotech industry.

Work Experience:

Research Assistant/PhD Candidate: **August 2021 - August 2025**

- Method Development and Innovation: 8+ years of research experience; developing and driving molecular biology assays and DNA manipulation techniques. Culminated in discovering the Saturn Body, a transitional cell form in *Chlamydia trachomatis* development.
- Advanced DNA Manipulation & Gene Editing: Designed and executed complex DNA synthesis and cloning projects including designing, engineering, and cloning 100+ unique plasmids. Transformed plasmids into *E.coli* for DNA scale-up and *Chlamydia* transformation for genetic assays including CRISPR-interference plasmids combined with fluorescent promoter reporters.
- Cell Culture and Aseptic Technique: 8+ years of mammalian and bacterial cell culture experience. Worked in a Biosafety 2+ environment. Managed multiple concurrent cell lines with simultaneous infectious co-culture with zero cross contamination.
- Independent Project Leadership: Led multi-year research initiatives from experimental design through data analysis and publication, consistently meeting project milestones while managing multiple concurrent studies.
- Technical Documentation & Communication: Maintained good documentation practices and kept detailed experimental records, authored research publications, and presented findings to diverse scientific audiences.
- Quantitative Analysis & Bioinformatics Tools: Applied programming languages Python (matplotlib, NumPy, Pandas) and R (ggplot2) for experimental data analysis, sequence alignment, and statistical modeling, bridging wet lab work with data science.
- Mentorship & Teaching: Trained multiple undergraduate researchers in advanced molecular biology techniques, demonstrating ability to share technical expertise and develop others.
- Cross-Functional Collaboration and Communication: Collaborated with cross-functional teams and departments. Multiple award-winning presentations and an Editor's Pick first author publication demonstrate ability to effectively communicate complex data.

Research Technician: **August 2019 – May 2021**
(Full-time post-baccalaureate research position)

- Fluorescent Biomarkers and Transcriptomics: Created fluorescent promoter reporter plasmid constructs for 10+ genes of interest. Utilized fluorescent biomarkers for cell-type specific protein studies. Participated in transcriptomics including RNA-seq library prep and data analysis
- Laboratory Operations and Maintenance: Maintained lab equipment, managed inventory and reagent preparation, ensuring continuous research operations.

Undergraduate Research Assistant: **January 2017 – May 2019**

- Research Experience: Developed E- riboswitch repression vectors. Transformed plasmids into *E. coli* and *Chlamydia*.
- Reagent Prep and Lab Maintenance: Created reagents, prepped media stocks, and maintained lab space

Education:

PhD in Molecular Biology, Microbiology and Biochemistry
University of Idaho | August 2025 | 3.96 GPA

BS in Biology
University of Idaho | May 2019 | 3.2 GPA

Skills and Techniques:

DNA Manipulation/Gene editing

- PCR, qPCR, RT-PCR, ddPCR
- Plasmid design and plasmid biology, Ligation-based DNA assembly, and molecular cloning (Benchling, NCBI)
- CRISPR/Cas systems and plasmid design
- PCR primer design/troubleshooting
- Nucleic acid extraction, sequencing, and analysis
- DNA synthesis, assembly, scale-up, and transformation

Data Analysis/Visualization

- Proficient in Python (matplotlib/pandas) and R (ggplot2) programming languages for data analysis and visualization
- Familiar with AlphaFold Ai-guided protein design

Cell Culture

- Mammalian cell culture: Cos-7 cells and Hela cells
- Automated liquid handling systems for plate based assays
- Maintained multiple cell lines simultaneously
- Fluorescent microscopy (Nikon and Andor systems)
- ELISA, Multi-channel flow cytometry, FACS, and FlowJo analysis
- Fluorescent reporter assays, immunofluorescence, Fluorescent in-situ hybridization

Bioinformatics/NGS

- RNA-seq library prep, pooled screening, and multiplexing
- Reverse transcription, enzyme digestion, and droplet generation/analysis for ddPCR
- Protein isolation/expression assays including SDS/PAGE, chromatography, and spectrophotometry
- Bioinformatics data analysis via Python

Honors:

University of Idaho College of Science Student Research Expo
Best Graduate Student Poster
-March 2025

Editor's Pick First Author Publication
https://doi.org/10.1128/msphere.00437-24
-August 2024

Max and Sharon Walker College of Science Scholarship
-November 2024

***Chlamydia* Basic Research Society Bi-annual International Conference**
Jane Raulston Award for Best Graduate Student Poster
-March 2023

Publications:

Nicole A. Grieshaber, **Cody Appa**, Megan Ward, Alorah Grossman, Sean McCormick, Brendan S. Grieshaber, Travis Chiarelli, Hong Yang, Anders Omsland, Scott S. Grieshaber. The T3SS structural and effector genes of *Chlamydia trachomatis* are expressed in distinct phenotypic cell forms.
doi.org/10.1101/2024.04.25.591156 **May 2025**

Appa CR, Grieshaber NA, Yang H, Omsland A, McCormick S, Chiarelli TJ, Grieshaber SS. The chlamydial transcriptional regulator Euo is a key switch in cell form developmental progression but is not involved in the committed step to the formation of the infectious form.
doi.org/10.1128/msphere.00437-24 **August 2024**

Chiarelli TJ, Grieshaber NA, **Appa C**, Grieshaber SS. 2023. Computational modeling of the chlamydial developmental cycle reveals a potential role for asymmetric division.
doi.org/10.1128/msystems.00053-23 **March 2023**

Nicole A. Grieshaber, Travis J. Chiarelli, **Cody R. Appa**, Grace Neiswanger, Kristina Peretti, Scott Grieshaber. Translational gene expression control in *Chlamydia trachomatis*.
doi.org/10.1371/journal.pone.0257259 **January 2022**

Nicole A. Grieshaber, Justin Runac, Sierra Turner, Marissa Dean, **Cody Appa**, Anders Omsland, Scott Grieshaber. The sRNA regulated protein DdbA is involved in development and maintenance of the *Chlamydia trachomatis* EB cell form
doi.org/10.3389/fcimb.2021.692224 **July 2021**