

Louie Nathaniel Pinpin, BS

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EDUCATION

07/2024 – 07/2025	Postbaccalaureate Training Program: Stanford Medicine Postbaccalaureate Experience in Research Program	Stanford University; Stanford, CA
09/2021 – 06/2024	Bachelor of Science - Major: BS Cell Biology - Minor: Asian American Studies	University of California, Davis; Davis, CA
08/2018 – 05/2021	Associate in Science - Major: AS Biological Sciences Associate in Arts - Major: AA Liberal Arts-Natural Sciences and Mathematics	Mission College; Santa Clara, CA

RESEARCH EXPERIENCE

07/2024 – 07/2025	Postbaccalaureate Scholar Stanford University, School of Medicine; Stanford, CA Advisor: William R. Goodyer, MD, PhD Department of Pediatrics, Division of Cardiology Research Summary - The Goodyer Lab investigates the structure, function, and development of the human cardiac conduction system (CCS) using human induced pluripotent stem cell-derived cardiomyocytes (hiPSC-CMs) and mice as model systems. - My contributions to on-going projects included maintaining hiPS cell lines and differentiating into CCS-like cells including ventricular-, atrial-, and sinoatrial nodal-like cardiomyocytes. - My research project was to improve hiPSC-SANCM differentiation protocols and to develop a novel method in purification of hiPSC-SANCMs using CRISPR-Cas9.	
09/2022 – 06/2024	Undergraduate Researcher UC Davis Genome Center; Davis, CA Advisor: Megan Y. Dennis, DPhil Department of Biochemistry and Molecular Medicine Research Summary - In the Dennis lab, I worked on a National Science Foundation-funded project that explored what genomic factors contribute to diverse traits and diseases in modern humans. Specifically, we focused on how structural variants (SVs), which include large (>50 base pairs) genomic changes such as duplications, deletions, inversions, and translocations, affect gene expression. - After querying data on thousands of humans, we found that individuals that carried an over a million base pair inversion in chromosome 15q13.3 had differential expression of <i>CHRNA7</i>, a gene that encodes for a nicotinic acetylcholine receptor, in which mutations have been implicated to epilepsy. - My contributions in the project were to culture human lymphoblastoid cell lines of individuals homozygous for the reference genome and heterozygous for the human chromosome 15q13.3 inversion, design primers for <i>CHRNA7</i>, and perform real-time quantitative RT-PCR to analyze differential expression.	

Winter 2024

Cell Biology Undergraduate Course Research

UC Davis College of Biological Sciences; Davis, CA

Course Instructor: Kenneth Kaplan, PhD

Department of Molecular and Cellular Biology

Research Summary

- I took MCB 140L: Cell Biology Laboratory, a course-based research experience (CURE) required for cell biology majors, where we explored the mechanisms of cell autophagy in neurodegenerative diseases (e.g. Parkinson's disease) using *S. cerevisiae* as a model system.
- During the course, using cell biology techniques such as Western Blot and immunofluorescence, we found that Parkinson's disease-associated protein, α -synuclein, induces nuclear endoplasmic reticulum (nER) autophagy pathways in budding yeast.

SKILLS

Laboratory

- Cell culture: human lymphoblastoid cell lines, human neuroblastoma cell lines, human induced pluripotent stem cells (hiPSCs)
- Western blot
- PCR: PCR, RT-PCR, qPCR for gene quantification expression
- General animal husbandry: zebrafish, mouse
- Immunofluorescence, proximity ligation assay
- Introductory iDISCO method (whole-mount immunostaining)
- Introductory microscopy

Software

- R/R Studio: Introductory understanding to single-cell RNA sequencing analysis using Seurat package
- Fiji/ImageJ
- GraphPad Prism
- Microsoft Suite
- Google Suite

RESEARCH PRESENTATIONS

05/2025 **Pinpin LN**, Dang K, Perelli R, Gunda V, Goodyer WR. "Improved differentiation and purification of human induced pluripotent stem cell-derived sinoatrial nodal-like cardiomyocytes." REACH Postbaccalaureate Capstone Symposium, Stanford University, Stanford, CA. [Poster presentation](#)

03/2025 **Pinpin LN**, Dang K, Perelli R, Gunda V, Goodyer WR. "Improved differentiation and purification of human induced pluripotent stem cell-derived sinoatrial nodal-like cardiomyocytes." REACH Research-in-Progress Talk, Stanford University, Stanford, CA. [Oral presentation](#)

11/2024 **Pinpin LN**, McGinty S, Kaya G, Dennis MY. "Inversion-mediated differential expression of *CHRNA7* at human chromosome 15q13.3." Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS), Pittsburgh, PA. [Poster presentation](#)

04/2024 **Pinpin LN**, McGinty S, Kaya G, Dennis MY. "Inversion-mediated differential expression of *CHRNA7* at human chromosome 15q13.3." UC Davis Undergraduate Research, Scholarship and Creative Activities Conference, UC Davis, Davis, CA. [Poster presentation](#)

TEACHING EXPERIENCE

Spring 2024 **Undergraduate Teaching Assistant**
Spring 2023 University of California, Davis; Davis, CA

Instructor of Record: Megan Y. Dennis, DPhil

- Course Title: "First Year Seminar: Navigating a Genome: Exploring what makes us uniquely human"
- Course Description: "In this course, students will employ both computational and wet lab techniques to learn about how the human genome was assembled and how to practically use it to answer an age-old question: what makes us uniquely human? Students will contribute to ongoing research while also learning a variety of skills, including pipetting, performing molecular biology, navigating a genome browser, interpreting a scientific paper, displaying genomic data, and presenting research results. As is true in scientific research, students will work in collaboration with fellow classmates and instructors."
- As an undergraduate teaching assistant, my tasks were to design weekly activities, create teaching materials, such as handouts and presentations, and provide feedback to students' assignments.

Spring 2021 Peer Tutor and Mentor

Mission College Academic Support Center; Santa Clara, CA

- Courses tutored: CHM 1A: General Chemistry I, CHM 1B: General Chemistry II
- Tutoring hours: 6 hours per week
- Certification: College Reading & Learning Association (CRLA) Level I Tutor Certification

LEADERSHIP AND VOLUNTEER EXPERIENCE

02/2025 – 04/2025 Admissions Application Reviewer

Stanford Medicine Postbaccalaureate Experience in Research Program

- Reviewed 20 applications
- Interviewed 4 prospective postbaccalaureate applicants in 30-minute sessions

11/2022 – 06/2023 Social Media Coordinator

Transfer Research Society at UC Davis

- Connected fellow transfer students to research opportunities and resources through Discord and Instagram
- Hosted social events and presentations by current professors who were transfer students/took non-traditional pathways in their academic careers

05/2022 – 09/2022 Orientation Leader

UC Davis Student Housing and Dining Services

- Represented the University by modeling the values of the UC Davis Principles of Community
- Spoke alongside a UC Davis professor about personal experiences of transferring to UC Davis
- Facilitated discussion, activities, and guided a large (~10-20) group of transfer students around campus

11/2022 – 05/2021 Student Leader and Representative

Mission College Mental Health and Wellness Committee

- Conveyed the student experience at Mission College to a committee with a majority teaching and nonteaching faculty and ways to improve mental health support for students. Cross departmental collaboration to plan a campus-wide conference on mental health
- Planned and conducted outreach for mental health events and activities
- Attended committee meetings and voiced out the student perspective on ways students can access or be aware of mental health resources during the COVID-19 pandemic

SUPPORTING A STRONG BIOMEDICAL WORKFORCE

As a low-income, first-generation college graduate and immigrant from the Philippines, my intersecting identities have presented unique challenges in navigating a career in academia. My main motivation for supporting a strong biomedical workforce stems mainly from my own experience of mentorship I have received from mentors and research advisors, each with their own identities and experiences. My goal as an early-career scientist is to continue contributing to such efforts and creating academic and professional environments where everyone is valued. My contributions thus far consist of outreaches at high schools with majority underrepresented populations, sharing my experiences through social media and in-person talks, and mentoring fellow first-generation students of color during my research experiences.

05/2024 Dennis Lab Outreach

05/2023 Sacramento Charter High School; Sacramento, CA

- As part of the collaboration between Sacramento Charter High School and the Department of Biochemistry and Molecular Medicine at UC Davis School of Medicine, the Dennis Lab hosts annual “DNA workshops” to junior and senior biology class where we introduce students to basic molecular biology.
- My contributions to the yearly outreach were to design and prepare workshop activities. Alongside Dennis lab members, we interacted closely with the students and answered any questions they had about our career paths.

05/2021 Mental Health Story through Brave Minds Gallery

Mission College; Santa Clara, CA

- I shared my mental health challenges and journey in the Mission Cares Newsletter. My goal for this was to destigmatize seeking mental health resources that were available to students at Mission College. My piece can be read through Brave Minds Gallery Instagram or through the Mission Cares Newsletter (<https://sway.cloud.microsoft/GYD4G3f4ko2ZXHiO>).

MENTORING EXPERIENCE

<u>Name</u>	<u>Affiliation/Program</u>	<u>Duration</u>
Michelle K.	Undergraduate Research Assistant, Goodyer Lab, Stanford University	Summer 2025
Alisha S.	AvenueM Community College Intern, Dennis Lab, UC Davis	Summer 2024
LaNai E.	Sacramento Charter High School Intern, Dennis Lab, UC Davis	Summer 2024

INVITED TALKS AND MEDIA

03/2025	REACH Postbaccalaureate Scholar Social Media Takeover Stanford University; Stanford, CA. <u>Short-form content</u>
11/2024	“From First-Gen Student to First-Gen Scientist” TRiO and EOPS: First-Generation College Celebration Mission College; Santa Clara, CA. <u>Oral presentation</u>
03/2024	“Navigating STEM as a First-Generation Student” UC Davis Dept. of Biochemistry and Molecular Medicine Career Talks Sacramento Charter High School; Sacramento, CA. <u>Oral presentation</u>

HONORS AND AWARDS

05/2021	Mission College Valedictorian
04/2021	Linda Graef Salter Scholarship (\$500)