



2024-25 FACULTY AND STAFF  
GRANT PROGRAM APPLICATION

Name of Project/Program: Transformative research internships in Biology Date: May 30, 2024

Applicant's Name: Jann Vendetti & Shelley Thai

GCC Position: Adjunct & Biology faculty Department: Biology

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Please check which category best describes your project:

- Arts & Culture
- Athletics & Fitness
- Career & Work Training
- College Operations & Facilities
- Humanities/Social Sciences
- Science & Technology
- Other

Amount requested: \$ \$9,940

Please attach a one- to two-page typed request that provides a comprehensive summary of your project/program and establishes the need. Please include the following:

- What do you propose to do?
- Who will be involved in the project/program?
- What are the benefits of this project/program to the students, college, and the community?
- How does this project/program support the College's [Institutional Strategic Plan](#)?
- Timeline for the project/program.
- How do you propose to use the funds requested? Please include specific budget information.
- Please list any other sources of funding you have applied for and include dollar amounts if already awarded.
- How will the Foundation's support be recognized?
- How do you plan to evaluate this project's success?
- If your project/program is successful, how will it inform your practice moving forward?

Please email this completed and signed form along with your proposal to [zjacobs@glendale.edu](mailto:zjacobs@glendale.edu)

**Submission Deadline – Thursday, May 30, 2024 by 5:00 PM PST**

Your signature indicates approval of this request to the Glendale College Foundation

*Jann Vendetti*

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Applicant's signature

*Joseph Beeman*

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Chair or Department Head Signature  
Joseph Beeman

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Print name of Chair or Department Head

Grant Review Committee comments and/or recommendations:

\_\_\_\_\_

This grant was denied/approved on \_\_\_\_\_ The amount awarded is \$ \_\_\_\_\_

**1. What do you propose to do?/ 2. Who will be involved?** We propose to continue unique and transformative research experiences for GCC Biology students. The first is through the collections-based internship (**Biol 50** – Research Internship in Biological Sciences) at and in partnership with the Natural History Museum of Los Angeles County (NHMLA), under the supervision of adjunct GCC Biology instructor, Dr. Jann Vendetti. The other are GCC Course-based Undergraduate Research Experiences (CUREs), including **Biol 298** – Undergraduate Research in Microbiology and Molecular Biology and independent research (**Biol 49**) with GCC biology faculty, Dr. Shelley Thai. The Glendale College Foundation has funded Biol 50 at the Museum since 2020, enabling transformative experiences that prepare GCC students for transfer, graduate school, and careers in STEM. This year we request additional funding for Dr. Thai’s courses specifically for registration fees, travel expenses, and poster printing for student research presentations at scientific conferences. The track record of productivity for Biol 50 interns includes: a published paper with three student co-authors, eleven student co-authored abstracts, and four manuscripts currently in preparation with current or former student co-authors. Similarly, for Biol 298 and Biol 49 student researchers: a published paper in the *Journal of Bacteriology* with 22 student co-authors with their work featured on the cover of the journal, over 40 student co-authored abstracts, and presentations at various local and national conferences (*e.g.*, American Society for Microbiology (ASM)). From summer of 2023 to Spring 2024 there have been 17 enrolled GCC students in Biol 50 or Biol 49; all have worked in Malacology (Mollusks) and many have participated in collections-based projects in other departments. Two recently presented their DNA-based research at the GCC Student Research Symposium (5/13/24).

Biology 50 was begun in 2015 by GCC’s Dr. Gago (Biology) and Dr. Vendetti; Dr. Thai developed Biol 298 in 2013 and started offering Biol 49 (independent research) in 2014. Together, these classes have enriched the GCC experience for approximately 250 students. Four Biol 298 students were selected from many applicants to present their project at the Southern CA ASM conference in fall 2023, and two students were chosen to give a talk at the Stanford Bay Honors Symposium this semester. From 2015–2019, NHMLA provided research funding for Biol 50 interns, but due to budget cuts this funding is now unavailable. Similarly, one of Dr. Thai’s collaborators funded poster printing for Biol 298 and Biol 49 students, and the Vice President of Instructional Services, Dr. Ritterbrown, helped support student attendance at the conferences. However, due to budgeting changes this funding is now unavailable.

**3. What are the benefits of this project to the students, college and the community?** Students learn real-world skills often only taught through apprenticeships and in graduate programs, *i.e.*, writing scientific manuscripts, specimen dissections, literature review, archival specimen preparation, tutelage in systematics and taxonomy, deconstructing and presenting peer-reviewed scientific articles, and conducting advanced experiments. Students use these formative experiences to build their CVs and can rely on Museum staff and Biol 50, 298, and 49 alumni for recommendations, job referrals, and career advice. For GCC, these unique experiential courses provide an opportunity found nowhere else, contribute to other opportunities within Biology that attract prospective students (*e.g.*, the Baja and Biotechnology Programs), and produce graduates who can reflect on their GCC experiences as profoundly influential. For the community, the efforts of Biol 50 interns are diverse and wide reaching. For example, since Summer 2023, interns have been integral to: Haunted Museum, NHMLA, 10/28/23; interns developed a table-top exhibit for the Museum’s annual Halloween event, displaying chitons (marine mollusks) and SEM images of their shells to teach guests about morphology and biodiversity, ~850 attendees; Slugs of Huntington Botanical Gardens and Library, San Marino, 8/23–5/24; interns surveyed the Garden’s public greenhouse, finding and identifying invasive slugs that caused the closure of the building and required and eradication of the slugs, surveys are ongoing; Bureau of Land Management Mollusks (BLM), NHMLA, 2/24–5/24; interns unpacked and relabeled hundreds of BLM-collected mollusks from the 1970s, increasing the holding of octopus and squid specimens at NHMLA by

200%. Former interns and research students also volunteer at GCC open houses and fairs to educate the community and new students on these valuable and life changing experiences uniquely offered at GCC.

**4. How does this request support the College's Institutional Strategic Plan?** GCC is likely the only community college in the U.S. to have such a close partnership with a large natural history museum and provide a course like Biol 50. GCC is also rare in providing research experiences with the degree of rigor and skill-training embodied by the microbiology courses Biol 49 and Biol 298 lead by Dr. Thai. These courses directly support the Institutional Strategic Plan to expand public and private partnerships and to “(E.2.) Invest in innovation and professional development for student services and instructional pedagogy... for student engagement, learning, and retention.” The unique research experiences offered by Biol 298, 049, and 50 give GCC students the experience and confidence to successfully transfer to 4-year colleges; they also help prepare them for their choice of career. The funding of the Glendale College Foundation would enable the student researchers and interns in these courses to acquire transferable and marketable skills in STEM; so much so that GCC might attract students because of these courses.

**5. Timeline for the program.** The project's timeline is one academic year: summer and fall 2024, and winter and spring 2025.

**6. How do you propose to use the funds requested?** Funds will be used for: 1) molecular work & laboratory supplies essential to research projects, with the goal of publication, 2) publishing costs, and 3) registration fees and travel and poster printing expenses for students to attend and present their work at research conferences. See three vendors at links below. \$5,660: Funds for 2024: 2 DNA extraction kits with NHMLA discount (50 extractions): **\$340**; 100 DNA extracts sequenced (3 plates): Vendors: (Retrogen, Inc. <https://retrogen.net/>, \$270/plate, Europhins <https://eurofinsgenomics.com/en/products/dna-sequencing/price-list/> \$480/plate, Functional Biosci <https://functionalbio.com/pricing> \$360/plate), **\$810** (using \$270/plate), Laboratory materials: **\$300**, Research publishing costs (open access preferred): **\$1,150**, Research conference student registration fee: **\$1,400** (~18 students), Poster printing: \$116/poster x 10 posters = **\$1,160**, Travel lodging (hotel): 2 rooms, one for each gender; **\$500** (for non-local conferences). \$4,280: Funds for 2025: 2 DNA extraction kits with NHMLA discount (50 extractions): **\$340**; 100 DNA extracts sequenced (3 plates, \$270/plate): Retrogen, Inc. **\$810**; Laboratory materials: **\$300**, Open-access research publishing costs: **\$1,000**, Research conference student registration fee: **\$750** (6–10 students), Poster printing: \$116/poster x 5 = **\$580**, Travel lodging(hotel): 2 rooms, **\$500** (for non-local conferences).  
Total requested: **\$5,660 + \$4,280 = \$9,940**

**7. Please list any other sources of funding you applied for and include dollar amounts if already awarded.** None.

**8. How will the Foundation's support be recognized?** As in previous years, the Foundation will be named in the acknowledgements of published research papers, posters, and presentations. For example, in the presentation at the GCC Student Symposium in May 2024, the interns included and read, “Special thanks to the Glendale College Foundation who funded this study”.

**9. How do you plan to evaluate this project's success?** Success will be mostly evaluated by the outcomes of research projects as well as student engagement. The goal for Biol 50 interns and Biol 298 and 49 researchers is to have a research abstract accepted and presented at a scientific conference during or up to two semesters after their research experience. Given that all students will contribute to research projects, the long-term goal is for 90% of interns and research students to be co-authors on scientific publications that are the products of their work.

**10. If your program is successful, how will it inform your practice moving forward?** Success in these programs will inform our continued mentorship and support of GCC students and enable us to each continually hone an effective, creative, and adaptable mentorship style.