



Sandy Hook Partnerships in Aquaculture Research Opportunity 2023

Deadline to Apply: Feb 15, 2023

Executive Summary of Opportunity

The NOAA office of aquaculture, New Jersey Sea Grant Consortium (NJSGC), and the NEFSC have formed a partnership to fund an inaugural 1-year opportunity for a college student from an underrepresented/underserved minority group, and their faculty mentor, to do a summer research project in aquaculture at the Howard laboratory in 2023-2024. We are seeking proposals from undergraduate/mentor teams to perform an innovative and ambitious aquaculture-themed research project to be implemented in our lab over 1-year by an undergraduate researcher, or through a combination of field experiments in Sandy Hook Bay and lab experiments. We will provide lab space, technical expertise, collaboration from aquaculture scientists within NOAA, communications/outreach support, and a \$20,000 stipend for the student /mentor team. The student will be expected to report the findings of their research project broadly in the scientific and local communities, and to perform outreach activities in the greater New Jersey region to amplify the benefits of the partnership. This is an excellent opportunity for a student interested in working alongside professional scientists and to launch a career in marine science. We are particularly interested in funding a team that includes scientists and students from diverse backgrounds – especially from demographics under-represented in marine science.

Background

The Howard Lab is a NOAA research facility with 11 seawater labs and co-located in an ideal location for aquaculture research at Gateway National Recreation Area with New Jersey Sea Grant Consortium (NJSGC). In 2020 our community expanded an initiative to promote diversity and inclusion. Our program aligns well with NEFSC and NOAA D&I Strategic Plans. We propose to expand our partnerships with NJSGC through this initiative with an Aquaculture Co-Lab by offering a dedicated lab space and a project liaison from NOAA to support research activities by students and their mentors. In the Aquaculture Co-Lab, we will host aquaculture projects conducted by these scientists. We are particularly interested in working with student-faculty teams that include individuals from backgrounds underrepresented in aquaculture research. This 1-year project will commence in summer 2023 and target undergraduate students and includes outreach components. Through this announcement, we are seeking proposals for an innovative and ambitious aquaculture-themed research project to be implemented over 1-year by an undergraduate researcher, their faculty mentor, and with support and technical expertise from the JJ Howard Lab community. The award will be \$20,000 to the student and mentor for use as a stipend to pay the student and for equipment/supplies and travel for the project. The award also includes use of equipment and lab space at the JJ Howard Lab. The awardee's institution must provide a match of \$5,000 or in-kind equivalent (see Fellowship Requirements below for details). We will provide basic

equipment, a seawater lab, and mentorship from our staff. NJS GC will administer the grant and contribute expertise on the human dimensions of aquaculture, aquaculture best practices and outreach strategies. NOAA will partner with NJS GC to identify applicants, provide funding for the student and mentor research, and disseminate findings from the projects in meaningful outreach activities. For example, upon project completion, the funding recipient could present to K-12 schools in our area that serve students of color. We will coordinate with the Office of Aquaculture (OAQ) and the NEFSC's Research Communication Branch. Our main goal is to recruit an excellent team that will conduct aquaculture research at the Howard Lab and contribute to a productive, vibrant, and inclusive science culture, as well as to contribute to the training and mentorship of the next generation of aquaculture scientists.

GENERAL OVERVIEW OF STEPS TO APPLY FOR THIS GRANT- SOME GUIDANCE BEFORE YOU START THE APPLICATION

1. Start by reading through this entire document. Do you have an interest in marine biology and aquaculture? Would you be interested in building a team consisting of a faculty member and a student to work together for a year on an aquaculture-themed project? Are you interested in giving back to the community and communicating science to the public? Do you identify as a member of a community that is often underserved in terms of support for careers in science and/or historically underrepresented in marine science? If you answered yes to all questions, then keep going.
2. Find your partner for your team. Talk to a faculty member if you are a student or a student if you are a faculty member and discuss the project.
3. Review the strategic mission of New Jersey Sea Grant Consortium as well as NOAA Office of Aquaculture. Determine if you can design a project that will fulfill aspects of both.
4. Work together to write the components of the proposal. Be sure to reach out to us at any point in the application process for guidance if we can help.
5. Plan your project and consider the location of the lab, the opportunities in the surrounding coastline and bay, as well as the laboratory infrastructure and staff scientists that you can use to help you in your project.
6. Plan your outreach. A large part of how your application will be evaluated is the impact of your proposed outreach and science communication plan. What technology and what in-person activities can you harness to have the biggest impact and reach the greatest number of stakeholders and community members?
7. The student in the team should request two letters of recommendation to be submitted to Dr. Peter Rowe. The mentor in the team should submit their own CV, and also help the student to create or edit a CV to submit. The two CVs should be submitted as part of the application package.
8. The faculty team member should work with NJS GC in conjunction with their home department, Dean, Office of Research, and other institutional resources to determine how to make the \$5,000 match contribution towards the project. Please read the section below about the federally mandated \$5,000 match. There are many ways to meet this requirement using in-kind matching. Please reach out to Pete Rowe at NJS GC if we can help brainstorm. To be extremely clear for students reading this call for proposals, the student is not expected to supply the match

funds, but rather the funds come from a grant to the mentor, or as an in-kind contribution from the home college or university of the team.

9. Once your proposal is complete, please email the proposal to Dr. Pete Rowe no later than February 15, 2023.

*About Us: Strategic Plans and Information about NOAA, JJ Howard, Office of Aquaculture, and NJSGC.
Our partnership and missions:*

The primary mission of the Howard Laboratory is to conduct research in ecology, leading to a better understanding of both coastal and estuarine organisms and the effects of human activities on nearshore marine populations and their habitats.

[Northeast U.S. Shelf Regional Ecosystem](#)

People

To conduct our work, we partner with a diverse group of international, governmental, and academic scientists and students. The laboratory may provide space and other research support to these partners and visiting scientists. More than 20 scientists are located at the Howard Laboratory. Current federal research staff include contractors and employees from:

- NOAA Fisheries
 - NEFSC's [Ecosystems and Aquaculture Division](#)
 - [Greater Atlantic Regional Fisheries Office](#)
 - [Office of Habitat Conservation](#)
- [Bureau of Ocean Management](#)
- [National Ocean Service](#)

The lab also supports non-federal scientists from:

- [Rutgers University](#)
- [Monmouth University](#)
- [Marine Academy of Science & Technology](#)

Our Facilities

The lab has organic and inorganic chemistry labs, controlled temperature rooms, flow through seawater labs and recirculating aquaculture systems designed for different types of experiments.

NJ Sea Grant Consortium

Our mission: to promote the wise use of New Jersey's marine and coastal resources through research, education, and outreach. New Jersey Sea Grant Consortium is an affiliation of [colleges, universities, and](#)

[other groups](#) dedicated to advancing knowledge and stewardship of the Garden State's marine and coastal environment. NJSGC meets its mission through [research](#), [education](#), and [extension](#) programs.

Founded in 1969 as the New Jersey Marine Sciences Consortium, the organization has contributed leading research in the field of marine and environmental science. Since 1976 it has managed the New Jersey Sea Grant Program (NJSJG), part of a national effort that funds competitive research focusing on specific priority areas. In recognition of its academic and scientific achievements, the Consortium was awarded Sea Grant College status in 1989 and currently functions as a non-profit. NJSJG provides equal opportunity for all New Jersey students and citizens to learn about the marine environment. Diverse, interactive, age-appropriate curricula range from pre-K through graduate level studies. Nearly 30,000 participants – students and their families, teachers, Scouts and the general public take part annually in annual education programs and special events.

For more than 50 years, the Consortium has served the state and the region by developing programs designed to resolve coastal issues, develop marine technology, formulate science-based policy, and improve science literacy among its citizens. Learn more about the NJSJG by reading our [Annual Report](#) or reviewing our current [Strategic Plan](#).

Eligibility

This opportunity is for college students working closely with a faculty mentor on research questions broadly applicable to aquaculture of plants, shellfish, or fish. The student must be enrolled at least part time at an accredited institute in the greater New York/ New Jersey Region. Although no specific geographic requirement exists, we cannot provide housing to the student and mentor, and therefore the practicality of travel / commute plans will be evaluated when awarding the funding. Stipend funds may be used for housing if a student from out of state wishes to apply to this opportunity. We are committed to recruiting diverse candidates and creating an inclusive environment for this unique partnership in aquaculture research. We encourage applications from students who are the first in the family to go to college, or who identify as coming from an underserved community, or who are from a community that is underrepresented in marine biology based on their race, gender, sexual orientation, socioeconomic status, neurodiversity, or other factors. We hope to recruit a "team" that consists of the college student (applicant) and their mentor to conduct research in a designated lab at the JJ Howard Marine Lab. The team will have access to our seawater systems, technical and scientific expertise, communications and outreach specialists, and the guidance and expertise of our partners at NJSJG. The total amount of time spent in the lab on a weekly basis is flexible and totally incumbent upon the experimental design proposed by the team. We do have technical support available to assist in parts of the experiment that may take place when the applicant's research team are unavailable to be present in the lab. We view this as an opportunity for collaboration, innovation, and mentorship.

Fellowship Requirements

1. **\$ 5000 match to Federal Funding (can be in-kind) from the home institute of the awardee.**
Federal law requires that NJSJG provide a non-federal cost share (match) of at least 50% or \$1 for every \$2 of federal funds it receives. Because NJSJG provides \$10,000 of the \$20,000 award, the cost share is \$5000. For all awards made through this solicitation, cost share is the

applicant's responsibility. Cost share sources must be clearly identified and projects selected for funding will be required to provide documentation supporting the funds claimed on each invoice submitted. Cost share must be expended during the same time period as the project and may be provided as cash or from acceptable in-kind resources. Examples of cost share or matching sources include non-federally supported salaries wages, benefits of those working on the project, expendable supplies and equipment, ship time, donated volunteer time calculated at a reasonable hourly rate, supplies, space or equipment, tuition waivers for students involved in the project, and unrecovered indirect costs. Matching funds do not necessarily have to come from the Principal Investigator's home institution. Foundation, state or local grants, and other non-federal funds, including funds from private and/or industry sources, are eligible sources.

2. Perform authentic outreach activities during and after completion.

Community engagement and societal relevance are critical to all NJSGC efforts. Each proposal submitted to NJSGC must include a detailed outreach plan that describes how broader audiences can use and benefit from anticipated results. Research projects that offer benefits and societal impacts to coastal communities, including those with stakeholders from under-represented or under-served groups, are strongly encouraged. A robust outreach plan should define the target audience(s), the rationale for choosing the target audience(s), planned activities with the target audience(s), and how the effectiveness of the outreach plan will be evaluated. Because NJSGC supports scientific excellence that addresses relevant coastal issues and achieves broader impacts including, but not limited to policy, management, education (formal and/or informal), and socio-economic impacts, the application of research results through NJSGC's extension, communications, and education programs or by other means is a key consideration in selection for funding. Applicant teams (student/mentor) are strongly encouraged to contact NJSGC extension, communications, and/or education personnel well in advance of the application deadline to help prepare the outreach section of their proposal. Please note all funded teams will have an NJSGC liaison assigned to them if they did not identify one in their proposal. The liaison will assist the PI in ensuring the integration of outreach into the research. Collaboration with industry and/or state and regional agencies is also encouraged.

3. Be able to pass a federal security check.

To work in our facility all scientists, staff, and managers must clear a background check. Therefore the student and the mentor must pass a minimum security background check that requires fingerprints and which will take up to 6 weeks. The cost for this background check will be paid by NOAA.

4. The proposed research must include aquaculture-themed questions.

We are open to proposals that include aquaculture research questions aimed at shellfish, finfish, or plant aquaculture. Research projects may be completely done in the lab setting, be done in the surrounding Sandy Hook Bay, or a combination of both. We have limited ship access but nearshore locations accessible by land can be considered. Although we will consider computer-based projects (modeling, simulations, informatics) our preference is for projects that will utilize our facilities' seawater capabilities, geographic location on Sandy Hook Bay, or both. Please see

the goals of the NOAA aquaculture program here for further guidance on current priority areas in aquaculture:

<https://www.fisheries.noaa.gov/about/office-aquaculture>

Proposal Elements

Part 1:

Part 1 is to be completed by the student applicant with support from the faculty mentor

- **Signed Title Page and abstract** (*two-page maximum*): The title page must list the project title and provide contact information for the prospective student and faculty advisor as well as the proposed start and end date. The title page should include a Research Abstract of up to 200 words, summarizing the research project you will be working on. Please include the project's objectives, methodology and rationale.
- **Career and Professional Development Goal Statement** (*one-page maximum*): The statement should describe your educational and professional goals and ambitions, professional growth interests and objectives, and how these goals relate to broader societal needs in the coastal and marine environment. The statement should emphasize how past experiences and competencies contribute toward your short- (1-5yr) and long-term (>5yr) goals and in particular, how this research opportunity would contribute toward those goals. Speak to your leadership potential, communication ability, stakeholder engagement interests or experience, and include any pertinent information that provides insights into your past choices and future interests. Illustrate what motivates you today and moving forward with your research and their applications.
- **Professional Mentor and Outreach Plan** (*one-page maximum*): The plan should be developed closely with your academic advisor to identify specific objectives of both the research and the required outreach activities to be conducted during the fellowship.

What types of data will you produce once the research is completed? What is the major goal of the research? How will you and the mentor interact to achieve the goals (e.g., frequency, timeline, means of communication, topics, etc.)?

What can you do to share your experience to promote others to explore a similar career? Who are the target audiences for the outreach activities on your research?

- **Personal statement** (*no page limit, please go into as much or as little depth as you want to introduce yourself*)
The Partnership in Aquaculture Research is dedicated to increasing diversity in the marine and environmental sciences. We seek students from a variety of backgrounds who can be productive, contributing members of a research team. What are one or two personal traits or life experiences you will bring to add value to the aquaculture research effort in Sandy Hook?
- **Recommendation Letters** (*submitted separately*): Two letters of recommendation should be submitted in support of the student. To maintain confidentiality, letters should NOT be submitted

with the student’s proposal; instead, letters should be sent directly to Dr. Peter Rowe by their authors. One letter of recommendation should come from the student’s primary academic advisor or faculty member who is the PI on the research award the applicant will be working on during the fellowship. There is no page limit for letters. You may let your letter-writer know that we will be evaluating the letters of recommendation for the following insights about the student applicant:

- Academic and professional performance, including record and relevant experience
- Academic and professional potential for future success, including research and professional
- Activities in integrated, trans-disciplinary settings
- Responsibility, motivation, integrity, and creativity
- Teamwork and leadership skills and potential, and ability to identify and understand the *big picture*, and connections among perspectives
- Interest and competencies in the science-to-management process, science communication to non-experts, and capabilities and issues of relevance to their mentor relationship, and outreach activities
- Description of the impact this opportunity could have on the student’s forward momentum

For the second letter of recommendation, applicants are encouraged to consider someone who might know the applicant from a different perspective (e.g. religious leader, community leader, family friend someone you have worked with on a project). It is most important to select someone who will write a strong letter for you, but an “outside” perspective helps to demonstrate your uniqueness and will likely highlight different strengths and experiences.

- **Resumes/CVs** (*two-page maximum per Resume/CV*): A brief resume or CV should be included for the student and for the primary academic advisor(s).

PART 2

This section is to be written as a team by the faculty mentor and student. We expect the faculty mentor to lead on the writing of this section and mentor the student on how to put this type of proposal together.

Project Narrative (*four-page maximum, including figures, tables, and other graphics but excluding literature cited and data management plan*): Project title and name of student must be included in the header. The narrative is intended to be a brief summary of the proposed thesis or area of study but should include sufficient detail to evaluate the appropriateness and relevance of the research and outreach approach, and the alignment of the project with the missions of NJSGC and NOAA’s office of Aquaculture.

The narrative should include the following subsections:

- **Introduction**: Provide background information, rationale for the research project, and how the proposed project addresses the research priorities described in this announcement.

- **Research Plan:** This section should briefly describe the research methods, approaches, and techniques that will be used to meet the project’s objectives. Students should describe the experimental design, data sources to be used, how data will be accessed, and any facilities and equipment requirements. Students clearly describe how their research goals, objectives and tasks align with their milestone chart (see below).

- **Outcomes and Broader Societal Impacts:** Describe the research results to be achieved by the project, how these results relate to current knowledge of the topic, and of what use the research and results will be for specific audiences or end-users. What difference will the research make to society?

- **Fellowship Milestone Chart / Timeline:** Provide a timeline of research, professional development, and outreach activities and accomplishments you hope to achieve over the duration of the fellowship. This should include the initial outline of a research and individualized professional development plan. It is expected this chart will align with the research objectives and will be expanded in consultation with the professional mentor and faculty advisor as the research project evolves.

- **Research Team and Coordination:** Briefly describe the research team and their roles and responsibilities, including the role of the applicant and academic advisor(s). Describe briefly what kind of support and expertise would your project want from the JJ Howard staff?

- **Literature Cited** (*does not count toward page limit*).

I. Budget and Budget Justification: Fellowships are for one year with \$20,000 available each year. \$20,000 is available for stipend, tuition, fringe benefits, and fees. There is an additional \$5000 per year expected in non-federal match, for a total of \$25,000 towards the award. The sponsors strongly encourage applicants to work with their institution’s research administration or sponsored programs office to develop their budgets.

In addition, include a paragraph at the beginning of the Budget Justification detailing the in-kind or leveraged support. This paragraph should provide an explanation of how the proposed research is being supported outside of the fellowship. This may include sources of in-kind support (e.g. agency, organizations, university programs, etc.) and how they are supporting the proposed research. Students are expected to use the project narrative to demonstrate the feasibility of implementing the proposed work. This section will be used to assess if there is adequate funding to complete the proposed work.

You can find the 90-4 budget page at <https://njseagrant.org/research/forms/>

Review and Selection Process

A technical review panel will be composed of diverse individuals from academia, agency, and industry. Preference will be given to applicants from historically underserved and underrepresented groups. Applications will be scored according to the rubric posted below.

Each proposal will be evaluated according to the following criteria and weighted as indicated in each element: **out of 100 pts**

1. Importance and applicability of the proposed project to the Office of Aquaculture program goals (**30 points**).

For information about the goals see <https://www.fisheries.noaa.gov/about/office-aquaculture> for more information about our program goals. This criterion assesses whether there is intrinsic value in the proposed work and/or relevance to program priorities. For this criterion, applicants will be evaluated based on the following:

- a. Aquaculture question addressed (15 points) Does the project address a knowledge gap, new innovation, or solve a problem in finfish, shellfish, or plant aquaculture?
- b. Community benefits (15 points) Do the project outcomes have direct benefits to local communities? Will the project outcomes improve local or regional approaches to aquaculture in the short, medium, and long terms?

2. Technical and scientific merit (**30 points**). This criterion assesses whether the approach is technically sound, if the methods are appropriate, whether there are clear project goals and objectives, and data management considerations. For this criterion, applicants will be evaluated based on the following:

- a. Project description and milestones (10 points) - Does the proposal include sufficient detail to assess the merit of the planned actions? Does the proposal include a realistic timeline of key milestones and deliverables?
- b. Methodological strength (10 points)- Are the proposed actions feasible? Does the proposed approach have a decent chance of success? Are performance measures and metrics of success explicitly stated by the applicant?
- c. Deliverables (10 points)- Does the proposal include clear deliverables? Are the deliverables likely to contribute to advances in Mid-Atlantic Aquaculture? Are the deliverables useful and usable to communities - specifically underserved communities - and stakeholders?

3. Overall Qualifications and Strengths of Applicants (**10 points**). This criterion assesses whether the applicant and mentor possess the necessary education, experience, training, facilities, and administrative resources to accomplish the proposed activities. Does the project team demonstrate the necessary technical experience and background in planning, design, and management in order to

successfully carry out the project? Will conducting this project give the applicant the opportunity to grow and achieve in a new field?

4. Community Engagement, DEIJA, and Outreach **(30 points)**. This criterion assesses whether the project effectively engages local communities in a few ways. In particular, this criterion assesses whether the project provides a focused, effective, and equitable education and outreach strategy regarding NOAA's mission to protect the Nation's natural resources, Sea Grant's strategic focus areas, and the goals of the individual competition announcement to target audiences. This criterion also assesses how well the project engages underserved communities and will further NOAA's mission of inclusive and diverse scientists and science. For this criterion, applicants will be evaluated based on the following:

- a. Inclusive planning and engagement - Are local communities - including underserved communities - meaningfully engaged in project activities? (10 points)
- b. Education and workforce development (10 points) - Does the project enhance aquaculture literacy? Is there a clear strategy to share information about the project's work on aquaculture to a broad audience through formal or non-formal education? Does the project reach the community members most likely to implement aquaculture innovation and development? Does the project help develop the awardee (student's) development as a future leader in science and outreach?
- c. NJSJC engagement (5 points) - Are NJSJC activities fully supported and utilized?
- d. Project Costs (5 points). This criterion assesses whether the project budget is realistic and with the project's needs and timeframe. Does the budget adequately cover the proposed activities? Are the spending levels appropriate compared to market value? Where possible, do the funds spent flow to and support local communities?

TOTAL: 100 pts

Voluntary Demographics Survey

Per US Department of Commerce Requirements, NJSJC is required to ask the below VOLUNTARY demographic question. Responses, or non-responses, have no relation to or bearing on the proposal review process or evaluation.

Please provide the following information for all named collaborators on your proposal. If you choose to respond, please use this optional form for collecting the information and do not include as part of your application package.

https://docs.google.com/forms/d/e/1FAIpQLSdijYevtFZD2cFT5e_6nsd_YNNbgOuu-i7UdcPVIDN5VndaVg/viewform

Timeline for Fellowship

December 20, 2022 – RFP released and circulated to NJ Consortium Members, broader Tri-State and Mid-Atlantic Minority Serving Institutes.

Feb 15, 2023 Applications due

March 1, 2023 award announced

Funds available April 1, 2023 and projects can begin as early as May 1 2023 on site at Sandy Hook Lab

October –November, 2023 Projects (on site) wrap up

May 1, 2024 – Project report due – multimedia, report on outreach activities. Communications Blitz!

Contact Information

Please send inquiries about this fellowship opportunity to Dr. Ann Petersen ann.petersen@noaa.gov

Please submit your completed application and letters of recommendation to Dr. Peter Rowe
prowe@njseagrant.org

NOTES FOR FUNDED PROJECTS

- Principal Investigators of successful proposals will be required, when relevant, to submit documentation of approval for any Institutional Review Board (IRB) or Institutional Animal Care and Use Committee (IACUC) compliance.
- Principal Investigators of successful proposals will be required to submit a Data Management Plan using the provided [Data Management Plan Form](#) on NJS GC's website.
- All proposals recommended for funding will require completion of an Abbreviated Environmental Compliance Questionnaire prior to submission by NJS GC to NSGO. See <https://njseagrant.org/research/forms/>
- All proposals recommended for funding will require completion of a 90-2 Project Summary Form (Proposal Summary Form 90-2) prior to submission by NJS GC to NSGO.
- All funded projects will be required to include acknowledgment of NOAA / NMFS / NEFSC and NJS GC support and resources which contributed to the final project.

Please contact Dr. Ann Petersen at NOAA ann.petersen@noaa.gov or Dr. Peter Rowe at NJS GC if you have any questions prowe@njseagrant.org