



**Research and Education Opportunities for the Sciences (along with some food systems, policy,
and education opportunities) 2023-2024**
College of the Atlantic and the Bar Harbor Area
Updated October 2023

This list includes research and education opportunities for COA students. Some of these opportunities are during the academic year, but many of them are summer opportunities. Contact the individual faculty member or relevant sponsor of each opportunity for more information. More generally, you can also check through the internship office for other resources including connections to alumni mentors. In this document we have also listed the names of some students/alums (with their permission) who have recently had these experiences that you can also reach out to with questions.

Information about Research Experiences for Undergraduates

This is a good overview of how to go about getting internships, especially through the National Science Foundation's research experience for undergraduates. You can get to it from Dave's advising page: <http://hornacek.coa.edu/dave/Advising/reus.html>

INBRE Summer Student Fellowships: Jackson Laboratory & MDI Biological Laboratory

INBRE summer student fellowship program offers research opportunities for students to work with researchers at the Jackson Laboratory (JAX), Mount Desert Island Biological Laboratory (MDIBL), and other research institutions in Maine in biomedical sciences, bioinformatics, and molecular biology. In addition, both of these institutions have a separate program that includes more general scientific research. Two fellowships are awarded to COA students each year. They pay for room and board, as well as a stipend for each student. U.S. citizenship is NOT a requirement. These applications typically open around November.

For MDIBL, the general page for student fellowships is here:

<https://mdibl.org/education/student-fellowships/>

The application materials for the INBRE fellowship are accessible from that page, but I've also listed it here:

<https://mdibl.org/education/student-fellowships/inbre-summer-fellowships/>

Application deadline is typically late January.

In addition, both MDIBL and JAX have their own student fellowship programs that are nationally competitive. These applications are very similar to the INBRE application, so they are pretty easy additions.

The MDIBL Research Experience for Undergraduate fellowships (REU) can be found at:

<https://mdibl.org/education/student-fellowships/reu-summer-fellowships/>

These fellowships are for any work at MDIBL, so they are not restricted to biomedical research, and include work at the MDIBL community environmental health lab.

The MDIBL REU deadline is typically around February 1

The separate JAX fellowships (independent of INBRE) can be found at:

<https://www.jax.org/education-and-learning/high-school-students-and-undergraduates/learn-earn-and-explore>

The JAX deadline for 2024 has not been posted but is typically around February 1.

Contact person: Chris Petersen cpetersen@coa.edu

Students who have been involved: Lenka Slamova (Islamova24@coa.edu), Raheem Khadour (rkhadour25@coa.edu), and Sofia Dragoti (sdragoti25@coa.edu)

Summer Museum Educator at COA's George B. Dorr Museum of Natural History

RESPONSIBILITIES: Greet and orient museum visitors, design and conduct interpretive programs, gift shop sales and inventory, maintenance and interpretation of marine observation tank, oversee special events. Saturday work required; Sundays and Mondays off.

QUALIFICATIONS: College graduate or currently enrolled student with knowledge of natural history, especially of coastal Maine; experience in informal education and effective communication skills; ability to work as part of an energetic and creative team; ability to use a ladder and lift 50 pounds. Experience in graphic design or retail sales is desirable but not required.

TERM: begins mid-June, continues through Labor Day.

To complete an application, you will have to send letter of interest, resume and three references.

Contact person: Carrie Graham cgraham@coa.edu

Student who has been involved: Khorshid Nesarizadeh knesarizadeh25@coa.edu

Summer Field Studies for Children

The Summer Field Studies program is a day camp that offers college students an opportunity to gain valuable teaching and leadership experience working with young people entering grades one through five. There are 8 - 9 Program Lead positions available for college students interested in providing experiential education, leading excursions, building community, and working with children. Program leaders work with small groups of 10-12 children to foster a positive atmosphere of community and cooperation.

The program runs for 10 weeks (one week of training and nine weeks of teaching) during the summer and can be considered as an internship. SFS program leaders will have an opportunity to design, plan, and implement their own pre-approved curriculum, or use the premade Summer Field Studies curriculum to offer children the opportunity to explore and understand the ecology of MDI and nearby areas. There is also a position available to serve as a driver to help bring our groups from one excursion to another. The driver must be at least 21 years of age. The positions are based on an hourly wage with housing on campus available.

Contact person: Rick Dube rdube@coa.edu

Students who have been involved: Morgan Urban (murban26@coa.edu)

Farm Research and Training Opportunities at Peggy Rockefeller Farms

There are many year-round opportunities for students who want to study water quality, biodiversity and soils as influenced by agricultural practices, compare productivity and production between different breeds or varieties of crop plants, develop plans to set up a commercial enterprise with livestock or crops, investigate the history of land-use, and explore the potential and implementation of renewable energy projects. These studies could take place through Independent Study Projects or Senior Projects, with the approval of the farm manager.

Contact people: April Nugent anugent@coa.edu and Kourtney Collum kcollum@coa.edu

Students who have been involved: Alice O'Malley (aomalley25@coa.edu)

Summer Crew Internship and Research Opportunities at Beech Hill Farm

Beech Hill Farm offers four full-time summer crew positions. The position runs from June-September, includes housing and a one-week, unpaid vacation. Full-time summer crew members participate in all aspects of the farm, including seeding, transplanting, cultivating, harvesting, deliveries, and sales.

In addition, BHF would be excited to host projects relating to methods of reduced tillage, seed saving, cover cropping, pest management, weed management, increasing and retaining fertility in the soils, improved water conservation techniques, and on-farm business plan development. There is also an opportunity to work in our commercial kitchen.

Contact people: David Levinson dlevinson@coa.edu, Anna Davis adavis@coa.edu, Kourtney Collum kcollum@coa.edu, and Suzanne Morse smorse@coa.edu

The Fund for Maine Islands

The Fund for Maine Islands is a partnership between the College and the Island Institute in Rockland that provides support for collaborative work on a range of projects from COA classes to a podcast. The monster course Navigating Change is also supported by the collaborative work of the partnership and extends almost a decade of projects under the title Mapping Ocean Stories. This fund supports student internships as part of our oral history transcription and local fisheries mapping projects. Student interns have collected, indexed and transcribed local oral histories, developed soundwalk exhibits in local communities, and helped develop the MDI Fisheries Atlas. We are also currently undertaking a Frenchman Bay Oral History project as well as mapping and data visualization work and a collaborative project with the University of Maine on climate change and resilience.

Also, several COA graduates have gone on to become Island Fellows in Maine where folks spend two years working with Island communities on projects that are locally relevant to community priorities. (<http://www.islandinstitute.org/program/community-development/island-fellows>).

Contact people for the program are: Todd Little-Siebold - tlittle-siebold@coa.edu, Laurie Baker - lbaker@coa.edu for mapping projects, and Galen Koch - gkoch@coa.edu for oral history/storytelling and exhibits.

The Mapping Ocean Stories Project

In this collaborative project, faculty and students from College of the Atlantic, the Island Institute and Maine Sea Grant, in consultation with community-based groups such as local historical societies, identify geographies and issues that benefit from focused attention and documentation. The team utilizes oral history, media production and mapping techniques to record the complex ways that island and coastal communities have interacted and used the Gulf of Maine, and how they have responded to changing fisheries, local economies and broader forces. Documenting historical and contemporary uses as well as change and adaptation to change within living memory provides place-based insights into future strategies to respond to changes, and build community resilience.

While the Mapping Ocean Stories class is offered at COA approximately every 2-3 years, the project itself is ongoing. Interns have contributed to a growing body of transcribed oral history collections (including a 65+ story collection documenting the Maine Fishermen's Forum); exhibits in partnership with historical societies; project-based work with local businesses (such as Maine Coast Sea Vegetables); radio productions that have aired on Maine Sea Grant's Coastal

Conversations radio program; and helping build the foundations of an MDI historical fisheries atlas with help from the GIS lab. Nearly all students begin their work with the MOS project by learning the art of professional transcription as a way to deeply engage with people's stories that can be used to build a wide diversity of products and stories. Internships are ongoing throughout the year and tailored to the student's academic interests and available time, project needs and current community collaborations. Internships are paid. For more information about the MOS project, contact: Todd Little-Siebold (tlittle-siebold@coa.edu), Natalie Springuel, Maine Sea Grant at COA (nspringuel@coa.edu), or Galen Koch, The First Coast, (GKoch@coa.edu)
For these projects students who have recently been involved include Katie Culp (kculp24@coa.edu), Camden Hunt (chunt22@coa.edu), and Tiegan Paulson (tpaulson25@coa.edu)

Maine Sea Grant

The University of Maine Sea Grant and COA have partnered to house a marine extension office at COA since 2002. Sea Grant is a partnership between the University of Maine and NOAA (National Oceanic and Atmospheric Administration) with extension offices (like the one at COA) throughout the Maine coast. The mission of Maine Sea Grant is to support research, outreach and education that supports the sustainable use of ocean and coastal resources. Opportunities for students include connections to internships, resources and contacts in the coastal and marine arena. Maine Sea Grant also partners with COA to offer the [Undergraduate Scholarship in Marine Sciences](#). There are also many opportunities to engage with Maine Sea Grant's extension office at COA through the Mapping Ocean Stories project. Finally, each year, 1-2 workstudy students can be engaged in diverse aspects of the Sea Grant marine extension office at COA. The workstudy role supports various project needs related to the Downeast Fisheries Trail, the Young Fishermen's Development Act, the US-Canada Climate Fisheries and Futures Collaborative and other projects that Maine Sea Grant coordinates, mostly related to Maine's coastal communities and fishing, aquaculture and tourism sectors. Work might include note-taking at meetings, assembling documents, maintaining social media and websites, writing grants, developing materials, transcribing interviews, producing stories, staffing events, data entry, GIS mapping work and related projects as they emerge. We make every effort to pair student interests with project needs.

For more information about opportunities with Maine Sea Grant, please contact Natalie Springuel, Maine Sea Grant at COA (nspringuel@coa.edu)
Students who have been involved: Marina Schnell (mschnell25@coa.edu), Ellie Gabrielson (egabrielson25@coa.edu), Katie Culp (kculp24@coa.edu)

From David Gibson:

There are multiple opportunities to work on large and small projects around the design, implementation, and analysis of sustainable energy projects on campus. In addition, off-campus internships may be available with:

Evergreen Home Performance: <https://www.evergreenyourhome.com/>

Penobscot Home Performance: <https://www.penobscothomeperformance.com/>

The Breathable Home: <https://www.thebreathablehome.com/>

ReVision Energy: <https://www.revisionenergy.com/>

A Climate to Thrive: <https://www.aclimatetothrive.org/>

Interested students should contact David Gibson for details dgibson@coa.edu

From Dave Feldman:

Students interested in computational or mathematical projects of any sort should contact Dave Feldman. Dave has started a project examining potential gender, racial, and ethnic bias in reviews on ratemyprofessor.com. This is a large dataset, the analysis of which could lead to multiple projects. For more information, contact Dave at dfeldman@coa.edu.

From Laurie Baker:

I have two ongoing research projects that students may be interested in getting involved with. One is delving into Freeland Bunker's journals and using data science tools to understand aspects of maritime life in the 19th century including temperature and weather patterns and social networks. More information about the project is available here: <https://coa-navigating-change.netlify.app/projects/freeland-project/>. I am also working on an ongoing project with Mapping Ocean Stories working to understand historic fisheries distributions and geocoding spatial data from oral histories. More information about the ongoing project may be found here: <https://coa-navigating-change.netlify.app/projects/mos-map-project/>.

I am also interested in the role of computing in pattern design and would be interested in working with a student interested in combining coding and knitting: https://laurielbaker.github.io/coded-mittens/selbu_mitten_generator.html and a knitting color chooser: <https://laurie-the-student-baker.shinyapps.io/Coded-Mittens/>.

Students interested in these projects should have a background or familiarity with R or Python and have taken either Data Science 1 or Introduction to Programming and Computing.

Contact: Laurie Baker lbaker@coa.edu

Students who have been involved: Will Draxler (wdraxler26@coa.edu), Delphine Demaisy (ddemaisy26@coa.edu), Shea Turner-Matthews (sturnermatthews26@coa.edu)

Research Opportunities with Allied Whale: Internships and Volunteering

For the 2023 summer field season, we again plan to offer four-five internship positions rotating between various research activities within Allied Whale and the Bar Harbor Whale Watch. Work aboard the whale watch will be as a research assistant and general deckhand and will be compensated. Research Assistants will take data on all marine mammal encounters using digital SLR cameras and GPS. Within Allied Whale, duties will be split between stranding response (this is when we often get large whales to be necropsied), boat work using the R/V *Borealis* and M/V *Osprey* (photo-identification and focal follow observation work), and research at Mount Desert Rock (MDR) Marine Field Station typically involving individual projects, tower watches, seal surveys and operations support for ongoing field classes. While at Mount Desert Rock, all food and board are paid for, and we train all crew members in basic station operations, maintenance, and seamanship/small boat handling. Allied Whale will also make onshore accommodations available for which rent will be the interns' responsibility. Compensated internships are highly competitive and are open to candidates external to the college. Because of federal maritime regulations, compensated internship positions can only be held by U.S. citizens.

In addition to the internships, a number of 6-8 week (minimum) volunteer opportunities will be available, particularly working on AW boats and out at MDR. Unpaid internships (configured for the COA degree requirement) are a definite possibility; often students taking this kind of internship elect to spend their entire time out at Mount Desert Rock as described above running a personal research project decided upon in advance. Such projects have frequently matured into opportunities for

professional presentation and peer review. Projects are typically focused in the sciences, but also range to the arts, as well as writing. Unpaid internships do not carry the same citizenship restrictions. While at the station, room and board are paid by the Katona Chair. In the past, U.S. citizens have successfully applied for Maine Space Grant funding to support their stay at MDR.

It is also possible to create a field experience on both islands (MDR and GDI) within the same season. In this model, a student would start on Great Duck Island in June immediately after Graduation, working at the Eno Field Station. Around the second week of July, the student would then transfer to Mount Desert Rock's Blair Field Station until August. Drs. John Anderson and Sean Todd would work with the student to create a project that could longitudinally examine the same ecological question on both islands (a number of plant species, seabirds and marine mammals are common to both sites). In this kind of opportunity, room and board at the stations again is included and supported by the Drury and Katona discretionary funds. Students should expect this experience to be island-intense! The application process starts with an orientation meeting that will be either late fall or early winter.

Contact: Sean Todd stodd@coa.edu

Students who have been involved: Marina Schnell (mschnell25@coa.edu), Rosie Chater (rchater25@coa.edu), and Kaiti Hall (khall25@coa.edu)

Research Assistant on Great Duck Island

There is an opportunity for 2-3 students to work on Great Duck Island this summer. They would get food and housing and the chance to engage in both original and collaborative research in field ecology. Whereas the bulk of our work is on the island's seabirds, we will also be following up on studies of gulls on Mt. Desert Rock, vegetation & herbivore studies on Great Duck, and the impact of predation on a range of other islands. I will be putting out a call for field assistants in November & would like to have the team in place by January. There will also be opportunities for 3-4 students in May and early June to work on Park islands censusing bird colonies and tagging gulls.

Contact person: John Anderson janderson@coa.edu

Students who have been involved: Autumn Pauly (apauly26@coa.edu), Wriley Hodge (whodge24@coa.edu), Lucian Vazquez (lvazquez25@coa.edu), Sam Ottinger (sottinger25@coa.edu), and Fiona Young (fyong25@coa.edu)

From Reuben Hudson:

Students interested in any of the projects listed below should contact Reuben rhudson@coa.edu

[Probing the potential transition of geochemistry to biochemistry \(origin of life\) at deep sea hydrothermal vents:](#)

This project focuses on similarities between the geochemistry at deep sea hydrothermal vents and the biochemistry of present-day cells. Students working on this project have built a lab-scale hydrothermal vent to mimic the ancient Hadean ocean conditions and have successfully demonstrated abiotic (non-life) CO₂ fixation into biological precursor molecules. In the lab at COA, we have converted CO₂ into formic acid under geologically plausible conditions. Two COA students (Ruvan de Graaf and Mari Rodin) were co-authors on the [initial study](#). Another COA student Jemma Dickson conducted a follow-up study where she successfully grew microbes in lab-generated hydrothermal vents in the lab of our collaborator ([Laurie Barge](#)) at the NASA jet propulsion laboratory. Jemma's manuscript has [also been published](#), as has [another follow-up from Ruvan](#). As another follow-up study, we want to electrochemically probe the mechanism by which CO₂ is fixed into biological precursor molecules. For this project we will build another air-free reactor at COA,

and I may have funding to send a COA student to NASA JPL over the summer (as either a credited or uncredited internship; pay for 10 weeks = ~\$7,000, housing not included). This trip to NASA JPL could have the potential of extending in either direction (spring or fall). The NASA internship would ideally involve a student who worked on this project over the winter, and then transitioned the project to NASA. The potential= funding for the NASA internship is only available to US residents (funders' requirement, not mine), but work on the project at COA is available to students of all nationalities. Extended work on this project could also lead to internships with other collaborators on the project ([Dieter Braun](#) in Germany, [Yoichi Yamada](#) in Japan, and [Nick Lane](#) in London); while no funding is currently available to send students to any of these other collaborating labs, it could be a future possibility.

Studying the ecological and human history of Maine by analyzing lake sediment cores:

Lake sediments trap and retain important biological, geological and chemical signals which we can use to piece together the prior history of an area. Trapped pollen grains give us an idea of plant species in the area, charcoal fragments tell us about fire frequency and intensity in the area, concentrations of various bioaccumulating heavy metals can tell us about the population of seabirds over time. The presence of human biomarker chemicals (fecal sterols and stanols) can also provide evidence for changes in human population over time. Importantly, through the fecal sterol/stanol research, we are working with local Indigenous stakeholders to look specifically at lake systems where this data could bolster claims for the repatriation of human remains and cultural materials through the Native American Graves Protection and Repatriation Act (NAGPRA). Students working on this project could a) analyze existing data (charcoal, heavy metals, etc), or b) work on unprocessed cores to generate their own charcoal and heavy metals records), or c) work on unprocessed cores to generate their own human biochemical fecal sterol data. Students can analyze charcoal at COA, prep samples at COA for heavy metal analysis (actual analysis done at nearby collaborating labs). Student(s) working on the fecal sterol biomarker project can prep samples at COA (extraction, concentration, loading into vials) and have the opportunity to travel to our collaborating lab in Sweden for sample analysis depending on the timing and availability of the student(s). Our sterol/stanol analysis collaborator is [Lutz Ahrens](#) at the Swedish University of Agricultural Sciences; we have funding for travel, food and lodging, and a modest stipend. Maine-based collaborators on this project include [Kit Hamley](#). Continued work on this project could also involve fieldwork to collect lake sediment cores.

Green Chemistry and Catalysis:

This project involves the development of a novel reaction for generating carbon-nitrogen bonds. The reaction can be catalyzed by a hybrid Ni/polymer material synthesized specifically in our lab. The catalyst can be recycled and reused many times (meaning it doesn't enter the waste stream). This project is carried out in collaboration with [Jeff Katz](#) at nearby Colby College and [Yoichi Yamada](#) at RIKEN in Japan. We have funding for a COA to work on this project at COA over the summer (\$4,500 stipend). Continued work on the project may lead to travel to Yamada's lab in Japan (although we do not currently have funding for this at the moment). The funding for this project is available to students of all nationalities.

The GIS Laboratory

Contact person: Gordon Longworth glongworth@coa.edu

The GIS Laboratory is a resource available to students all year. Students who have taken GIS or are working on a project with a GIS component are welcome to use the GIS Lab at any time. Gordon is available to provide support to students at any time of year, and the summer in particular. Students

may be involved in an internship, paid, or volunteer work, or simply desire access to GIS resources for self-study and advancement. Occasionally, there may be paid project work available, but this would be only several hours at a time, and would not be considered a 'job'. We have recently been collaborating with the Hancock County Planning Commission.

Student that has been involved: Hunter Kitt (hkitt24@coa.edu)

GIS Work-Study

During academic terms only. The GIS work-study position requires candidates to have taken the GIS Foundations course. GIS work-study typically involves 8-10 hours per week depending on the rate of pay. GIS work-study students schedule half of those hours and then make themselves available by appointment for the remainder of their hours.

Primary work-study duties include assisting students in the GIS class and those working on Independent Studies and Senior projects. Secondary duties include assisting faculty with special projects, as time permits. GIS work-study students might also be asked to prepare materials for and participate in special training sessions and/or create problem sets for the GIS class. Some time is allocated for research on tools and workflows, in order to provide the help that is needed. GIS work-study may be asked to perform maintenance tasks such as sweeping, wiping surfaces and monitors, etc., and keeping the lab clean and project materials organized. GIS work-study students are required to keep records in a shared Google Doc. This includes who they help, how they were helped, when and for how long. They may also be asked to be responsive to other immediate needs that inevitably come up.

Student that has been involved: Ilham Santoso (isantoso24@coa.edu)

Internships with local organizations:

Garden Club of America

The GCA funds [fellowships and research awards](#) for students in many plant-related fields, not just horticulture. Specific areas for funding include botany, medicinal plant research, plant conservation, pollinator conservation, native bird research, wetland studies, desert studies, ecological restoration, and landscape architecture. Check the eligibility on individual scholarships to see whether they are open to undergraduates. Most awards are in the \$1000-\$5000 range; some are for summer study and some are for the academic year. Once you have identified a grant that you are eligible for, Susan Letcher sletcher@coa.edu is happy to work with you in preparing an application.

Bar Harbor Garden Club

The local branch of GCA has several scholarship awards for students in the \$500-\$1000 range, one of which is targeted for graduates of Maine high schools. They are designated for students who have financial need and are studying "horticulture, floriculture, landscape design, botany, forestry, agronomy, plant pathology, environmental control, city planning or other garden related fields." Susan Letcher sletcher@coa.edu is happy to work with you in preparing an application.

Wild Gardens of Acadia Internship

The Wild Gardens of Acadia, located at the Sieur de Monts entrance of Acadia, typically hires a summer intern funded by Friends of Acadia. The Gardens contain plants that are native to this region, and the plants are displayed in habitats resembling those places in the park where visitors encounter them—habitats such as the mountain, pond, bog, deciduous, and coniferous woods. Some botanical experience is helpful but not essential. The intern must have strong interpersonal skills

since one aspect of the job is explaining the various plants and their habitats to visitors. This is a paid position (\$15/hr in 2021), but housing is not included. The position is usually posted in mid-late January with applications due in mid-February. See the [FOA website](#) for details. At COA you can direct questions to Susan Letcher sletcher@coa.edu.

Coastal Maine Botanical Gardens Internships

The Coastal Maine Botanical Gardens in Boothbay usually hires about 10 paid interns for the summer season, in positions ranging from horticulture to research, outreach, education, and philanthropy. The CMBG has a 300 acre campus dedicated to research, education, and enjoyment. The internship positions are usually posted in late December with applications due in January. See the [CMBG website](#) for details. At COA you can direct questions to Susan Letcher sletcher@coa.edu.

Acadia National Park

Acadia National Park offers a range of possible internships that reflect the many different facets of the park's operations. Those internships could be in Resource Management, Interpretation and Education, Visitor Services, or even Maintenance and Facilities. Schoodic Institute also hires student interns in areas related to science communication, forest ecology, environmental education, and intertidal ecology. In addition, Acadia often hires students through affiliated organizations such as Friends of Acadia for specific tasks such as their Technology Team, Cadillac Mountain Stewards, or other seasonal positions. These positions are extremely competitive; a strong interest in national parks and skills relevant to the position are required. To a large extent, placement will depend on park needs, the unique set of skills of the student, and faculty confidence in the student's ability and work habits. Over the past couple of years, COA has worked with the leaders of Acadia National Park to set up the Acadia Scholars Program for COA students interested in the Park Service and the conservation field. The centerpiece of the Acadia Scholars program is an 11-week paid internship with Acadia or Schoodic Institute and related coursework or independent studies connected to that internship. Depending on funding, Acadia Scholars will receive up to a \$2000/month stipend during the internship. COA housing (for a fee) is sometimes available for Acadia Scholar positions.

Contact person: Ken Cline kcline@coa.edu

Students who have been involved: Maggie Denison (mdenison23@coa.edu), Chloe Meyer (cmeyer25@coa.edu), and Georgia Lattig (glattig24@coa.edu)

Schoodic Institute at Acadia National Park

As a Research Learning Center, [Schoodic Institute](#) advances ecosystem science and learning for all ages by engaging people and communities in the science and solutions for our changing world. Through unique partnerships with Acadia National Park and our local communities, our staff integrates research, monitoring, communication, access, and education into their work on ecology of bird migration, climate change and forest tree survival, intertidal biodiversity, and community shellfish restoration. Interns are expected to take an integrative approach to their work, including engaging participants in citizen science and connecting science to resource management.

Schoodic Institute hires seasonal (summer) field technicians and college interns, offers research fellowship funding, including to undergraduates, and partners with Acadia National Park on education internship opportunities. As a commitment to diversity, equity, and inclusion in biophysical sciences, Schoodic Institute does not support unfunded internships. Funding for internships, including housing at Schoodic Institute if needed, comes from the student's college,

although Schoodic is sometimes awarded grants to fund a college intern for a specific project (for example, our Shellfish Resilience Internship).

More information is at www.schoodicinstitute.org. Position opportunities will be posted on facebook.com/schoodicinstitute and through the Institute's [website](#) and email newsletter, typically in January or February. For more information contact Chris Petersen cpetersen@coa.edu or Ken Cline kcline@coa.edu

Students who have been involved: Sophie Chivers (schivers24@coa.edu), Taylor Palmer (tpalmer23@coa.edu)

Hurricane Island

The [Hurricane Island Center for Science and Leadership](#) is a transformative learning community on Hurricane Island in Penobscot Bay, Maine. Our mission is to integrate science education, applied research, and leadership development through year-round educational programs and a seasonal, environmentally sustainable island community. Through experiential education programs and research opportunities in STEM disciplines we aim to excite people about doing science and about being leaders in the next wave of scientific discovery and environmental conservation.

Each year we offer 6-8 On-Island internship opportunities from June-August. Opportunities include Research, Education, Sustainability, and Facilities internships. We will start advertising in December and interviewing in January/February. Check out the [Employment page](#) on our website to learn more about us and to stay informed of internship announcements. Feel free to send questions to info@hurricaneisland.net and thanks! For more information contact John Anderson janderson@coa.edu or Chris Petersen cpetersen@coa.edu

Students who have been involved: Alex Pesek (apesek23@coa.edu)

Frenchman Bay Conservancy and Friends of Taunton Bay

The two organizations located in Hancock and Sullivan seek a full time summer intern, Frenchman Bay Conservancy (0.75 time) and Friends of Taunton Bay (0.25 time), focused on community engagement, environmental education, and communication (social media). For Friends of Taunton Bay the intern would be involved with the various aspects of the organization which align with student interests including: water quality research, public educational programs, and web-based communications. For Frenchman Bay Conservancy the intern opportunity focuses on conservation in the Union River, Frenchman Bay, and Schoodic regions. The work may include event organizing and communications support, trail building and stewardship, visiting and monitoring FBC preserves, and other land conservation roles. Contact people: Ken Cline kcline@coa.edu and Chris Petersen cpetersen@coa.edu for more information.

Somes-Meynell Sanctuary: Environmental Research and Wildlife Sanctuary Internship

The Somes-Meynell Wildlife Sanctuary, a non-profit conservation and education organization located in Somesville, Maine, is seeking an upper level college student or graduate in wildlife/environmental studies who could perform a twelve-week seasonal position assisting sanctuary staff with wildlife research, environmental monitoring, land management, and education projects for the Sanctuary.

The following activities will be performed by the Field Assistant throughout the season:

- MDI Loon Monitoring Project: regular surveys for territorial behavior, nesting efforts, chick survival with thorough documentation of observations; assist with volunteer and partner coordination; assist with educational outreach; assist with management activities (information and closure signing, nest raft mgt.); organizing and preparing information for reports.
- Somes Pond-Long Pond Watershed Alewife Restoration Project: assist with data collection, public education, volunteer coordination, and stream passage maintenance.
- Courtesy Boat Inspections: help educate boaters about the threats posed by aquatic invasive species and the role that boats moving from lake to lake play; inspect boats, trailers, and equipment with boater's permission; provide general lake, loon, & fishing information at Pond's End boat launch, Long Pond.
- Other Sanctuary Operations: water quality sampling; public education/program presentations; trail monitoring and maintenance; invasive plant control, general building/property maintenance; project documentation; and other operations & projects.

The Field Assistant must be able to work diligently with a minimum of supervision, demonstrate a high level of responsibility and social poise representing the Sanctuary, have reliable transportation to get to various lakes on MDI, and be available during daylight hours (occasional evening work may occur). The candidate should be a strong swimmer and be comfortable paddling a kayak on local lakes to conduct loon observations. Basic equipment needs will be provided. An hourly wage will be paid, # of hours/week flexible (minimum of 25, max of 40). The Position is 12 weeks +/- depending on candidate availability; beginning mid/late May (at least part-time).

The Somes-Meynell Wildlife Sanctuary (SMWS) is a non-profit organization established in 1985 that conducts environmental research, conservation, and education programs related to our local environment. The Sanctuary owns and protects 250 acres of forests and wetlands in the Somes Pond-Long Pond watershed. We provide a variety of year-round science, natural history, and conservation programs for local residents, visitors, and schools, as well as opportunities for engagement in research and conservation projects. The Sanctuary has a long history of working with a wide range of partner organizations and volunteers to help ensure better health and resilience of our land, water, wildlife, and people. The Partner Organization of the Year Award was bestowed upon SMWS by Acadia National Park in 2020.

To apply, send a cover letter that outlines your experience and interest, a resume, and three reference contacts to somesmeynell@gmail.com.

Contact people: Billy Helprin somesmeynell@gmail.com and Chris Petersen cpetersen@coa.edu

Downeast Salmon Federation.

Downeast Salmon Federation's mission is to conserve wild Atlantic salmon, other sea-run fish and their habitats, restore a viable recreational salmon fishery, and protect other important river, scenic, recreational, and ecological resources in eastern Maine. Since its inception in 1982, DSF has coordinated numerous in-stream and buffer restoration projects; created and maintained two world-class conservation hatcheries and salmon stocking programs founded on the principles of noted Scottish biologist Peter Gray. DSF guides advocacy, education, and outreach on sustainable fisheries, communities, and the economy at local, state, and federal levels. The DSF service area is primarily Washington and Hancock County—the most fisheries-dependent economic development region along the Atlantic coast of the United States.

Internship Description:

DSF is always excited to host individuals passionate about fisheries science and restoration to help with our work. Interns will work alongside other DSF staffers and volunteers and travel daily to sites throughout Downeast Maine. Depending on the season interns will assist with fisheries field research, land protection and stewardship, in our conservation hatcheries, or with outreach and communications programs. Some rustic housing opportunities are available May-October each year for longer term internships. Contact Chris Petersen cpetersen@coa.edu

More general college funds:

All COA students have \$1800 available for opportunities (including internships) they might find that require extensive travel. Second-years are eligible to draw up to \$1000; students become eligible for the full amount beginning their third year. More information can be found on the student expeditionary fund page on the COA website: www.coa.edu/sef/

The Maine Space Grant Consortium

Through a grant from the Maine Space Grant Consortium (MSGC), COA has funds to support students interested in doing research over the academic year or over the summer if they are continuing students. Typically, we put out a call in the fall, a call in the winter, and a third call in the spring if funds remain available. We tend to review applications on a rolling basis, but we offer suggested deadlines after which we will review batches of applications. The first deadline will be Tuesday of week 8 Fall term. There will be another deadline in winter term.

By NASA policy, only US citizens are eligible for these funds; permanent US residents are not eligible. Students must be in good academic standing and have a GPA (or equivalent narratives) of 3.0 or higher. Only undergraduate students are eligible. Last year 15+ students received from \$500 to \$2500 grants from this fund to help support their research. Although we understand that the U.S. citizenship limitation is frustrating for non-U.S. citizens, know that there are faculty and administrators that are working to make these kinds of opportunities available to all students as we move forward.

The details of what you will need to apply is below, if after reading it you have any questions you please reach out to Reuben Hudson (rhudson@coa.edu). Most ES science faculty have helped students with these applications in the past, so talking to the science faculty you are interested in working with is another way to understand this grant process. There are also several students on campus that have received these awards in the past that could serve as resources as you move forward.

These research experiences usually involve working closely with COA faculty in science, mathematics, and related areas. MSGC, a NASA (National Aeronautics and Space Administration) agency, awards funds to Maine colleges to use for student research experiences in science, technology, engineering, and mathematics (STEM).

The scope of MSGC awards is quite broad, and can include research or creative work in the arts, humanities, and social sciences that contains a STEM element, including STEM education. While the project needs to have a STEM component, it need not be focused on aerospace.

There are two categories of awards:

LARGE AWARDS. Between \$2000 and \$3000 each. These will be to provide a stipend or other support to a student engaging in a significant research experience under the guidance of a COA faculty member. Typically, this will involve full-time work over the course of several months, usually in the summer. Large awards require a fairly detailed and careful proposal.

SMALL AWARDS. We also anticipate granting multiple smaller awards of approximately \$500-\$1000 each. The funds can directly support research expenses or can be used as a stipend for the student. These projects are smaller in scale and may be more exploratory than the larger projects. A project funded by a smaller award is comparable in scope to an independent study. In contrast, a larger project is likely equivalent to an internship, residency, or final project.

If you wish to apply for these funds please submit an application to rhudson@coa.edu. We hope to allocate as much of the funding as possible after the winter deadline, and if funds remain, we try to allocate some funding after the spring deadline. When you submit your application please put Maine Space Grant application in the subject line of the email. Proposals will be reviewed by a committee of ES faculty members. Awards will primarily be determined based on the quality of the project and the strength of the student's academic record. Secondly, we will also try to distribute the funds to students working in a number of different areas to encourage student-faculty research across the curriculum.

Your application must include the following:

1. A current CV.
2. A proposal, described below
3. A brief recommendation from the faculty supervisor.

Please submit all materials electronically as a single pdf to rhudson@coa.edu

The proposal narrative should include the following elements:

- A. A title for your proposal
- B. Background, including previous work with references, if appropriate.
- C. A brief discussion of past work (either coursework or research) that you have done that prepares you to carry out your project.
- D. A statement of the goals of the research project and a reasonably detailed methodological discussion of the planned research, including a rough timeline.
- E. Plan for disseminating the research, preferably via a presentation at a regional (or national) research meeting and/or a publication or technical report.
- F. A discussion of the potential impact of work, both in terms of advancing knowledge in a particular area and in terms of the professional impact the research experience may have on the participants.
- G. A listing of other support you or your collaborators have received for this project. Include support which is anticipated or pending.

Note: You do not need to include a budget with your proposal, but please do indicate how much you are requesting. In almost all cases, students receive the award from MSGC as a stipend that they use for living expenses or to help with tuition. However, if there are any significant additional expenses associated with your project toward which you'd like to use your MSGC funds, please mention this in your proposal.

Proposals for large awards should be three to six pages double-spaced. Proposals for short awards should be approximately two pages. You should develop your proposal in dialog with the faculty member who will oversee your research.

If you have any questions about the MSGC awards, please don't hesitate to contact Reuben Hudson. A large number of students have recently received these awards, including: Kaiti Hall (khall25@coa.edu), Marina Schnell (mschnell25@coa.edu), Abbey Thornton (athornton26@coa.edu), and Bridger Buck (bbuck26@coa.edu).

NOAA Student Opportunities Database

https://www.noaa.gov/education/opportunities/students?search_api_fulltext=

Student contact: Sophie Chivers (schivers24@coa.edu)

These are a set of additional links for undergraduates that we have been given from the Institute for Broadening Participation (IBP). The note and the links are below. IBP's mission is to increase diversity in the Science, Technology, Engineering and Mathematics (STEM) workforce. We design and implement strategies to increase access to STEM education, funding, and careers, with special emphasis on reaching underserved communities and diverse underrepresented groups. www.PathwaysToScience.org makes it easy for faculty and administrators to access resources that can assist them in their efforts to reduce barriers to participation, create environments rich in the positive factors that support student success on the STEM pathway, and conduct outreach to underserved communities and underrepresented groups by implementing recruitment and retention strategies that broaden participation and increase diversity.

Paid Summer 2024 Undergraduate Research Placements:

Over 800 programs – REU, NASA and other paid summer research opportunities for undergrads

<https://www.pathwaystoscience.org/undergrads.aspx>

Fellowships and graduate programs in a wide variety of STEM disciplines:

<https://www.pathwaystoscience.org/grad.aspx>

For NASA-supported internships, fellowships and scholarships:

<https://intern.nasa.gov/>

For opportunities specifically in the Ocean Sciences:

<https://www.pathwaystoscience.org/oceanscience.aspx>

For opportunities specifically in Engineering:

<https://www.pathwaystoscience.org/engineering.aspx>

A quick video tutorial on using our advanced search functions to find funding opportunities:

<https://www.youtube.com/watch?v=FxKsAGk8dAw&t=16s>

For tips on applying and associated resources:

<https://www.pathwaystoscience.org/toolbox.aspx>

Follow us on Facebook!

<https://www.facebook.com/pages/Pathways-to-Science/120825625433>

Compiled by Chris Petersen and Marina Schnell with help from COA ES faculty and others.
Updated October 2023