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Premed opportunities in research, outreach for Maine and beyond

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Premed opportunities in research, outreach for Maine and beyond

December 16, 2019 | [Current Research News](#), [IMPACT Newsletter](#), [UMaine Medicine](#)

Undergraduates in [premedical studies](#) have a wide variety of opportunities to connect with others and perform cutting-edge research at the University of Maine. Many majors offer premed concentrations and multiple clubs connect students with the medical industry in Maine and beyond.

Katie Tims, from Cornish, chose to attend UMaine because of the large breadth of departments and opportunities available to explore her many interests. She is taking full advantage of these offerings as a third-year biology major, minoring in sustainable food systems with a concentration in premedical studies.

She applied to become an undergraduate researcher with the [Mitchell Center for Sustainability Solutions](#) because of her interest in the connection between sustainable agriculture and public health. Tims is passionate about the project, which aims to “collect information about challenges that organizations are facing in reducing the amount of food waste generated in Maine, excess food management, and diverting or reducing food waste production.”

Tims plans to enter into a Master of Public Health (MPH) program after graduation. Born and raised in Maine herself, she hopes to continue to impact her own community by staying and working in the state.

Basel White, from Jefferson, is researching breast cancer with Andre Kahlil, associate professor and director of the compuMAINE Laboratory. He is a second-year biomedical engineering major who has personally seen the detrimental effects of this disease and wants to be involved in meaningful research.

White began his research freshman year, with funding support from a [Maine Space Grant Consortium \(MSGC\) Summer Undergraduate Fellowship](#), to examine the correlation between different degrees of breast density and likelihood of developing breast cancer.

His current goal is to improve the length of time mammography technology takes to separate pectoral muscle from breast tissue in a mammogram. He uses machine-learning to create a neural network to automate the process – called “masking” – and aims to finish the model so it can be applied in the lab, with further funding from a second MSGS Academic Year Fellowship award.

White looks forward to attending an eight-day honors tutorial at Mount Desert Island Biological

Laboratory (MDIBL), where they will be conducting bioinformatics research, as well live biological research with zebrafish. A goal is to gain more knowledge in gene modeling through this endeavor, so he can apply it to the research work with Kahlil on breast cancer.

"The motto of the CompuMAINE lab is to construct not reactive solutions, but proactive solutions to common medical problems relating to breast cancer research," White says, looking to a future in medical school. "The University of Maine pre-med track and biomedical engineering major is consistently presenting opportunities to their students, whether it be through courses, seminar/department talks, internship opportunities, research studies, etc, which I am especially grateful for."

Bailey West is a third-year biochemistry student from Stockton Springs who has also had the opportunity to conduct research beginning her freshman year. She works with Julie Gosse, associate professor of biochemistry, on her research in toxicology.

West has found many ways to expand her interests in the medical field – with a fellowship at the MDI Biological Laboratory during the summer of 2017, working with the neurocritical care research team at Maine Medical Center to use research in order to contribute to improving patient care and make them as comfortable as possible, and studying abroad at University College Cork (UCC) in Ireland next semester.

Students don't need to be on the premed track in order to gain experience in the industry. [Operation Hearts](#) is a club at the University of Maine consisting of 18-22 students. This group is a medically-based service organization that participates in three community service projects every semester. Trips and service projects range from Partners for World Health, TOGUS VA Hospital, as well as the Special Olympics. Operation Hearts goes on a week-long service trip in May out of state – going beyond the campus and beyond the borders of the state of Maine.

[UMaine Partners for World Health](#) is another organization in which students recycle unused materials from St. Joseph Hospital in Bangor and Partners for World Health (PWH) in Portland. This group goes beyond the borders of the United States, taking several international trips in order to deliver the donated medical supplies to nations in need.

According to Samantha Wheeler, career counselor for STEM/healthcare professions, pre-health students interested in pursuing health professions programs do not need to have a science degree to be eligible, they need the pre-requisite courses. Students can also pursue non-science degrees; anthropology majors, business majors, history majors, child development and family relations majors, etc. with a pre-med minor. This helps UMaine students stand out from other applicants.

Wheeler has valuable advice for undergrads. "Be in a major that you enjoy and can see yourself pursue a career with that degree that may not equal a health professions program," she says. "Students who attend UMaine can and do get accepted to a health professions program; we have all of the tools you need to get accepted, it is just a matter of how you utilize them."

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More information on [UMaine Medicine can be found online](#).

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