



THE PROPOSAL

NSF Grant for Research to Advance Theoretical Physics

Assistant Professor of Physics Thomas Osburn has been awarded a \$188,470 three-year grant from the National Science Foundation for his “RUI: Investigating Gravitational Waves and Extreme Mass-Ratio Inspirals” proposal. An extreme mass ratio inspiral (EMRI) is the orbit of a lighter object around a much heavier object that gradually spirals inward due to the emission of gravitational waves. Dr. Osburn is investigating and applying his novel technique for modeling EMRIs and their associated gravitational wave signatures to better understand them. This modeling technique promises to improve accuracy and realism. If the available accuracy and applicability range of quantitative EMRI models are enhanced through further theoretical research, the Laser Interferometer Space Antenna (LISA) observations of EMRIs will be able to reveal the foundations of strong-field gravity with unprecedented precision.

“According to Einstein’s theory of general relativity, gravity is the consequence of spacetime curvature, and his newer theory seemingly avoids observational and conceptual inconsistencies...seemingly. How can we learn whether a theory is as ‘universal’ or ‘general’ as it claims to be? We would learn scientifically by comparing the predictions of that theory to experiment and observation,” explains Dr. Osburn.

“Revealing the foundations of strong-field gravity according to my grant-funded research involves carefully predicting signals from the gravitational waves emitted when two compact objects inspiral and merge together, and then comparing those predictions to observations from



Assistant Professor of Physics Thomas Osburn

It’s the “mystery, enormity, and ancientness” of astrophysics that attracts him to theoretical research.

detectors such as the upcoming LISA mission by the European Space Agency and NASA. If the predicted signals match the detected signals, then the foundations of gravity would be revealed to be those that were predicted by Einstein. If the predicted signals do not match the detected signals, then perhaps Einstein would be dethroned, which could lead to a more fundamental theory.”

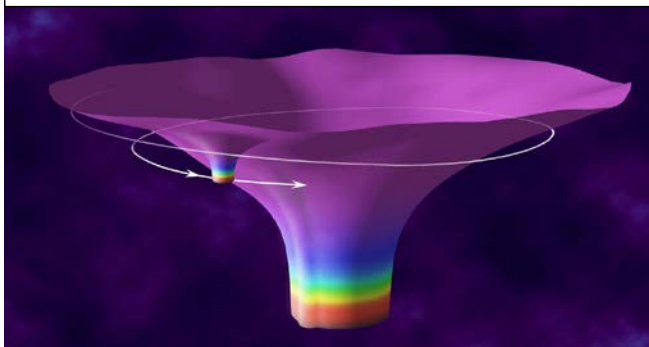
Dr. Osburn’s funded research also involves a physics education research project that will be helpful in achieving his career goals related to excellence in teaching. He tells his students that he studies physics “because I want to predict the future!” And during his courses his students will predict the future “by calculating how things move as they interact with their environment.” The “mystery, enormity, and ancientness” of astrophysics especially interests him.

Dr. Osburn is thankful for the Geneseo Presidential Fellowship and Proposal Writing Support Awards and says that the secret to a successful proposal is to “work hard at research leading up to the proposal,” which for him meant “supervising McNair and other research students in the summer, identifying research projects with potential for publication, grinding away at those projects with students until you figure it out, and then publishing the results in peer reviewed journals.” He would like to see Geneseo incentivize research with more support for both faculty and students in the future. The Department of Physics & Astronomy supports about 40 undergraduate researchers per summer, largely through external grants.

The NSF grant will support:

- Summer salary for the PI for three years
- Three undergraduate researchers for three summers
- The purchase of a research computer
- Travel for the PI to international and national conferences; travel for one student per year to a national conference

Below: An artist’s impression of the spacetime of an extreme-mass-ratio inspiral. A smaller black hole orbits around a supermassive blackhole. Drawing credit: NASA





Data Analytics

SUNY Geneseo has been awarded the maximum amount, \$45,000, for a Microcredential Infrastructure Support – SUNY High Needs Program Grant, submitted by then Interim Provost and Vice President for Academic Affairs Joe Cope, Associate Provost for Assessment and Curriculum Melanie Blood and Project Director for Strategic Initiatives Joanna Santos-Smith. The grants were offered to develop SUNY microcredential programs connected to priority industries for the state. Geneseo’s grant will fund development of the College’s first professional development non-credit microcredential (PDM) in Data Analytics.

The new type of non-credit credential will be the pilot for a series of stackable programs and provide students a chance to transition from non-credit to credit. It is expected that business professionals will be motivated to upskill with a microcredential in the emerging field of Data Analytics. The grant will support curricular development, resources to market the microcredential and design a logo that integrates the existing Credly microcredential badge (see badge logo below), and funding for infrastructure to purchase and implement Course Merchant, a module of D2L’s Brightspace, to track registration by non-matriculated students so they may stack existing and future microcredentials. The microcredential will be launched in spring 2024.



The School of Business at Geneseo recently initiated a BS program in Data Analytics, a field that uses tools to examine company data, determine trends, and act upon the conclusions drawn. The College is also proposing a Data Analytics Certificate as well as a master’s degree in Data Analytics in future semesters. ♦

Lighting up a Tobacco-free Campus Culture



Executive Director of Student Health & Counseling Karen Mach and Addiction Counseling & Prevention Program Coordinator Pamela Kosmowski

Geneseo was awarded a \$19,659 grant from Truth Initiative for a proposal to cultivate the campus culture to adopt a 100% Tobacco/Vape-free Campus Policy. The proposal was submitted by Addiction Counseling & Prevention Program Coordinator Pamela Kosmowski. Ms. Kosmowski and Executive Director of Student Health & Counseling Karen Mach will serve as the Co-Project Leaders for implementation of the 16-month project, which began in February. Their goal is to engage about 1,000 students in student-led tobacco prevention, education, and tobacco-free campus policy advocacy activities. They will conduct campus-wide assessment on current policy and thoughts for rolling out a smoke-free/tobacco-free policy, provide educational seminars on the benefits of transitioning to a smoke-free/tobacco-free campus, and address tobacco treatment options available to staff, students, and faculty. The project will fund an event in February for 500 students to engage in “Breaking Up with Your Vape,” where vapes can be traded in for Valentine’s Day chocolate. Another planned event is a fun run, and participants will receive free t-shirts. The grant will also pay for student internships, swag, posters, signage, and quit kits (including gum, mints, stress balls and cessation literature). ♦



CUR provides resources such as webinars, seminars, workshops and institutes on various topics related to undergraduate research. CUR provides information and resources regarding undergraduate research across diverse fields, and an electronic subscription to the CUR Quarterly is included when you sign up. Our enhanced institutional membership covers the cost of individual memberships for all faculty and staff. Activate your CUR membership here: <https://www.cur.org/what/membership/join/enhanced>, listing your institution as “State University of New York-Geneseo.” ♦



Visiting Fellowship

Aaron L. Herold, Associate Professor of Political Science and International Relations, will be a visiting fellow in the Department of Politics at Princeton University during the 2023-24 academic year. The fellowship is sponsored by the James Madison Program in American Ideals and Institutions. An expert in modern political thought and the American constitutional tradition, Professor Herold holds a Ph.D. from the University of Texas at Austin and is the coordinator of Geneseo's Legal Studies Program and the co-director of its Forum on Constitutionalism and Democracy. He teaches courses on ancient and modern political philosophy, as well as on American constitutional law and judicial politics. Professor Herold's research focuses on the political philosophy of the liberal Enlightenment and the work of Alexis de Tocqueville—especially as these pertain to questions about the public role of religion and the separation of church and state. He is the author of *The Democratic Soul: Spinoza, Tocqueville, and Enlightenment Theology* (University of Pennsylvania Press, 2021), and his work has also appeared in the *American Political Science Review*, *Political Research Quarterly*, *The Review of Politics*, and *Perspectives on Political Science*. At Princeton, he will be working on a second book tentatively entitled *Revolutionary Thinking: Populism, Imperialism, and the Trajectory of Modern Democracy*. Located in Princeton's Department of Politics, the James Madison Program promotes teaching and scholarship in constitutional law and political thought by enhancing Princeton's undergraduate curriculum in constitutional studies, supporting graduate student and faculty scholarship that advances understanding of American ideals and institutions, sponsoring visiting scholars, and promoting scholarly collaborations. ♦



Orientation to Proposal Development

The Offices of Sponsored Research and Grants Management invites you to our virtual workshop YouTube channel with 28 short modules, which may be viewed in any order. The modules are intended to orient faculty and staff to applying for external funding, submitting proposals, and managing awards. A downloadable brochure of the modules and link to the YouTube channel is available on our website's [proposal development page](#). The topics covered include:

- Introduction to Sponsored Program
- Campus-based Funding (6:37)
- Applying for Foundation Funding (8:05)
- Determining the Grantworthiness of a Project (7:37)
- Federal Funding (5:25)
- Finding Grant Opportunities Using SPIN (6:36)
- Preproposal Development (5:06)
- Letters of Inquiry, Intent and Concept Papers (6:53)
- The Project Summary (5:40)
- Description of the College (4:35)
- Data Management (9:57)
- Evaluation Plan (6:26)
- Literature Review and References (6:19)
- Budget and Budget Justification (7:42)
- Developing an NSF Proposal (10:44)
- Broader Impacts (8:47)
- Tips & Resources- PDF
- Logic Model Basics (7:39)
- RECR Resources (5:47)
- Conflict of Interest
- Effort on and Related to Grants (7:27)
- Export Controls and Foreign Influence (10:10)
- Biosafety in the Lab (13:54)
- Involving Human Participants and Institutional Review Board (IRB) (13:54)
- Misconduct in Science (13:16)
- Humane Use and Care of Laboratory Animals (8:54)
- Managing the Grant (12:50)
- Reporting Requirements (6:19)
- Technology Transfer (7:17) ♦

Research Council Funding Programs

Please see the links below for guidelines and upcoming deadlines for the Research Council's funding programs for student and faculty research and scholarly activities.

Faculty Programs

https://www.geneseo.edu/sponsored_research/internal

Student Programs

https://www.geneseo.edu/undergraduate_research/campus-based-research-funding



Revictimization in Rape

Adele Beltrani
Class of 2025
Faculty Sponsor:
Dr. Claire Gravelin
Psychology

Tell me about your project: It explores the factors that increase victim blaming from an outsider perspective. In the Marginalization Lab with Dr. Gravelin, we have previously researched the effects of power on sexual assault and continue to study certain victim characteristics and its effect on levels of victim blame and believability. In this study, we manipulate both the victim and perpetrator's race, prior victimization, and prior reporting behavior. The participant would begin with reading a vignette explaining a sexual assault then go on to answer a series of questions assessing blame and believability of the victim and their alignment with rape myth acceptance. Prior research has revealed that when victims differ from our concept of an "ideal victim," higher levels of blame are reported.

How is your project funded? The Geneseo Summer 2023 Research Fellowship.

What did you hope to gain from working on this project? Being involved in every step of creating and completing a project, from discussing a possible experiment to writing up the report. I was wanted to learn more about stereotypes and biases that victims face in society.

Is there anything that has surprised you? Studies discussing the prevalence of victim blaming found that black victims were blamed for their assaults more than their white counterparts, and male participants partook in higher levels of rape myth acceptance and victim blaming compared to the female participants.

How has working on this project impacted your long-term plans? I hope to continue to conduct research post-grad. and to work with victims of sexual assault in the future, to help them overcome these biases and stereotypes and cope with their trauma.

What have you enjoyed the most? Collecting and analyzing data.

What advice do you have for other students who may be interested in working on a research project? Find a professor that you enjoy working with and has common research interests to you. Dr. Gravelin has helped me so much—she answered every question and concern I had and supported me in every step. ♦



Becoming, Writing Home

Genesis Flores
Class of 2025
Faculty Sponsor:
Dr. Olaocha Nwabara
English

Tell me about your project: I was able to assist Dr. Nwabara on her research by transcribing the interviews she conducted. The interviews cover the process that Nigerian women go through to create their literature and works of art, how they provide for themselves, and how their work is promoted and sold. Most importantly, they uncover the depth of the writers' work and the weight it carries for themselves and the communities they represent.

How is your project funded? Dean Johnston Student Research Assistantship.

What did you hope to gain from working on this project? I hoped to learn more about the different literary scenes across the globe and understand different ways of conducting semi-structured and in-depth interviews, which would overall contribute to my understanding of conducting research following the Africana Studies methods.

Is there anything that has surprised you? I did find it interesting that while listening to each interview I transcribed, each woman had their own personal experience in life; however, when it came to the literary scene that's when each interviewee seemed to describe their experience along the same lines.

How has working on this project impacted your long-term plans? Working on this project has definitely fueled my desire and passion to learn more about Africana Studies and has made me eager to begin my PhD. I've gained so many new perspectives that I want to apply to my future research, and I've gained lots of inspiration regarding research topics. Overall, working on this project gave me a fresh set of eyes and a burst of passion that I did not think was possible. I feel extremely enthusiastic to see what things I discover, which include applying the things I learned in all aspects of my life.

What have you enjoyed the most? I learned how passion and interest in a topic affects my work ethic. I refined my future goals and began understanding how to be a proper scholar and researcher within Africana studies. The work environment that Dr. Nwabara created for those of us assisting her allowed me to enjoy the entire research process.

What advice do you have for other students? Go for it! Don't hesitate to branch out and try researching other topics that perhaps you didn't think you'd be researching. ♦



Office of Institutional Research: Key to Data-informed Decisions

The Office of Institutional Research’s website has been transformed from a static data archive into a series of interactive, interrelated visualization tools that churn institutional data through filters to create easily graspable tables and graphs. This wizardry is made possible by a series of dashboards that can be fine-tuned by college administrators, faculty and staff, and the public to find up-to-date information that allows them to make data-informed decisions. For example, a recently developed dashboard, *Schedule: Student Schedules by Instructor*, allows faculty members to choose times for office hours when most of their students are available to meet. Another dashboard, *Graduation Rates*, shows graduation rates filtered by, for example, graduation timeframe (<4 years, 4 years, 5 years, 6 years, 8 years, anytime), student type (first-time, transfer), first generation, and disability status. The list of dashboards and their features is too long to be covered here; instead, it would be best to visit [Institutional Research Discovery Dashboards](#) and explore.

The wizard behind the dashboards is Office of Institutional Research (OIR) Interim Director Matt Pastizzo, who previously served as the chair of the Department of Psychology. The nudge to create the dashboards came from former Provost Stacey Robertson and the motivation to create them, says Dr. Pastizzo, is “to increase institutional awareness in a transparent and accessible way.”



Office of Institutional Research Interim Director Matt Pastizzo

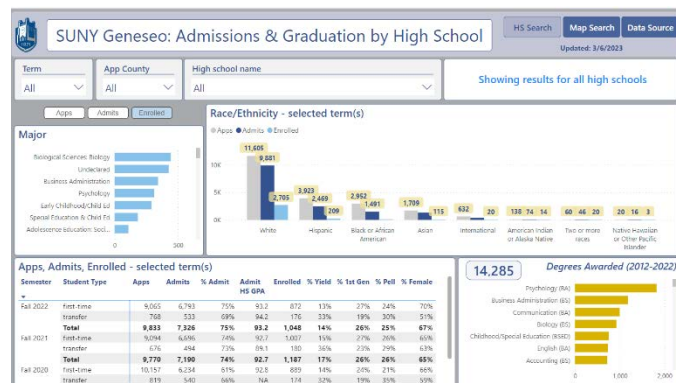


Office of Institutional Research Data Analyst Mariann George

Dr. Pastizzo took over the role of OIR interim director in spring 2022 and the first dashboard was available by fall 2022. Since then, 15 more dashboards were added to the OIR website and another is planned for the near future. One recently added dashboard, *Changes in Major*, can be used to track the number of students who switch from one major to another major, and it was created by Data Analyst Mariann

George, who joined the OIR in July 2022. Both OIR staff members are self-taught in programming and data visualization.

The data provided by the OIR is frequently needed by faculty and staff who apply for external funding because many applications ask for institutional data such as how many historically underrepresented students attend Geneseo. Also, institutional units, for example, Admissions, use the data to make strategic choices, such as where to focus recruitment activities. External entities, such as *US News and World Report* and *The Princeton Review*, use OIR data for their institutions of higher education rankings. OIR data is also provided to external accreditors, and state and federal agencies.



While some dashboards are publicly available, some are available to faculty, staff and students, some only to faculty and staff, and some to faculty only. The publicly available *Admissions* dashboard (screenshot above) can show for a chosen term the number and percentage of applications, admissions, enrollments and degrees awarded by county, high school, major, race/ethnicity, and student type (first time, transfer) in graph, table, or map format.

The OIR receives hundreds of data requests annually from both internal and external sources. Much information is available via the existing resources available on the website, including the dashboards, *Fact Book*, *Common Data Set* and the *IR Wiki*, soon to be replaced with a SharePoint site (both available only to faculty and staff). Other information needs can be requested by emailing the Interim Director of Institutional Research.

Although the OIR continues to publish the *Fact Sheet* and keeps the *Common Data Sets* current, its goal is to transfer institutional data previously available in the *Fact Book* to dashboards that automatically update on set schedules to provide timely information. ♦



2022-23 Faculty/Staff Grant and Fellowship Awards

10 Awards Totaling \$2,589,223

Blood, M., Santos-Smith, J., and Cope, J., Office of the Provost and Finance & Administration, Strategic Initiatives, SUNY High Needs Program – Microcredentials, \$45,000

Herold, A., Political Science & International Relations, Visiting Fellowship, James Madison Program in American Ideals and Institutions, Princeton University Fellowship, \$51,539

Jamburuthugoda, V. & Christensen, S. (University of Texas at Arlington), Biology, BRC-BIO: Study of protein-nucleic acid interactions of RLE-LINEs, National Science Foundation, \$490,662

Kosmowski, P., Student Health & Counseling, Cultivating Campus Culture to Adopt a 100% Smoke-free/ Tobacco-free Campus Policy at SUNY Geneseo, Truth Initiative, \$19,659

Osburn, T., Physics & Astronomy, RUI: Investigating Gravitational Waves and Extreme Mass-Ratio Inspirals, National Science Foundation, \$188,470

Padalino, S., Freeman, C., Fletcher, K., Pogozelski, E., Marcus, G., Yuly, M. (Houghton University), and McLean, J., Physics & Astronomy, Nuclear and Plasma Diagnostics for the EP-OMEGA and MTW Laser Systems, University of Rochester Laboratory for Laser Energetics/U.S. Dept. of Energy, \$450,018

Urso, A., Education, Soaring Stars Program at SUNY Geneseo, United Way of Greater Rochester and the Finger Lakes, \$5,000

Urso, A., Education, Soaring Stars Program at SUNY Geneseo, Feinbloom Supporting Foundation, Rochester Area Community Foundation, \$17,000

Urso, A. Education, Soaring Stars Program at SUNY Geneseo, EnCompass: Resources for Learning, \$12,500

Watts, M., Access Opportunity Programs, McNair Scholars Program at SUNY Geneseo, U.S. Dept. of Education, \$1,309,375

