



RESEARCH & CREATIVE SCHOLARSHIP QUARTERLY

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Welcome!

With the spring 2024 semester underway, our season of celebrating research and creative scholarship begins with celebrating Black History. We hope you attended the *Black History Month Student Research Conference* last Friday to learn about both Black History and our students. The celebration continues with a series of scholarly events honoring Black History Month with our African-American Studies Program as the driver and primary sponsor. Details below in our section on *Upcoming Events*.

In this issue, we are also delighted to celebrate faculty and student successes, share grant-writing and ICPSR resources, and help plan your calendar for additional student events and faculty development opportunities in April and May.

I hope this newsletter helps connect you to colleagues, opportunities, and resources to help you flourish in your research and creative endeavors. As always, I welcome your feedback. Please let me know what you think at jmekolic@radford.edu.

Jeanne Mekolichick, Ph.D.

Associate Provost for Research, Faculty Success & Strategic Initiatives & Professor of Sociology

Faculty Spotlight

Dr. Melissa DeBiasse, Ph.D. mdebiasse@radford.edu

Department of Biology

Project Title: ***Understanding bioerosion from individuals to ecosystems: the impacts of biotic and abiotic stressors on sponge erosion of oyster reefs***

Sponsor: **The National Science Foundation ([NSF OCE 2404991](#))**



Research Background:

I am interested in understanding biodiversity patterns in marine invertebrates like comb jellies, sponges, cnidarians, and sea stars. In my research, I use information from DNA and RNA sequences to determine how organisms respond to their environment over short (minutes, hours, or days) and long (hundreds of millions of years) periods of time. I spend most of my time analyzing data on high-power computers, a medium amount of time performing experiments in the lab, and a little bit of time going out into the field. Some of my past and current projects include i) comparing how copepod crustaceans from different populations adjust to changes in salinity, ii) searching the DNA sequences of sea stars to find regions that make them resistant to disease, and iii) testing how sponges respond to the sea slugs that prey on them. Undergraduate students have played very important roles in my research program, from executing field experiments to performing molecular biology lab work to conducting computational analyses. *I encourage students interested in working with me to reach out with questions or ideas!*

Purpose of the National Science Foundation (NSF) Project:

Oyster reefs, historically one of the most economically and ecologically important habitats in the U.S., have suffered major losses due to declining water quality, overharvesting, and diseases. To better understand and protect these ecosystems, this project focuses on the breakdown (erosion) processes occurring in oyster reefs. Erosion facilitated by living organisms (bioerosion), such as boring sponges, is problematic for oyster aquaculture and restoration efforts, yet little is known about the biotic and abiotic factors that influence the rates of sponge bioerosion on oyster reefs. Objective 1) Determine whether predator presence and acidification alter the short-term sponge bioerosion rates. Short-term incubation experiments (~4 hours) will be used to assess how predator presence and predation, as well as acidification, impact sponge bioerosion rates. Objective 2) Understand the long-term implications of acidification and predation on sponge bioerosion and the subsequent impacts on the carbonate balance for oyster reef ecosystems. We will experimentally evaluate whether long-term exposure to acidified conditions and predators results in chronically elevated sponge bioerosion rates and transcriptomic changes. The short-term and long-term response will be used in a stochastic model to predict reef-level responses under various

predation and acidification scenarios. Objective 3) Evaluate generality of phenotypic and transcriptomic bioerosion responses to predation and acidification across phylogenetic and geographic scales. We will replicate portions of Objectives 1 and 2 experiments using species found in the Pacific to determine whether we can generalize these responses between Atlantic and Pacific congeners.

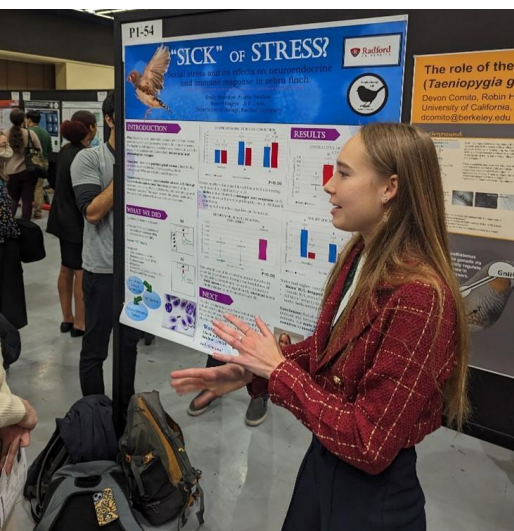
Faculty-Student Success

Radford Researchers Recognized Nationally

2024 Society for Integrative and Comparative Biology Annual Meeting (SICB)

Emily Brandow, senior biology major

Dr. Jason Davis, Dept. of Biology



In Seattle, Washington, at the 2024 Society for Integrative and Comparative Biology Annual Meeting (SICB), Emily Brandow had the chance to explain her research with Dr. Jason Davis to various judges. Out of thousands of submissions, her work on understanding the links between social isolation and stress in zebra finches was chosen for consideration as the Best Student Presentation. Their principal findings were the surprising "sex differences in hormones, immune function, and behavior." On reflecting about her journey as a new researcher to successfully writing a **SURF grant** and presenting thousands of miles away, "I have come to love the fun (and work) that research can entail. Working alongside my research partner, Austin Swallow was an amazing learning experience to go through working so hard with someone." She also highlighted the transformative mentoring of Dr. Davis, "He taught me how to handle and care for the birds, how to think outside of the box, the factors that influence organisms' regulation of homeostasis, and developing detailed and professional writing skills." It was not only Emily's research that benefited from the collaboration, as Dr. Davis shared, "I learned to appreciate perspectives that I hadn't heard before, about medicine, science, biology, and people." Beyond the advancement of knowledge, both mentioned the overall fulfillment they received from their collaboration: "I flat out love working with undergrad researchers. The discoveries you make, insights you get to share and just flat out fun you have working on projects like this one make them the absolute best part of my job." While Emily explained that with mentoring and financial support from Radford University, "I

was able to see places I would never have been able to otherwise. I am so grateful for this experience for it is something I will always remember.”

For more information about the SURF Grant and other opportunities to support your research, contact the Director of the Office of Undergraduate Research & Scholarship (OURS), Dr. Joe Wiragu, at jiwirgau@radford.edu or ours@radford.edu.

Apply for the SURF Grant here

Upcoming Funding Opportunities

ICPSR SUMMER PROGRAM



\$150,000 in scholarships available!

The ICPSR Summer Program offers more than \$150,000 in student scholarships every year. They aim to remove financial barriers to participation and increase access to statistical methods training for students of all different backgrounds. We are committed to providing the next generation of researchers with the skills, knowledge, and connections they need to do innovative, impactful work.

Required application materials may differ between scholarships, but generally, to apply, you will need the following:

- Cover letter stating research interests and how the Summer Program will contribute towards your degree or research goals
- Current CV
- One letter of recommendation

The deadline to apply for a scholarship is Monday, February 26.

See a full list of available scholarships here: [ICPSR](#)

Research Resources

Grant-Writing Online Training

The **Office of Sponsored Programs and Grants Management (SPGM)** is pleased to offer a series of grant-writing training modules to help support your needs as you begin the grant-seeking process. If you would like individual training, please do not hesitate to contact our office to schedule an appointment at tcruise@radford.edu.

- [Hanover Webinar: Grants 101-So You Want to Write a Grant \[mp4\]](#)
 - [Hanover Webinar: Prospecting and Alignment \[mp4\]](#)
 - [Hanover Webinar: Resubmissions \[mp4\]](#)
 - [Hanover Webinar: Looking Beyond the NIH \[mp4\]](#)
 - [Hanover Webinar: Early to Mid-Career Faculty Grant-Seeking \[mp4\]](#)
 - [Hanover Webinar: Building Strong Collaborations \[mp4\]](#)
 - [CITI training](#)
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Did you know?

Undergraduate Research Travel Awards - The Office of Undergraduate Research and Scholarship (**OURS**) supports student travel to present original work at conferences. The maximum award is **\$750**. Applications are due through the **OURS** website four weeks before departure and reviewed on a rolling basis while funding lasts. www.radford.edu/ours-travel

Poster Printing - large-scale posters for disseminating original work in all disciplines of undergraduate students, graduate students, or faculty are printed by **OURS** *free of charge*. Please provide at least 1-week notice (we can often turn posters around in a day or two if needed), and PDF submissions are open all year. To submit a poster to be printed or for help designing your poster, visit: www.radford.edu/ours-posters

Upcoming Events

February 20

Panel Discussion: The Complexities and Realities of Drill Music

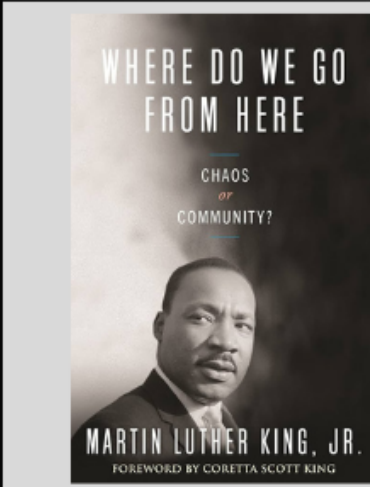
In-person | 5:00 PM - 7:00 PM | Hemphill Hall 4700

February 21

Book Examination Series: Dr. Martin Luther King, Jr., Where Do We Go from Here: Chaos or Community?

Part 1. Presenter, Fredrick Douglass Dixon, Chapters 1 and 2.

In-person | 4:00 PM - 5:00 PM | McConnell Library ILC 3rd Floor



Dr. Martin Luther King Jr. Book Examination

RSVP Here

February 22

Cinematic Realism Series: Part II Get Out

Screening and Panel Discussion

In-person | 5:00 PM - 7:00 PM | Hemphill Hall 4700

More details: [Here](#)

February 26

Cinematic Realism Series: Part III Judas and the Black Messiah

Screening and Panel Discussion

Hybrid | 5:00 PM - 7:00 PM | Hemphill Hall 1006

April 3rd

Highland Research Blitz

OURS and the **College of Graduate Studies** will host the first annual student Highlander Research Blitz Competition. Students will have three minutes to describe their original mentored research or creative inquiry. Aided by a single image or graphic on a PowerPoint slide, participants compete to see who can best communicate their work and its significance to a non-specialist (layperson) audience.

- Competitors will submit their three-minute pre-recorded video presentation to be considered as a part of the application process by **February 19, 2024**.
- Submissions will be evaluated and invited to participate in the in-person, live competition on **April 3, 2024, in Kyle Hall from 5 to 7 pm**.

[More Information](#)

April 17th - 18th

33rd Student Engagement Forum

Showcases the academic achievement and creation of new knowledge at Radford University, our campus community's undergraduate and graduate students' creative works, scholarship, and research.

- Submission deadline March 15th
 - *(note: we are no longer asking for an abstract)*
- Poster submission for [printing](#) is **April 3rd**.
- **Wednesday, April 17th**, will be oral presentations (and other formats that typically occur in a classroom setting) in McConnell Library Ross Art Gallery.
- **Thursday, April 18th**, poster presentations (and other formats suitable for individual interactions in a larger space) in the Reed-Curie and Center for the Sciences atriums.

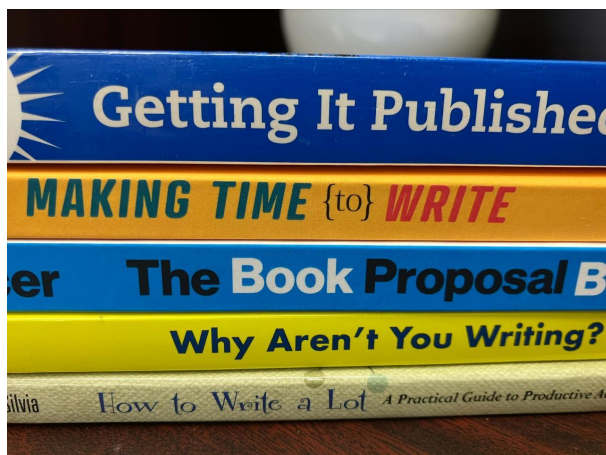
[More Information](#)

May 13th - 17th

The Annual Summer Institute in Research and Creativity

Open to ALL Radford University faculty and staff! Join colleagues as we learn new skills and support each other to plan, start, or maintain a research or creative project.

Questions? Email Heather Keith, hkeith1@radford.edu, for more information or to suggest topics & workshops!



[View upcoming research presentations and events](#)

[Subscribe](#) to our email list.