

16TH ANNUAL ECKERD COLLEGE STUDENT RESEARCH SYMPOSIUM

WEDNESDAY MARCH 29, 1:40-4:50PM

JAMES CENTER FOR MOLECULAR AND LIFE SCIENCES

Application and Abstract Deadline: Friday, February 17, 5:00 pm

All Eckerd College students are invited to participate in this symposium highlighting student research. Students will create research posters, prepare a ~3 minute presentation, and create a Google site with the abstract and digital version of the poster. We hope to include posters from across the arts, humanities, and sciences. Students seeking CPS event credit will need to visit at least 8 posters, hear a brief presentation, and have the author sign their form. Presenters will either be assigned to the A session (1:40-3:10) or the B session (3:20-4:50). This will be a CPS event.

All submissions must consist of significant original research performed by a student or group of students since coming to Eckerd College. The first author must be currently enrolled at Eckerd and can only submit **1** poster as first author (contact Beth Forys if you have a compelling reason for two). Research must be of the caliber expected for an undergraduate or regional professional meeting. In other words, submissions cannot simply describe class projects that do not rise to the level of significant academic research. Thesis candidates and Ford Scholars are particularly encouraged to submit their work, even if it is work in progress. Students who have presented their research previously at professional conferences are encouraged to submit slightly revised abstracts and reuse their posters. All posters must have an Eckerd College Faculty sponsor who has an advanced degree in the field of study of your research. This faculty member needs to be willing to review your abstract, poster, and final Google Site.

For examples of posters from last year, please [click here](#). Alumni will judge posters using the google sites (winners will get a gift card & bragging rights).

TIME LINE

February 17 (Fri)	Application & abstract online submissions are due at 5pm.
February 24 (Fri)	Students will be notified of abstract acceptance and will receive poster judging rubric, poster guidelines, and information on creating their google sites.
March 10 (Fri)	Posters must be emailed to poster-printing@eckerd.edu by 5pm for printing.
March 13 (Mon) or March 14 (Tues) 8-9pm	First author (or other) must attend a brief zoom meeting to set up your Google Site and put it in the program. You need to be on your computer with internet (8-9pm)
March 15 (Wed)	Google sites should be ready for judging.
March 28 (Tues) 8-9pm	Meet Beth Forys in the James CMSL at 8pm to post up your poster. If you cannot attend, please send a co-author or let her know! (forysea@eckerd.edu)

March 29 (Wed)	Come to the James about 10 minutes before your session, get a name tag and be ready to give a 2-3 minutes talk to small groups. You will be assigned session A or B.
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Symposium Committee:

Dr. Beth Forys, Professor of Environmental Science and Biology, Chair

Dr. Tim Bransford, Assistant Professor of Animal Studies

Dr. Louise Daoust, Assistant Professor of Philosophy

Dr. Kelly Debure, Professor of Computer Science

Dr. Erin Griesenauer, Assistant Professor of Mathematics

Dr. Lindsey Fox, Assistant Professor of Mathematics

Dr. Stephanie Mallinas, Assistant Professor of Psychology

Dr. Scott Dobrins, Assistant Professor of Biology

Dr. Amy Siuda, Associate Professor of Marine Science

Dr. Laura Wetzel, Professor of Marine Science, Past Chair

Madison Gumprecht, Employer Relations & Internship Coordinator

EC Inspired:

Jacqueline MacNeil, Executive Director, Institutional Effectiveness

Dr. Kat Robinson, Assistant Dean of Faculty

Anna Ruth, Director of Grant Development

Application and Abstract Submission Information

- Fill out the application ([click here](#)) by **Friday, February 17, 5:00 pm**
- Note, you will be creating your abstract in Google Docs, and then making sure the link can be viewed by others at Eckerd College. Once you have written your abstract, click on Share in the top right. Under "Get Link" it says "Restricted". In order for anyone at Eckerd to be able to view it, you need to select "Share with Eckerd College".
- Abstracts **MUST BE SUBMITTED** in the following format:

APPROPRIATE TITLE PROVIDED IN BOLD AND IN ALL CAPITAL LETTERS

First Author, *Eckerd College*, _____ *Discipline*

Additional Author, *Author Affiliation*

Additional Author, *Author Affiliation*

The body of the abstract must be single-spaced in a 12-point Times New Roman font and may contain a maximum of 250 words, exclusive of the title and author citations. Place a blank line between paragraphs. Do not include tables, illustrations, figures, photos, or literature citations. (Example abstracts are at the end of this announcement.)

Abstract Examples for the Eckerd College Student Research Symposium

MID-OCEAN RIDGE SEISMICITY AND SEGMENT LENGTH

Alexis Clark, *Eckerd College, Marine Science Discipline*

Laura Reiser Wetzel, *Eckerd College, Marine Science Discipline*

Cliff Frohlich, *University of Texas at Austin, Jackson School of Geosciences*

Seismic moments are known to depend on fault length. Thus, it would be expected that the largest earthquakes on mid-ocean ridges and transform faults would occur on the longest segments. Observations of seismicity on oceanic ridges and transforms, however, suggest that there is a limit to earthquake size. Magnitudes increase up to a critical segment length, past which earthquake size does not increase with segment length. In this study, oceanic ridges and transforms are delineated as segments greater than 1 km in length and are defined relative to plate motions calculated using the NUVEL-1A plate model. A minimum magnitude of 5.0 was used from the Harvard CMT catalog to ensure complete global coverage.

On transform fault segments, maximum earthquake magnitudes increase from approximately 5.5 to 7.0 as segment lengths increase to 100 km; past this point maximum magnitude does not increase. In a similar manner, on ridge segments there is an increase in maximum magnitude with length up to approximately 80 km. Unlike transforms, however, there is a slight decrease in maximum magnitude at greater lengths. To complement the analysis of all earthquakes greater than M 5.0, we also assessed the maximum magnitudes expected using the assumption that magnitudes satisfied a Gutenberg-Richter relationship. When binned together in 10 km intervals, smaller ridge segments display observed maximum magnitudes that are significantly lower than expected, while transform segments have maximum magnitudes that exceed those expected about 50% of the time.

CAN SOUTHERN CULTURE SAVE DEMOCRACY? HOW SMALL TOWNS IN THE DEEP SOUTH CREATE A UNIQUE SET OF SOCIAL NORMS THAT CAN BE MOBILIZED TO UPHOLD A FUNCTIONING DEMOCRACY.

Christyna Reagan, *Eckerd College, Political Science*

Across the nation, American democracy is threatened by the downfall of civil societies over the past six decades. Robert Putnam's "Bowling Alone: America's Declining Social Capital" argues that with increased community civic engagement comes a positive impact on democracy. The Southern culture I felt could work as this guide to saving democracy is an expectation to support your neighbors, a willingness to connect with complete strangers and a collective belief in serving your community. To understand how a region can hold a contrary stereotype of hospitality while also being known for its historical and current prejudice, I spent over a month traveling to six small towns in four states across the Deep South. I interviewed individuals in each town that are involved within their community to understand what motivates them to be involved and what is unique about Southern culture that fosters community. From these

interviews, I found that Southern civil society creates three unique social norms that work cyclically to create an inclusive democracy for all to participate: hospitality, willingness to understand others and expectation of serving one's community.

COMPARATIVE BIRD AND MAMMAL SPECIES ACCUMULATION CURVES AT FORT DE SOTO PARK, FLORIDA

Madelyne E. Vashaw, *Eckerd College, Marine Science Discipline*

Leo N. Dutkewych, *Eckerd College, Environmental Studies Discipline*

Sarrah E. Bristol, *Eckerd College, Animal Studies Discipline*

Timothy D. Bransford, *Eckerd College, Animal Studies Discipline*

Elizabeth A. Forys, *Eckerd College, Environmental Studies and Biology Disciplines*

Fort De Soto is a 260-hectare park in Pinellas County, Florida that consists of several barrier islands connected to the mainland by a road. Long-term monitoring of species abundance and richness is important to guide management decisions. Camera trapping is known to be an appropriate noninvasive method for species monitoring. We deployed twenty camera traps throughout various habitats in the park. Cameras were active from sunset to sunrise from January 2022 until January 2023, encompassing 52 weeks. To determine if we monitored long enough to sufficiently survey the number of species present, we used the Vegan Package in R to see if the number of species recorded reached an asymptote. We recorded a total of 1,659 unique observations of vertebrates, 1,604 were mammals and 55 were birds. We observed 11 species of mammals as well as 11 species of birds during our study. The mammals were dominated by omnivorous meso-mammals: Virginia opossums, raccoons, and coyotes. Yellow-crowned night herons were the most common species of bird. The species accumulation curve of the mammals reached an asymptote at approximately week 47. The bird species accumulation, however, did not reach an asymptote during this period. This study demonstrates that one year was adequate to capture the species richness of non-migratory night-active mammals. However, additional time is needed to accurately determine the species richness of our night-active avian species, some of which are migratory.