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1964-2024

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

NEWSLETTER | SPRING 2024

CENTER DEGREES

- Ph.D. STEM Education
- M.S. STEM Education
- Certificate STEM Education

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Programs That Make a Difference!

Faculty and 11 Students Shine at ASTE

The Association for Science Teacher Education (ASTE) held its Annual International Conference in January. Faculty members Dr. Maria Wallace, Dr. Rachel Gisewhite, Dr. Kendrick Buford, and Dr. Allison Downing joined 11 Center students, ranging from Ph.D. candidates to students just beginning their STEMed journey, at the event.

Ph.D. student Caroline Sorey and Dr.

Maria Wallace presented “Shifting the Culture of Undergraduate Science Education through Informal Learning Experiences,” research exploring the positive effects of informal tactics and volunteer opportunities on science communication, self-efficacy and community engagement. Dr. Maria Wallace was also appointed ASTE’s Director of Electronic Services. Dr. Wallace will aid in producing an improved electronic experience for ASTE’s needs related to membership, conference logistics, board engagement, and the practitioner-journal *Innovations*.

Dr. Rachel Gisewhite introduced “Extending the Draw a Scientist Tool” with research partners Anne Gatling of Merrimack College and Stacy Britton of the University of West Georgia, aiming for a more inclusive industry culture by redefining and reimagining what STEM representation looks like for kids. Their efforts shine light on underrepresented and diverse communities deserving of consideration in academia.



Center Ph.D. student and W biology instructor Mike Dodson collaborated with his student Ethan Wilkins on their ASTE research presentation, “Hispanic Heritage Month: An Opportunity for Informal STEM (and Humanities) Education and Ethnoscience,” an example of the Center’s emphasis on mentoring at all levels.



GENDER EQUITY MOVEMENT IN STEM



Center Celebrates **Big 6-0**

with STEMontheGo, Rose Garden Revamp, More



Center faculty members Cwikla and Rhinehart visit Mr. Mills' rose farm, K and M Nursery, in Buckatunna to learn about new varietals of roses.

Did you know the Center for STEM Education was founded in 1964?

That means it's older than the Johnson Science Tower it calls home! We plan to celebrate our entry into the sexagenarian club all year round by doing what we always do—serving educators and building partnerships. In addition to our regularly scheduled outreach programs, this year we are working in a few little birthday extras. Our popular STEMonDemand program is offering a special for the Great American Eclipse that's already breaking the internet. Our new STEMontheGo program is working across the university to support broader impacts with grab-and-go kits for public outreach activities and a planned STEM trail on campus. Finally, longtime Center instructor Mr. Ken Rhinehart is heading up a revitalization of our famed rose garden in its 50th year as part of a joint birthday celebration.

GenSea Sets Sail on Third Year

It's hard to believe that GenSea launched two short years ago with one fulltime staff member. In its first days, the program introduced high school students and teachers to blue economy STEM careers through field trips, internships, and teacher events centered at USM's School of Ocean Science & Engineering. Since December 2021, these events have reached over 2,400 teachers and students across Mississippi and into neighboring states. Now in its third year, the program boasts seven full- and part-time team members and has added more than 15 STEM job partners outside of USM across the three coastal counties. Sites now offered on GenSea trips range from government/military agencies like the Naval Oceanographic Command and NOAA National Data Buoy Center to logistics centers like the Ports of Gulfport and Pascagoula to shipbuilding giants Ingalls and Bollinger. GenSea is

growing programs as well as partnerships, now offering multiple daylong educator events in addition to its three-day summer professional development and providing student internships on and off campus.



Brookhaven high school engineering students visit NOAA Data Buoy Center to learn about coastal STEM jobs.

Dr. Maria Wallace Named Gulf Research Program Early Career Fellow

Dr. Maria Wallace was named to the Gulf Research Program (GRP) of the National Academies of Sciences, Engineering, and Medicine's 2023-2025 cohort of Early-Career Research Fellows in the Education Research track on January 31. Dr. Wallace is joining a list that includes researchers from around the country as well as fellow Center faculty member Dr. Rachel Gisewhite in the previous cohort. Wallace's research focus on community-engaged science education experiences, particularly the interplay—or "in-between spaces" of identities, places, positionalities, and conceptual development, has not only pushed the boundaries of STEM education research, it recently led to an official partnership between USM and the Hattiesburg Zoo (see page 4).



“ This fabulous recognition of Maria's diligent efforts provides the opportunity to explore new research ideas and continue to build bridges with colleagues regionally and nationally. I'm so proud and honored to now have two NAS fellows in our Center. It speaks volumes to the critically important work our faculty are pursuing. ”

DR. JULIE CWIKLA, Center Director

Center SPOTLIGHTS

The Center is Growing!

Three new Center staff members are bringing decades of experience to our ever-expanding outreach programs

Teresa Sappington Lampe, Ed.D.

A Nationally Board Certified Teacher and Albert Einstein Distinguished Educator, Dr.



Lampe has served as a science and engineering teacher, district STEM coordinator, and engineering outreach coordinator. She has developed and implemented K-12 STEM curricula, analyzed student data, and coordinated informal STEM activities. Dr. Lampe is creating lessons for the STEMonDemand and STEMontheGo programs and supporting the Center's other programs like the science fair and SeaGlide.

Julie V. May, Ph.D.

With a background in neurophysiology, experience in direct patient care, bench and human clinical research,



and 17 years of experience in higher education, Dr. May has joined the Center for STEM Education to collaborate with several other Center faculty on a variety of community-based programs. Among these are the K-12 STEMonDemand program, the dual enrollment and research readiness programs with area high schools, and the development of a new STEM Trail.

Susan May Stachowski

A Nationally Board Certified Teacher, Stachowski has 25 years of experience in the



public education system, having worked as both an educator and administrator in secondary schools. She has joined the Center for STEM Education as a GenSea field trip program coordinator. Her work includes the planning and organization of high school field trips that create meaningful experiences for student and educator. Additionally, Stachowski will be working to build new blue economy partners.



USM-Zoo Partnership

USM Vice President of Research Kelly Lucas and Hattiesburg Zoo Education Director Jeremy Cump-ton sign an official memorandum of understanding on January 31 to formalize the support of a robust research-practice partnership (RPP) begun as part of Dr. Maria Wal-lace's NExUS2 (Nurturing Edu-cators' complex Understanding Science and Society) project.

Spring STEM Competitions

The Center is hosting the follow-ing competitions throughout the spring semester. As always, we encourage Southern Miss stu-dents, faculty, and friends to vol-unteer their time to these events.

- MS Science & Engineering Regional Fair, Hattiesburg **February 23, 2024**
- Junior Science and Humanities Symposium, Online **February 28-29, 2024**
- MS Science & Engineering Regional Fair, Gulf Park **February 29, 2024**
- MS Science Olympiad, Hattiesburg **March 22, 2024**

Spring 2024 STEMed Speaker Series



<https://tinyurl.com/yckwdjsx>

TUES., FEB. 6

Dr. Jennifer Schellinger
U.S. Department of Education
From Academic to Non-Academic Career Pathways



<https://tinyurl.com/mwsrn4au>

THURS., FEB. 15

Dr. Hye Ryung Won
Slippery Rock University
Teaching Early Childhood STEM Education



<https://tinyurl.com/yk7hej56>

TUES., FEB. 20

Dr. Lara Perez-Felkner
Florida State University
Teaching Postsecondary Access and Persistence



<https://tinyurl.com/4e5uh6y5>

THURS., MAR. 21

Dr. Katrina Piatek-Jimenez
Central Michigan University
Underrepresented Identities in Undergraduate Physics



<https://tinyurl.com/bdfjux7r>

TUES., MAR. 26

Dr. Toyin Alli
The University of Georgia
Academic Success and Fulfillment



<https://tinyurl.com/42xmk3e5>

WED., APR. 3

Dr. Christine Andrews-Larson
Florida State University
Active Learning in Undergraduate Mathematics



<https://tinyurl.com/8pwjh4a8>

THURS., APR. 18

Dr. Weverton Ataide Pinheiro
Texas Tech University
Equity and Social Justice in STEM Education



<https://tinyurl.com/yc8626zw>

THURS., APR. 25

Dr. Ignasi Florensa Ferrando
Escola Universitaria Salesiana de Sarria
Anthropological Theory of Didactics in Engineering Education

CENTER FOR STEM EDUCATION — FACULTY



JULIE CWIKLA, Ph.D.
Center Director
T. W. Bennett
Professor



RACHEL GISEWHITE, Ph.D.



KENDRICK BUFORD, Ph.D.



ALLISON DOWNING, Ph.D.



KENNETH RHINEHART



MARIA WALLACE, Ph.D.



SEYDA UYSAL, Ph.D.

STAFF

HATTIESBURG

CHRISSEY HUDSON, Administration
TERESA LAMPE, Ed.D., Research
JULIE MAY, Ph.D., Research

COAST

TARA SKELTON, GenSea/Comms
CHELSEY REID, GenSea
SUSAN STACHOWSKI, GenSea

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Center for STEM Education

The University of Southern Mississippi
118 College Drive, Box 5087
Hattiesburg, Mississippi

Email: stemedinfo@usm.edu

Phone: 601.266.4739

usm.edu/stem-education

EOE/F/M/VETS/DISABILITY