GCSU
AQUATIC SCIENCES CENTER

GEORGIA COLLEGE AND STATE UNIVERSITY AQUATIC SCIENCES CENTER

Annual ASC Newsletter
2025-2026

Latest Updates:

CONGRATULATIONS TO OUR FACULTY
Learn More

MEMBERS AT RESEARCH CONFERENCES
Learn More

THE LATEST COMMUNITY OUTREACH
Learn More

INFORMATION ABOUT THE CENTER

The Aquatic Sciences Center has been very active and is grateful to the faculty who are involved and supporting our center. The center provides Georgia College & State University as well as the local community with access to renowned scientists and equipment in order to assess, mitigate and treat every day problems in our waterways. Georgia College & State University's Aquatic Sciences center is lucky to have a group of faculty with such diverse expertise and specialties that will be nothing but an asset to the university and community. The Aquatic Sciences Center hopes to soon take on projects and community samples in order to assist and give back to the Middle Georgia Community. With Georgia College & State University being very centrally located, it puts us in a great position to be able to provide a variety of water quality services. We look forward to seeing what the center can accomplish in the coming year and what we have already accomplished in the last year!

OUR YEAR IN NUMBERS

105

Participants across two Aquatic Science Symposiums

1000+

Child participants at outreach events

14

Publications by afflilated faculty

6

Stream clean-up events

9

Awards recieved by ASC students at conferences

10

ASC Interns, Independent Study Students, Practicum Students, and Fellows

Courses Supported: Hydrology, GIS, Georgia Military College labs, Methods in Aquatic Research, Independent Study

CONGRATULATIONS TO OUR GRADUATING MASTERS STUDENTS!

We are proud to have many successful graduates who have worked with the Aquatic Sciences center and/or its affiliated faculty! Our students are moving on to PhD programs, teaching positions, and environmental industry careers.

Muzila Nchimunya
Wiley Bundy
Elise Mirabella
Alex Sarran
Tori Morgan
Conner Deen

Megan Martin
Lizzie Durham
Logan McCullers
Hasari Bermudez-soto
Shannon Northern

UNDERGRADUATE STUDENT HIGHLIGHTS

We would like to take the time to recognize the undergraduate students who took part in mentored student research with ASC-affiliated faculty:

- **Dr. White:** Lola Grant
- **Dr. C. Mutiti:** Alanis Bernis, Rebecca Barringer, Leah Bartleson, Christian Chandler, Elizabeth Dixon
- **Dr. DeVore:** Elizabeth Smith, Laura Harvey, Natalie Dally, Emily Pittmann
- **Dr. Weese:** Elias Aufderheide, Samantha Moore, Megan Baggs
- **Dr. Barkovskii**: Sara Serrano
- **Dr. Manoylov:** Chloe Carroll, Ella Reese
- **Dr. S. Mutiti**: Caroline Efird, Josefa Tchamna Kouna, Emily Granier
- **Aquatic Sciences Center:** Michelle Crumley, Daley Tuten, Haleigh Weaver, Katie Hitt, Ziv Moench

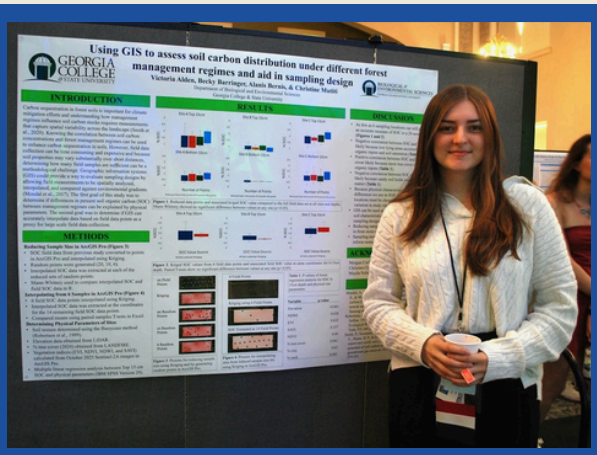
ASC ACCOMPLISHMENTS

FACULTY AWARDS AND GRANTS

- **Dr. Matt Milnes** - $5,000 award, "Reproductive Tract Development in Eastern Fence Lizards"
- **Dr. Kristine White** - $4,675 award, "Investigation of Amphipod Crustaceans in the Genus Paraleucothoe."
- **Dr. Christine Mutiti** - Award for Excellence in Online Teaching at GCSU

STUDENTS OF ASC FACULTY WINNING AT CONFERENCES

- **20th International Colloquium on Amphipoda**
  - Kali Holierhoek (Dr. White) - Best Student Flash Talk
- **Geological Society of America**
  - Muzila Nchimunya (Dr. S. Mutiti) - Geology and Health Scientific Division Research Award
  - Megan Martin (Dr. S. Mutiti) – Environmental and Engineering Division Outstanding Poster Presentation Award
- **Georgia Academy of Science**
  - Victoria Alden (Dr. C.Mutiti) - Earth and Atmospheric Sciences Brest Graduate Oral Presentation
  - Brannon Polk (Dr. VandeVoort) - Earth and Atmospheric Sciences Best Undergraduate Oral Presentation
  - Michelle Crumley (Aquatic Sciences Center) -Earth and Atmospheric Sciences Best Undergraduate Poster Presentation
  - Kali Holierhoek (Dr. White) - Biological Sciences Best Graduate Oral Presentation



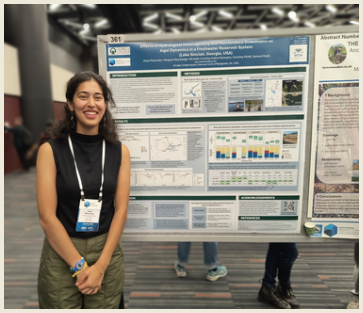
SUMMER AT THE ASC

Meet the ASC Summer Fellow!

Mckenzie McIntyre is an incoming master's student in Dr. Matthew Milnes' lab. This summer, she worked with Dr. Milnes to investigate how the pesticide DDE affects reproductive develpoment in American Alligators. The ASC fellowship covered her research costs and provided her and her faculty mentor with a stipend for the summer.

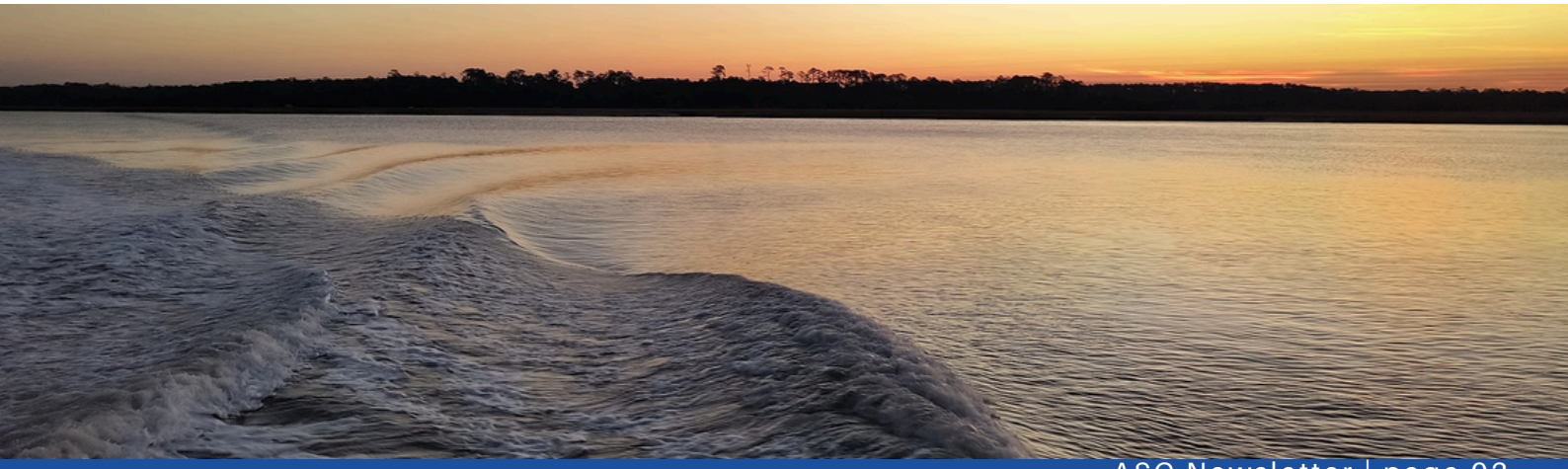
ASC Lab Tech Anya Mukundan Attends International Oceanography and Limnology Conference

In May, Anya attended the ASLO-SIL 2026 symposium in Montreal, Canada. This year, the theme was "Aquatic Confluence." Anya presented a poster detailing the ASC's monitoring efforts in Lakes Sinclair and Oconee and networked with just a handful of the 1500+ aquatic researchers in attendance!



Students completing summer independent research with ASC Faculty:

- **Brian Wirth** (MURACE, Dr. Arnab Sengupta)
- **Elias Aufderheide** (MURACE, Dr. David Weese)
- **Josefa Tchamna Kouna** (MURACE, Dr. Samuel Mutiti)
- **Kristen Mueller** (ASC intern, Dr. Samuel Mutiti + Dr. Doug Oetter)
- **Sophie Marie Morgan** (MURACE, Dr. Christine Mutiti)
- **Sarah Serrano** (MURACE, Dr. Andrei Barkovskii)



RESEARCH TEAM FROM GEORGIA COLLEGE EXPLORES COASTAL ECOSYSTEMS AT SAPELO ISLAND

by Allison Jones, ASC Communication Practicum Student

In February, a research group from Dr. Kristine White's marine invertebrate lab traveled to Sapelo Island to conduct seasonal field work on coastal crustaceans and the intertidal ecosystems. The trip provided Georgia College students with hands-on experience, while also supporting the ongoing studies of marine biodiversity and environmental monitoring. Located off the coast of Georgia, Sapelo Island is home to The University of Georgia Marine Institute, which provides researchers access to coastal environments and high quality facilities.

The team's main focus was on collecting intertidal amphipods. These small crustaceans play a key role in marine food webs and serve as bioindicators, meaning their presence can reflect environmental conditions. Kali Holierhoek, a student researcher in Dr. White's lab was studying amphipod diversity and distribution as a part of her thesis. "Amphipods are a super important species," she said. "A lot of organisms rely heavily on them for food, and they can indicate changes in the environment." Dr. White explained that tracking species distribution can reveal much broader ecological shifts. **"If we can identify all the species and monitor changes in their abundance, it can indicate that something bigger is happening in the ecosystem,"** she said. Researchers conducted sampling during spring low tides, using transect methods to shovel and sift measured sections of sand in the intertidal zone. The team also collected subtidal crustaceans using a beam trawl for later lab and molecular analysis.

Elise Mirabella, a student on the trip, is continuing research she began for her past thesis project. Last year, she used a beam trawl to collect subtidal crustaceans from protected and exposed beaches to study seasonal changes in their distribution. The trip provided students with applied training in species identification, field sampling, and experimental design while contributing to conservation knowledge. **"If we want to work on conservation, we need to know who is there and their role in the environment,"** Kali said. Dr. White emphasized the value of field experience by stating, **"Seeing where organisms live and how they interact tells you more than you could ever learn sitting in a lab."** The Sapelo Island trip is part of the lab's ongoing seasonal research efforts aimed at understanding coastal ecosystems and preparing students for future work in marine and environmental science.

Photos courtesy of Anya Mukundan and Jonah Rigdon. Learn more about Dr. White's Lab here.

ASC STORIES

ENVIRONMENTAL SCIENCE STUDENTS GAIN HANDS-ON RESEARCH EXPERIENCE

by Allison Jones, ASC Communication Practicum Student

Students from Dr. VandeVoorts' Methods in Aquatic Research Lab have spent the semester working closely with the Aquatic Sciences Center, gaining hands-on experience. During a recent field lab at the Greenway, Aquatic Sciences Center Director, Dr. Mutiti guided students through data collection and provided specialized hydrology equipment to support their research.

Working along the Oconee River and Fishing Creek, students in the course are studying water quality and stream discharge, comparing how conditions change across locations. Recent rainfall and a dam release created water levels that were higher than normal, meaning the group needed to adjust their sampling plans, which was an experience that mirrored real professional fieldwork.

"We are working on assessing surface water quality and stream discharge, and seeing how that changes across time and place," said Professor Allison VandeVoort. "With field work, it's really common to have to make changes. **This was actually a really good experience for students, since they will have to deal with things like this in professional settings.**"

Despite the challenges, students collected data using tools like YSI probes and velocimeters, measuring pH, dissolved oxygen, and stream velocity to better understand differences between sites. "It's interesting because conditions aren't always ideal, but we're making the best of it," said senior environmental science student, Isaac Dewsbury. **"A lot of what we're doing right now is going to translate into our own research."**

Back in the lab, students will analyze their data to compare water quality across sites, which is work that ultimately reflects a bigger impact. Monitoring water quality not only helps understand local ecosystems, but also supports public health, safe drinking water, and environmental protection in surrounding communities.

FACULTY OF THE ASC

Dr. Dave Bachoon

Ph.D. Microbiology

Specialty

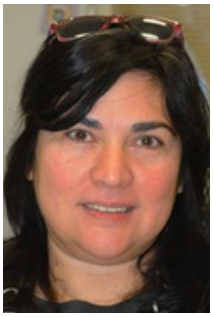
- Microbial Source Tracking

Dr. C. Daniel Burt

Ph.D. Crop & Soil Science

Specialty

- Enumeration of fecal bacteria in soil and water



Dr. Kalina Manoylov

Ph.D. Zoology/Ecology, Evol. Biology/Behaviour

Specialty

- Algal Ecology & Water Quality

Dr. Christine Mutiti

Ph.D Botany

Specialty

- GIS & wetland ecology

Dr. Allison Rick VandeVoort

Ph.D Plant & Environmental Science

Specialty

- Soil characterization & analysis

Dr. David Weese

Ph.D Biological Sciences

Specialty

- Population genetics & biodiversity through DNA

Dr. Andrei L. Barkovskii

Ph.D. Microbiology

Specialty

- Waterborne Pathogens

Dr. Melanie DeVore

Ph.D. Plant Biology

Specialty

- Aquatic plant taxonomy

Dr. Matt Milnes

Ph.D Zoology

Specialty

- Vertebrate physiology

Dr. Samuel Mutiti

Ph.D Hydrology/Geology

Specialty

- Soil & water quality monitoring/assessment (physical, chemical, & biological)

Dr. Kristine White

Ph.D Coastal Sciences

Specialty

- Water quality assessment with aquatic arthropods

Dr. Arnab Sengupta

Ph.D Biotechnology Science and Engineering

- RNA, chemical biology

AFFILIATE MEMBERS OF THE ASC 2025-2026

Anya Mukundan

Aquatic Sciences Center Laboratory Technician & Research Assistant

Ruth Eilers

Director of Academic Outreach, Adopt-A-Stream Trainer

Michelle Crumley

Undergraduate Student Researcher

Megan Martin

Aquatic Sciences Club President

Josefa Tchamna Kouna

Summer 2026 ASC MURACE Research Student

Hasari Bermudez-soto

Aquatic Sciences Center Graduate Assistant

Allison Jones

Spring 2026 ASC Communication Practicum Student

Camille Tobey

Spring 2026 Biology and Environmental Sciences Department Communication Practicum Student

Kristen Mueller

Summer 2026 ASC Intern and Captsone Student

FACULTY 2025-2026 PUBLICATIONS

Algal Transport Through Saturated Sediments: Implications for Ecosystem Resilience (2026)
Journal: Sustainability
Authors: Wiley Jane Bundy, Allison Rick VandeVoort, Kalina M Manoylov, Samuel Mutiti
DOI: https://doi.org/10.3390/su18168127

Assessing the Potential Risk of Heavy Metal Exposure From Moringa oleifera and Its Phytoremediation Potential (2026)
Journal: Water, Air, & Soil Pollution
Authors: Marissa Mayfield, Samuel Mutiti, Christine Mutiti, Idah Ngoma, Samantha Mutiti
DOI: 10.1007/s11270-026-09273-y

Benthic Faunal Ecology in the Algal Turf Zone of a Bornean Rocky Shore: the Influence of Habitat-Forming Species. (2026)
Journal: Scientia Bruneiana
Authors: Arif Johari, M. Belal Hossain, Kristine White, Simone N. Brandão, Stefan Gödeke, Siong Kiat Tan, David J. Marshall
DOI: https://doi.org/10.46537/scibru.v24i.155

Caribbean Amphipoda (Crustacea) of Panama. Part IV: parvorder Caprellidira. (2025)
Journal: Zookeys
Authors: Sally J Sir, Kristine J White
DOI: https://doi.org/10.3897/zookeys.1234.145826

Chain forming araphid diatoms in hydrologically variable wetlands with legacy anthropogenic alterations. In 'Colonial Diatoms (Diatoms: Biology and Applications)' (2026)
Eds: Mary Ann Tiffany, Mohamed Ghobara, Ille C. Gebeshuber, Florian Zischka
Authors: Agi, A., M.M. Kuhn, R.P. Kidder, C. Aumack, H. Chandler, Ch. Colón-Gaud, K. Manoylov
ISBN-10: 1394198094

Changes in periphyton communities with land use in tropical mountain streams in Loja (Ecuador) (2025)
Journal: Limnetica
Authors: Victor Alonso Cartuche, Kalina Manoylov, Bastiaan W. Ibelings, Nikolay Aguirre, Patrick Venail
DOI: https://doi.org/10.23818/limn.45.17

Functional Annotation of Coding Sequences in the Cyanogenic Millipede ***Cherokia georgiana*** (2026)
Journal: Nature Scientific Data
Authors: Elena Cruz, Sarah Carter, Daniel Hastings, Bruce A. Snyder, Arnab Sengupta
DOI: https://doi.org/10.1038/s41597-026-07811-1

Growth and Anatoxin-a Production of ***Microcoleus*** (Cyanobacteria) Strains From Streams in California, USA (2025)
Journal: Harmful Algae
Authors: Sydney M. Brown, Joanna R. Blaszczak, Robert K. Shriver, R.Christian Jones, Abeer Sohrab, Ramesh Goel, Gregory L. Boyer, Bofan Wei, Kalina M. Manoylov, T.Reid Nelson, Jordan M. Zabrecky, Rosalina Stancheva
DOI: https://doi.org/10.1016/j.hal.2025.102834

FACULTY 2025-2026 PUBLICATIONS

Herendeeniodoxa willistonensis gen. et sp. nov., Fossil Actinidiaceae Fruits and Seeds from the Late Paleocene of North Dakota, USA. (2026)
Journal: International Journal of Plant Sciences
Authors: Kathleen B. Pigg, Stefanie M. Ickert-Bond, Melanie L. DeVore, and Soon Flynn
DOI: https://doi.org/10.1086/740772

The diversity and phylogenetic relationships of a ***Chaetopterus*** symbiont community in Djibouti, with redescription of ***Chaetopterus djiboutiensis*** Gravier, 1906 stat. nov. (Annelida: Chaetopteridae). (2025)
Journal: Diversity
Authors: Shannon D. Brown, Tullia I. Terraneo, Jenna M. Moore, Gustav Paulay, Kristine N. White, Michael L. Berumen, Francesca Benzoni
DOI: https://doi.org/10.3390/d17050366

Therapeutic targeting of the eIF4E cap-binding domain reveals control of lineage fate in prostate cancer. (2026)
Journal: The Journal of Clinical Investigation
Authors: Rashmi Mishra, Sihyeon Song , Dhruv Choradia, Dmytro Rudoy,Cynthia L. Wladyka Patrick Hoang, Jin Yeong Kim, Ilsa M. Coleman, Sonali Arora, Stephanie Dobersch, Alexander E. Orellana,Chenwei Lin, Philip R. Gafken, Eva Corey, Peter S. Nelson, Sita Kugel, Haolong Li, Arnab Sengupta, Andrew C. Hsieh
DOI: https://doi.org/10.1172/JCI199838

Stinging Trichome Density and Morphology of Three Nettle Species Reflect Mountain Gorillas' Feeding Behavior. (2025)
Journal: Ecology and Evolution
Authors: Alphonse Nyandwi, Winnie Eckardt, Elias Bizuru, Myriam Mujawamariya, Melanie L DeVore
DOI: https://doi.org/10.1002/ece3.71765

Tissue-specific DNA isolation from dissected millipedes for nanopore sequencing (2025)
Journal: Biology Methods and Protocols
Authors:Elena Cruz, William Wittstock, Bruce A Snyder, Arnab Sengupta
DOI: https://doi.org/10.1093/biomethods/bpaf042

Notes on the genus ***Humidophila*** R.L. Lowe et al. from the USA (2026)
Journal: Proceedings of the Academy of Natural Sciences of Philadelphia
Authors: Paula C. Furey, Kalina M. Manoylov, Rex L. Lowe
DOI: https://doi.org/10.1635/053.169.0103

Water Parameters Predicting the Seasonal and Spatial Dynamics of the Vibrio Harveyi- and Splendidus-Clade Pathogens (2025)
Journal: Microorganisms
Authors: Karagan Royer, Andrei L. Barkovskii
DOI: https://doi.org/10.3390/microorganisms13092167

COMMUNITY OUTREACH

TWO SUCCESSFUL AQUATIC SCIENCES SYMPOSIA!

- The ASC and ASC Club have jointly hosted a fall and spring Aquatic Sciences Symposium, with support from Academic Outreach. Dozens of students were able to present posters on aquatic-themed independent study or course-related research. Mini-talks were given by undergraduate and graduate students, and by faculty members Dr. DeVore and Dr. White.
- Read Fall 2025 Symposium's coverage by The Collonade here!

ATLANTA STEM EXPO AT PIEDMONT PARK

- On March 21st, representatives from the ASC and Aquatic Sciences club hosted a tent at the Atlanta Science Expo alongside Academic Outreach, STEM Club, and Physics club. Thousands of kids and their families were in attendance!

OUTREACH WITH LOCAL ELEMENTARY / PRE-K STUDENTS

- The ASC has been working with Academic Outreach to educate hundreds of local students about groundwater flow, erosion, and properties of water at Georgia Cyber Academy Community Days each semester, and at the Jones County Pre-K STEAM night.

ARTHEALTHY FESTIVAL 2026

- On April 11th, the ASC partnered with Academic Outreach, the Aquatic Sciences Club, and students from Dr. VandeVoort's Methods in Aquatic Research Class to have a tent with educational water activies at this year's ArtHealthy Milledgeville Festival!

TANYARD CREEK CLEANUPS

- The Aquatic Sciences Club has led 6 cleanups of Tanyard Creek this academic year! Each time they have been able to clean further upstream from College Station, increasing their impact!

STAY IN THE LOOP

Contact Us:
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Milledgeville, GA, 41061
aquaticscience@gcsu.edu
478-445-5858

SOCIAL MEDIA

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@asc_gcsu

FALL EVENTS TO KEEP AN EYE OUT FOR!

- **ASC Fall Symposium** - November
- **Fall Tanyard Creek Cleanups** with the Aquatic Sciences Club
- **Water Education Day** - October
- **ASC in the ISC meet and greet events** – TBA

WANT TO SUPPORT THE ASC?

Donations to the ASC directly support community outreach initiatives, student research, and innovative programs that connect the community to vital water research. Please visit www.gcsu.edu/asc to make a gift.