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Website

- www.thesciencecommunicator.com

Professional Summary

Accomplished science communicator with a strong academic background in microbiology, molecular genetics, ecology, and marine science. Founder and Principal of The Science Communicator, LLC, specializing in innovative science communication training and educational content. Experienced in academia and entrepreneurship, with a proven track record in research, teaching, and public engagement.

Skills

- Science Communication
- Leadership and Team Management
- Strategic Planning and Execution
- Entrepreneurship and Innovation
- Critical Thinking and Problem Solving
- Curriculum Design and Course Development
- College and Graduate-Level Instruction
- Public Speaking and Engaging Presentations
- Training and Workshop Facilitation
- Research and Data Analysis
- Storytelling and Narrative Development
- Creative Writing and Content Creation

Professional Experience

Founder and Principal, 10/2018 - Current
The Science Communicator, LLC – Asheville, NC
Science Communication Training and Education

- Developed and delivered tailored science communication training workshops for wide range of audiences, including academic institutions, government agencies, and industry professionals.
- Focused on enhancing public engagement and effective communication of complex scientific topics.

Content Creation and Thought Leadership

- Created and produced high-quality educational content, including upcoming video series The Hidden Powers of Microbes (launching on **The Great Courses** in November 2024).
- Authored articles and blog posts on science communication, contributing to broader discourse on public understanding of science.

Public Speaking and Workshops

- Delivered keynote presentations and seminars, such as “Science That Sticks” and “How to Survive an Apocalypse,” to diverse audiences.
- Known for making science accessible and engaging, with particular focus on practical applications in everyday life.

Business Development and Strategy

- Managed all aspects of the business, from content development to client relations and marketing.
- Built a recognized brand in science communication, leveraging strategic thinking and innovative approaches to expand the reach and impact of the organization.

Mentorship and Collaboration

- Provided personalized support and consulting to scientists and professionals, helping them communicate their work more effectively to non-specialist audiences.
- Engaged in collaborative projects with various stakeholders, fostering partnerships that enhance the educational experience.

Affiliated Professor, 09/2024 - Current

Warren Wilson College – Asheville, NC

- Teaching graduate science courses for Master of Science in Applied Climate Studies
- Collaborating with fellow professors to develop interdisciplinary courses, promoting well-rounded education for students.
- Encourage class discussions by building discussions into lessons, actively soliciting input, asking open-ended questions and using techniques to track student participation.
- Enhanced student comprehension by incorporating real-world examples and case studies in lectures.
- Developed strong relationships with industry leaders, creating opportunities for students to network and gain valuable insights into potential career paths.

Adjunct Professor, 08/2013 - 06/2024

Lenoir-Rhyne University Graduate Studies Center – Asheville, NC

Course Development and Delivery

- Created and delivered graduate-level courses in Science for Sustainability and Communicating Science.
- Utilized hybrid teaching approach, combining in-person and online instruction to accommodate students from diverse educational backgrounds.
- Developed syllabi, course materials, and multimedia presentations to enhance course content.

Instructional Techniques

- Enhanced student comprehension through varied instructional strategies, including lectures, group discussions, and interactive multimedia tools.
- Actively integrated student feedback into course delivery to improve learning outcomes and class

engagement.

- Designed rubrics and assessment tools to clearly communicate expectations and optimize student evaluations.

Student Engagement

- Actively solicited input from students to foster dynamic and inclusive class discussions.
- Provided timely academic progress updates and individualized feedback through quizzes, tests, homework, and projects.
- Facilitated connections between students and professionals through organized guest lectures and networking events.

Technology Integration

- Delivered online instruction using CANVAS online learning system, ensuring seamless remote learning experiences.
- Incorporated remote students into classroom lectures via ZOOM, creating interactive and accessible environment for all students.
- Leveraged multimedia tools to create rich, engaging learning environment.

Assessment and Feedback

- Evaluated students' academic work, offering constructive feedback to support their learning and development.
- Designed and implemented rubrics to standardize assessments and clearly communicate grading criteria.
- Maintained up-to-date records of student performance, ensuring accurate and timely reporting of grades.

Adjunct Professor, 08/2013 - 08/2014

Asheville-Buncombe Technical Community College – Asheville, NC

Course Instruction

• Instructed undergraduate students in Microbiology, Biology, Ecology, and Environmental Science courses.

• Taught specialized summer Microbiology course tailored for professionals, such as nurses and respiratory therapists, to prepare them for advanced professional entrance exams.

Targeted Professional Training

• Designed and delivered summer course focused on microbiology, to equip experienced professionals with the knowledge required for entrance exams into advanced training programs, including medical school.

Assessment and Feedback

• Assessed student progress through exams, assignments, and practical work, providing detailed feedback to support academic and professional growth.

Technology Integration

• Delivered virtual learning experiences through MOODLE platform, ensuring accessibility and engagement for remote students.

Research Faculty and Assistant Director, 01/2006 - 08/2012

University of Georgia – UGA Marine Institute, Sapelo Island, GA

Research and Scientific Contribution

• Conducted field and laboratory research on gene expression and microbial diversity in marine and estuarine microbial communities.

• Secured and managed grant funding to support research initiatives, successfully leading multiple research projects.

• Published peer-reviewed papers and presented data at national and international conferences, contributing to the advancement of marine science.

• Collaborated with scientists from local, state, national, and international organizations, fostering interdisciplinary research efforts.

Mentorship and Educational Outreach

• Directed and administered the undergraduate research intern program, providing hands-on training and mentorship to 15 interns in the laboratory.

• Mentored graduate students in thesis work, research projects, and professional development, guiding them towards successful academic and career paths.

• Supported and supervised lab technicians and a post-doctoral fellow, ensuring the successful execution of federally funded research projects.

• Delivered guest lectures on Sapelo Island's microbial ecology and conducted workshops on salt marsh microbes for students and public audiences, enhancing community engagement and education.

Leadership and Administration

• Managed laboratory operations, including staff supervision, resource allocation, and operational efficiency.

• Led institutional administrative responsibilities, such as developing the institute's website, coordinating researcher visits, overseeing personnel, and reviewing payroll.

• Spearheaded initiatives to improve facilities, such as enhancing internet access, ensuring water safety, and implementing advanced digital technologies within the library.

• Worked closely with the Director to raise capital for major facility enhancements and streamline operations through effective management proposals.

Academic and Professional Service

• Served as a peer reviewer for academic journals and as a committee member for scholarly conferences, ensuring the quality and integrity of scientific research.

• Reviewed grant proposals for the National Science Foundation and the U.S. Department of Energy, contributing to the advancement of research funding and policy.

• Acted as the University liaison to entities on the island, including the Georgia State Department of Natural Resources, and actively participated in University committees.

Community and Institutional Engagement

• Engaged with volunteer organizations to fundraise for facility enhancements and program development at the

Marine Institute.
• Delivered frequent guest lectures and public workshops, promoting awareness and understanding of marine microbial ecology within both academic and public communities.
• Coordinated efforts with the Georgia State Department of Natural Resources and other entities on Sapelo Island to align the Institute's activities with broader environmental and research goals.

Assistant Professor of Biology, 01/2003 - 12/2005
Roanoke College – Roanoke, VA
Course Instruction and Curriculum Development
• Taught a diverse range of undergraduate courses, including general ecology and lab, general biology and lab, science writing, basic genetics lab, marine biology, microbial biofilms (senior capstone course), and special topics courses like marine microbial ecology, for both majors and non-majors.
• Enhanced student understanding through the design of interactive and engaging lectures, incorporating real-world examples and case studies to increase course relevance.
• Contributed to revamping Biology Department Curriculum as part of department meetings and activities, ensuring alignment with contemporary scientific knowledge and educational best practices.
Student Mentorship and Academic Advising
• Advised students on academic planning, career goals, internships, research opportunities, and graduate school applications, fostering successful post-graduation outcomes.
• Maintained regular office hours to provide additional course help and build strong rapport with students, supporting their academic and personal growth.
• Guided and supervised undergraduate researchers involved in marine microbe gene expression studies, providing hands-on training in laboratory techniques and research methodology.
Research and Laboratory Management
• Conducted laboratory and field research investigating gene expression in marine microbes, contributing to the advancement of knowledge in marine microbial ecology.
• Managed all aspects of a research laboratory, including securing funding, overseeing routine maintenance, and leading state-of-the-art molecular genetics and microbiology projects.
• Integrated undergraduate researchers into the lab, offering guidance and financial aid and ensuring students gained practical experience in molecular and microbiology techniques.
Academic Service and Committee Participation
• Actively participated in multiple academic committees, including the Health Professions Guidance Council, providing students with career guidance and support in health-related fields.
• Contributed to faculty decision-making as member of Faculty Senate Review Committee, playing key role in shaping academic policies and practices.
• Participated in preparing for SACS review of college, ensuring compliance with accreditation standards and supporting institutional quality assurance.

Cross-Disciplinary Collaboration and Technology Integration

• Facilitated cross-disciplinary learning opportunities by collaborating with colleagues from other departments, enriching students' educational experiences.

• Managed grading and course administration tasks, ensuring timely updates to college database and Blackboard, college's online learning system, to maintain transparency and accessibility for students.

Assistant Research Professor, 08/1998 - 12/2002

Savannah State University – Savannah, GA

Course Instruction and Curriculum Development

• Created engaging learning experiences for students in the Marine Science department, instructing courses such as Current Issues in Oceanography (senior capstone), Marine Ecology, Writing in Research, and Critical Thinking in Science.

• Developed curriculum for SSU's Master of Marine Sciences program, launched in early 2000s to foster diversity in Marine Science, contributing to the first undergraduate program of its kind in southeast region.

Advancing Diversity in Marine Science

• Played a pivotal role in fostering diversity within the field of Marine Science by contributing to the development of SSU's Master of Marine Sciences program.

• Co-authored a peer-reviewed paper on outcomes of efforts to increase diversity in Marine Science through graduate education, contributing to the broader conversation on inclusivity in STEM fields.

Research and Scholarly Contribution

• Co-authored a peer-reviewed paper that highlighted the impact of educational initiatives on diversity in Marine Science, furthering the academic discourse on this critical issue.

Mentorship and Student Engagement

• Engaged students in the only undergraduate Marine Science program in the southeast, providing them with a unique educational experience tailored to the needs and challenges of a diverse student body at an HBCU.

Program Development

• Contributed to the early stages of the Master of Marine Sciences program, laying the groundwork for a graduate program that would become a significant driver of diversity in the Marine Science field.

Post-doctoral Research Associate, 08/1998 - 12/2002

Skidaway Institute of Oceanography & UCSC – Savannah, GA & Santa Cruz, CA

Research and Methodology Development

• Contributed to the research conception, design, and execution of a DOE-funded project on ocean margin biology, addressing complex scientific problems through innovative approaches.

• Developed and implemented advanced molecular techniques to analyze gene expression in marine bacteria, with focus on RNA analysis at UC Santa Cruz.

• Conducted controlled laboratory experiments at Skidaway Institute of Oceanography, using cutting-edge RNA

techniques to analyze field samples.

Fieldwork and Data Collection

• Participated in extensive field expeditions across the Atlantic, Arctic, and Pacific Oceans as part of multi-disciplinary research teams, collecting critical samples for the project.

• Served as Chief Scientist on research cruises in South Atlantic Bight, overseeing sample collection and data analysis in a challenging marine environment.

Mentorship and Supervision

• Supervised and supported graduate and undergraduate students in the laboratory, providing hands-on training and guidance in molecular techniques and research methodology.

• Adapted to new technologies and advancements in laboratory equipment to maintain a competitive edge in conducting experiments and guiding students.

Grant Writing and Scholarly Contribution

• Secured grant funding from the U.S. Department of Energy, becoming a co-Principal Investigator after two years by writing a compelling proposal highlighting the project's significance.

• Authored and co-authored professional scientific papers published in peer-reviewed journals, contributing to academic body of knowledge on ocean margin biology.

Conference Presentations and Collaboration

• Presented research findings at national and international conferences, enhancing the visibility of the project and promoting networking opportunities with potential collaborators.

• Collaborated with two Principal Investigators, Dr. Marc Frischer and Dr. Jon Zehr, across different institutions and coasts of USA, contributing to a highly ambitious and interdisciplinary research project.

Annual Meeting PCR Workshop Instructor, 06/1998 - 06/1998

American Society of Microbiology – Atlanta, GA

Workshop Delivery

• Delivered a comprehensive hands-on training workshop on polymerase chain reaction (PCR) techniques at the Annual Meeting of the American Society of Microbiology in 1998.

Resource Development

• Organized and provided supplementary resources, including handouts, to support participant understanding and offer additional instruction on workshop topics.

Hands-On Instruction

• Facilitated practical activities and demonstrations to reinforce key PCR concepts, ensuring participants gained valuable hands-on experience.

Collaboration and Innovation

• Collaborated with fellow instructors to develop and implement innovative teaching methods, creating an engaging and effective learning environment.

Graduate Research and Teaching Assistant, 08/1991 - 12/1997

OSU Microbiology Department – Stillwater, OK

Teaching and Instruction

- Provided instruction for laboratory portions of courses including microbiology, microbial ecology, cell and molecular biology, and medical mycology.
- Designed and implemented engaging classroom activities, increasing student interest and motivation in complex scientific topics.
- Graded assignments and quizzes, offered constructive feedback to students, and maintained precise records to support course Professors.

Research and Scholarly Contribution

- Conducted research on response of RecA protein in marine bacteria to ultraviolet radiation, utilizing molecular, laser, and microbiological tools in lab and marine field studies, including expeditions to Southern Ocean and Gulf of Mexico.
- Contributed to advancement of understanding in microbial ecology through both lab-based and field research, integrating cutting-edge molecular techniques.
- **Recipient of Graduate Student Research Award**, Oklahoma State University, 1997, the highest honor awarded to a Ph.D. graduate for exceptional research achievements.

Leadership and Advocacy

- Led graduate student association as president for two years, successfully advocating for student health insurance and organizing annual social events to foster a strong graduate student community.
- Played key role in enhancing graduate student experience through leadership and advocacy, ensuring well-being and cohesion of student body.

Safety and Compliance

- Served as Radiation Safety Officer for Microbiology Department for four years, overseeing use, storage, monitoring, and disposal of radioactive materials.
- Regularly updated departmental regulations in compliance with safety standards, and conducted routine lab inspections to ensure safe research environment.

Collaboration and Community Involvement

- Actively participated in departmental meetings, collaborating with colleagues to identify areas for improvement within academic community.
- Fostered a collaborative environment within department, contributing to discussions on educational and research initiatives.

Summer STEM Program Instructor, 05/1997 - 08/1997

OSU Biochemistry Department – Stillwater, OK

• Facilitated experiential learning for high school students from Oklahoma School of Science and Mathematics, a specialized STEM secondary school, as instructor for hands-on biochemistry lab course during a summer

intensive program.
• Taught students basic laboratory techniques, including DNA isolation, PCR, and gel electrophoresis, providing foundational skills in molecular biology.
• Mentored and guided students throughout summer research projects, offering support and expertise in laboratory to enhance understanding and application of biochemistry concepts.

Undergraduate Teaching Assistant, 01/1991 - 05/1991
OSU Microbiology Department – Stillwater, OK
• Delivered instruction for laboratory component of Introduction to Microbiology course, teaching two sections of undergraduate students.
• Assisted course professor with administrative tasks, including grading papers, updating class records, and accurately monitoring attendance.
• Facilitated small group activities to reinforce key concepts taught in lectures, enhancing student comprehension and engagement.

Education

Ph.D.: Microbiology And Molecular Genetics, 07/1998
Oklahoma State University - Stillwater, OK

Master of Science: Microbiology, Cell And Molecular Biology, 12/1997
Oklahoma State University - Stillwater, OK

Bachelor of Science: Biology (Biomedicine), 05/1991
Oklahoma State University - Stillwater, OK

Current Affiliations/Memberships

- American Society for Microbiology
- Union of Concerned Scientists
- Association for the Sciences of Limnology and Oceanography
- American Association for the Advancement of Science

Professional Development and Public Engagement

- **Initiated and collaborated** with U.S. Rep. Deborah Ross (NC) on proposal **to establish a U.S. National Science Day**, including submitting a bi-partisan formal letter to President Biden (2023) with plans for resubmission in September of 2024.
- **Science e-Adventure Project Contributor** – Created and video-recorded engaging science content for a

consortium project (Kids in Parks, Blue Ridge Parkway Foundation, US National Parks) featured on 200+ trails across the National Parks system, 2024.

- **Occasional science guest** on radio, podcasts, and public television, ongoing.
- **Presentations for local non-profit organizations** to discuss climate migration and Asheville, NC, ongoing.
- **Science Communication Workshop**, American Association for the Advancement of Science, Virtual, 2022.
- **Science Policy Bootcamp**, Sigma Xi and North Carolina Sea Grant, Raleigh-Durham, NC, July 19 - 22, 2021.
- **MSNBC and NBC Nightly News television appearances** discussing climate migration, 2021.
- **Served on Diversity and Inclusion Panel** at National Academy of Sciences Colloquium, *Advancing the Science and Practice of Science Communication: Misinformation About Science in the Public Sphere*, Irvine, CA, April 2019.
- **Six courses in creative writing** in UNCA Great Smokies Writing Program, 2013 - 2021.
- **Science Communication Bootcamp**, Alan Alda Center for Communicating Science, Stony Brook University, NY, June 13 - 17, 2016.
- **Undergraduate Research Mentor**, UNC Asheville, Sustainability Course, 2012. Mentored 4 students on communicating science through art in Asheville.
- **Research Educator Exchange Forum,** National Science Foundation workshop, Columbia, SC, July 2011.
- **From Molecules to Metadata**, NSF Long-term Ecological Research Workshop, Woods Hole, MA , March 2010.
- **Microbial Genomics and Metagenomics,** Joint Genome Institute, U.S. Department of Energy Workshop, Berkeley, CA, June 2009.
- **Board Member**, Blue Ridge Sustainability Institute.
- **Advisor**, Center for Sustainable Coast.
- **Mentor**, American Society of Microbiology.

Peer-Reviewed Scientific Research Publications

- Pennings, Steven C., Merryl Alber, Clark R. Alexander, Melissa Booth, Adrian Burd, Wei-Jun Cai, Chris Craft, Chester DePratter, Daniela Di Iorio, Chuck Hopkinson, Samantha B. Joye, Christof Meile, Williard Moore, Brian Silliman, Victor Thompson, and John P. Wares. South Atlantic Tidal Wetlands. 2012. In Wetland Habitats of North America Ecology and Conservation Concerns, Darold P. Batzer (Editor), Andrew H. Baldwin (Editor) (Ed.), University California Press. (1st ed., vol. 1, pp. 404).
- Gifford, Scott, M., S. Sharma, M.G. Booth and M.A. Moran. 2012. Expression Patterns Reveal Niche Diversification in a Marine Microbial Assemblage. ISME Journal. doi:10.1038/ismej.2012.96.
- Bradley, P. B., D. A. Bronk, M.E. Frischer, J.E. Brofft, M.G. Booth, M.P. Sanderson and L.J. Kerkhof.

2010. Inorganic and organic nitrogen uptake by phytoplankton and heterotrophic bacteria in the stratified Mid-Atlantic Bight. *Estuarine and Coastal Shelf Sciences*. 88:429-441.

- Gilligan, M.R, P.G. Verity, M.G.Booth and M.E. Frischer. 2007. Building a Diverse and Innovative Ocean Workforce through Collaboration and Partnerships that Integrate Research and Education: HBCUs and Marine Laboratories. *Journal of Geosciences Education*. 55:531-540.
- Allen, A.E., M.G. Booth, P.G. Verity and M.E. Frischer. 2006. Influence of nitrate availability on the distribution and abundance of heterotrophic bacterial nitrate assimilation genes in the Barent's Sea during summer. *Aq. Micro.Ecol*. 39:247-255.
- Allen, A.E., M.H. Howard-Jones, M.G. Booth, M. E. Frischer, P.G. Verity, D.A. Bronk, M.P. Sanderson. 2002. Importance of heterotrophic bacterial assimilation of ammonium and nitrate in the Barent's Sea during summer. *J. Marine Systems*. 38:93-108.
- Verity, P.G., M.R. Gilligan, M.E. Frischer, M.G. Booth, J.P. Richardson, and C. Franklin. 2002. Improving undergraduate research experiences. *AAHE Bulletin* 54: 3-6.
- Booth, M.G., W.H. Jeffrey, and R.V. Miller. 2001. RecA Expression in Response to Solar UVR in the Marine Bacterium *Vibrio natriegens*. *Micro. Ecol*. 42: 531-539.
- Allen, A.E., M. G. Booth, M.E. Frischer, P.G. Verity, J.P. Zehr and S. Zani. 2001. Diversity and detection of nitrate assimilation genes in marine bacteria. *Appl. Env. Micro.* 67:5343 – 5348.
- Booth, M.G., L. Hutchinson, M. Brumsted, P. Aas, R.B. Coffin, R.C. Downer, Jr., C.A. Kelley, M.M. Lyons, J.D. Pakulski, S.L. Holder Sandvik, W.H. Jeffrey, and R.V. Miller. 2001. Quantification of *recA* gene expression as an indicator of repair potential in marine bacterioplankton communities of Antarctica. *Aq. Micro. Ecol.* 24:51-59.
- Booth, Melissa. 1997. Solar ultraviolet radiation and the role of *rec*A in marine bacteria. Ph.D. dissertation. Oklahoma State University. https://www.proquest.com
- Kidambi, Saranga P., Melissa Booth, Tyler Kokjohn and Robert Miller. 1996. *recA* dependence of the response of *Pseudomonas aeruginosa* to UVA and UVB irradiation. *Microbiology*. 132:1033-1040.

Professional Conference Proceedings

- Amaral-Zettler, L., Huse, S., Booth, M.G., Carlson, C., Ducklow, H., Guevara, R., Giangregorio, Hobbie, J., and Palenik, B. The microbial inventory research across diverse aquatic LTERS contribution to the census of marine microbes. 2011. *Abstracts of the World Conference on Marine Biodiversity*. Aberdeen, Scotland. http://www.marine-biodiversity.org/abstract-booklet.
- Booth, M.G., S. Gifford, M. Doherty and M.A. Moran. 2011. Single gene transcript quantification of two unusual metabolic genes identified through transcriptomic analysis of estuarine bacterial communities. *Abstracts of the American Society of Limnology and Oceanography meeting*, San Juan, Puerto Rico.
- Booth, M.G., S. Gifford, M. Doherty, M. Muscarella and M.A. Moran. 2010. Expression of two carbon metabolism genes identified thorough transcriptomic analysis of estuarine bacterial communities of Sapelo

Island, GA, U.S.A. *Abstracts of the International Society of Microbial Ecology Meeting*, Seattle, WA.

- Booth, M.G. and M. Doherty. 2009. Microbial Metagenomic Survey of the Sapelo Island Estuarine Complex: Archaea, Bacteria, and Microbial Eukaryotes from Freshwater to Saltwater. *Abstracts of the Coastal and Estuarine Research Federation Biannual Meeting*, Portland, OR.
- Doherty, M., Poretsky, R., Muscarella, M.E., and M.G. Booth. 2009. Tracking metabolism of an important terrestrial carbon source by marine bacterioplankton. *Abstracts of the Coastal and Estuarine Research Federation Biannual Meeting*, Portland, OR.
- Booth, M.G. and A. Poole. 2008. Utilizing *nas*A and 15N-NO3- Uptake to Characterize and Quantify Nitrate Assimilation in Estuarine Heterotrophic Bacterioplankton. *Abstracts of the American Society of Microbiology General Meeting*, Boston, MA.
- Booth, M.G., C.A. James, J.E. McCluney, M.E. Frischer, D.A. Bronk. 2004. Relating molecular analyses of heterotrophic bacterial assimilatory nitrate reductase, *nas*A, to physical and biogeochemical parameters to begin determination of the controls on bacterial nitrate assimilation in marine environments. *Abstracts of the International Society for Microbial Ecology*, Biennial Meeting, Cancun, Mexico.
- Booth, M.G., D.A. Bronk, A.E. Allen, M.P. Sanderson, P.G. Verity, M.E. Frischer. 2003. Linking expression and regulation of assimilatory nitrate reductase in heterotrophic bacteria with uptake of inorganic nitrogen. *Abstracts of the 103RD American Society of Microbiology General Meeting*, Washington, D.C.
- Booth, M.G., D.A. Bronk, A.E. Allen, M.P. Sanderson, P.G. Verity, M.E. Frischer. 2003. Factors regulating assimilatory nitrate reductase (*nasA*) expression in marine bacterial communities detected by dual molecular and physio-chemical approaches. *Abstracts of the Aquatic Sciences Meeting of the American Society of Limnology and Oceanography.* Salt Lake City, UT.
- Braxton, J.H., M.G. Booth, J.E. Brofft, M.E. Frischer. 2003. Detection and identification of heterotrophic bacteria expressing nitrate reductase in two freshwater lakes of the Adirondacks. *Abstracts of the Aquatic Sciences Meeting of the American Society of Limnology and Oceanography.* Salt Lake City, UT.
- Allen, A.E., B.B. Ward, M.G. Booth, M.E. Frischer, P.G. Verity, D.A. Bronk. 2003. Relationship between water column nitrate uptake and community structure based on assimilatory nitrate reductase genes in heterotrophic bacteria and diatoms. *Abstracts of the Aquatic Sciences Meeting of the American Society of Limnology and Oceanography.* Salt Lake City, UT.
- Booth, M.G., Allen, A.E., Frischer, M.E., Verity, P.G., Bronk, D.A., Sanderson, M.P. 2002. *Abstracts of the DOE Biotechnological Investigations Ocean Margins Program Annual Program Workshop.* St. Petersburg, FL.
- Frischer, M.E., M. G. Booth, A. E. Allen, H. Hendrickson, P. G. Verity, D. A. Bronk, M. P. Sanderson. 2002. Combined Molecular and Chemical Tracer Approaches for *In Situ* Identification of Nitrate Utilization by Marine Bacteria. *American Society of Limnology and Oceanography Aquatic Science Meeting*. Honolulu, HA.
- Booth, M. G., A.E. Allen, M.P. Sanderson, D.A. Bronk, P.G. Verity, M. E. Frischer. 2001. Determination

of *nasA* expression and nitrate utilization using molecular and physio-chemical approaches to characterize marine heterotrophic bacterial nitrate assimilation. *Abstracts of the 9th International Symposium for Microbial Ecology*. p. 173. Amsterdam, Netherlands.

- Allen, A.E., M.G. Booth, M.E. Frischer, P.G. Verity, D.A. Bronk, M.P. Sanderson, H. Hendrickson. 2001. Relationship between abundance and diversity of assimilatory nitrate reductase and 15N uptake of nitrate in heterotrophic marine bacteria. *Abstracts of the 9th International Symposium for Microbial Ecology*. p. 239. Amsterdam, Netherlands.
- Frischer, M.E., J.M. Danforth, M.G. Booth, M.H. Howard-Jones, T. Foy, J.P. Schmit, C. Shearer. 2001. Bacterial and Fungal Responses to Nutrient Enrichment in Mangrove Sediment and Leaf Litter. *Abstracts of the 9th International Symposium for Microbial Ecology*. p. 264. Amsterdam, Netherlands.
- Allen, A.E., M. G. Booth, M. E. Frischer, P. G. Verity, D.A. Bronk, and J. P. Zehr. Poster. 2001. Diversity and expression of assimilatory nitrate reductase in marine bacteria. *Abstracts of the 101st American Society of Microbiology General Meeting*, Orlando, Florida. AbstractID=49095
- Booth, M.G., M.E. Frischer, P.G. Verity and M.G. Gilligan. 2001. Impact of Undergraduate Research Experience at Savannah State University. *Abstracts of the DOE Biotechnological Investigations Ocean Margins Program Annual Program Workshop.* Savannah, GA.
- Sanderson, M.P., D.A. Bronk, M.E. Frischer, P.G. Verity, M.G. Booth, A.E. Allen. 2001. Baseline Study of Inorganic and Organic Nitrogen Uptake in South Atlantic Bight. *Abstracts of the DOE Biotechnological Investigations Ocean Margins Program Annual Program Workshop.* Savannah, GA.
- Booth, M.G., A.E. Allen, J.P. Zehr, P. G. Verity and M.E. Frischer. 2000. mRNA Expression and Regulation of Assimilatory Nitrate Reductase Among Diverse Marine Bacterioplankton Isolates and Communities. *Abstracts of the American Society of Limnology and Oceanography Aquatic Science Meeting*. Copenhagen, Denmark.
- Booth, M.G., A. E. Allen, M.E. Frischer, P.G. Verity, J.P. Zehr. 2000. Genetic Diversity of the Assimilatory Nitrate Reductase Gene in Heterotrophic Marine Bacterioplankton. *Abstracts of the 100st American Society of Microbiology General Meeting*. Los Angeles, CA.
- Booth, M.G., A.E. Allen, J. Zehr, M.E. Frischer, P.G. Verity, and M.G. Gilligan. 2000. Broadening the Marine Science Undergraduate Experience at SSU through Research and Education: Studies of the Expression and Diversity of Assimilatory Nitrate Reductase in Heterotrophic Bacteria. *Abstracts of the DOE Biotechnological Investigations Ocean Margins Program Annual Program Workshop*. Tallahassee, FL.
- Booth, M.G., D.A. Bronk, A.E. Allen, P.G. Verity, and M.E. Frischer. 1999. Expression and regulation of assimilatory nitrate reductase in heterotrophic bacteria by available nitrogen. *Abstracts of the 99st American Society of Microbiology General Meeting*, Chicago, IL.
- Allen, A. E., M.G. Booth, M.E. Frischer, P. G. Verity, S. Zani, and J.P. Zehr. 1999. The nitrate assimilation capacity of heterotrophic bacterioplankton in the South Atlantic Bight as indicated by phylogenetic analysis of the assimilatory nitrate reductase gene. *Abstracts of the 99st American Society of Microbiology*

General Meeting, Chicago, IL.

- Zani, S., Mellon, M.T., Allen, A.E., Booth, M.G., Frischer, M.E., and J.P. Zehr. 1999. Characterization of assimilatory nitrate reductase genes of marine microbial communities. *Abstracts of the American Society of Limnology and Oceanography Aquatic Science Meeting*. Santa Fe, NM.
- Booth, M.G. and R.V. Miller. 1999. Development and further characterization of a molecular tool to monitor DNA repair in UVR-stressed bacterioplankton communities: RecA Expression *in vitro* and *in situ*. *Abstracts of the American Society of Limnology and Oceanography Aquatic Science Meeting*. Santa Fe, NM.
- Booth, M.G. and R.V. Miller. 1997. The Role of RecA in Response to Solar UVR in the Marine bacteria. *Abstracts of the American Society of Limnology and Oceanography Aquatic Science Meeting 1997*. p104. Santa Fe, NM.
- Booth, M. G. and R. V. Miller. 1995. Effects of solar UV on *recA* expression in marine bacteria. p. 352. *Abstracts of the General Meeting of the American Society for Microbiology*. Washington, D.C.
- Booth, M. G. and R. V. Miller. 1995. Effect of solar ultraviolet radiation on *recA* in marine bacteria. *Abstracts of the Oklahoma Academy of Sciences*. Alva, OK.
- Booth, M. G. and R. V. Miller. 1994. Response of *Pseudomonas aeruginosa* to UVA and UVB irradiation. p. 242. *Abstracts of the General Meeting of the American Society of Microbiology.* Las Vegas, NV.
- Booth, M. G. and R. V. Miller. 1994. Response of *Pseudomonas aeruginosa* to UVA and UVB. *Abstracts of American Society of Microbiology, Missouri Valley Branch.* Stillwater, OK.
- Booth, M. G. and R. V. Miller. 1993. *din* gene induction by UVA and UVB in *Pseudomonas aeruginosa*. *Abstracts of Oklahoma Academy of Sciences*. Alva, OK.
- Booth, M. G. and R. V. Miller. Poster. 1993. H2O2 inducibility of *Pseudomonas aeruginosa* genes functioning in the *P. aeruginosa* stress response regulon. *Abstracts of the Oklahoma State University Graduate Student Research Symposium*. Stillwater, OK.

Other Interests

- **Avid Writer**: Passionate about storytelling and creative writing, with ongoing projects that complement professional work in science communication.
- **Traveler**: Extensive travel experience, fostering a global perspective and openness to diverse cultures and ideas, which informs both professional and personal pursuits.
- **Outdoor Enthusiast**: Engaged in activities such as fishing, hiking, and kayaking, reflecting a strong connection to nature and an active lifestyle that complements work in environmental science and sustainability.
- **Certified Yoga Instructor**: Certified and experienced in teaching yoga, emphasizing a commitment to physical and mental well-being, as well as strong leadership and instructional skills.