North Carolina Academy of Science
Since 1902

Volume 5, Issue 1

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What's going on in the North Carolina Academy of Science:

- Featured Scientist—Dr. Mathews
- Announcing 2016 – 2017 CANCAS Officers

Inside this issue:

President's Letter

By: Dr. Francie Cuffney, Meredith College

Dr. Francie Cuffney

In March of 1902 nine people gathered to discuss science in North Carolina and so began a new organization. The group named William L. Poteat as the first President of the newly named North Carolina Academy of Science. 114 years later the North Carolina Academy of Science is a robust organization, with membership and participation at annual meetings of over 300. The Academy is proud to serve membership at the senior, college and student levels. It is thrilling to hear the presentations of undergraduates and see the level of academic scholarship evidenced. It is rewarding to know that the Academy has been able to provide support, through Bryden and Yarbrough grants, to this next generation of scientists and to provide a welcoming venue for presentation of their results.

The mission statement of the Academy is to *promote public appreciation of science, science education, scientific research and a meaningful role for science in public policy.* Throughout its history the Academy has worked with agencies across the state to provide policy statements on diverse topics from evolution to management of hazardous wastes to more recent issues of fracking.

Over the course of more than 100 years the Academy has seen many changes in society and in how the Academy functions within society. In the last few years we have seen the movement to a presence on the Web and on social media as well as moving the Journal of the Academy to an online publication. Change and growth, necessary to thrive, occur only through the efforts of dedicated members. No organization exists without the membership and the commitment of all, not just an active Board of Directors.

I am honored to be the current president of the North Carolina Academy of Science. But my work as president is not nearly as important as the work of all of you, the membership. As an organization we continue to face issues of budgetary constraints and membership involvement. We are a robust Academy but in order to thrive and grow we must all work together and support each other. I encourage all members to consider how you can contribute to our mission, through supporting undergraduate research, contributing to our journal, offering to review journal submissions, joining the board, and participation in the annual meetings. There are so many ways to be an active member and the benefits are great to our Academy, to the State of North Carolina, and to science. I look forward to working with all of you over the next year.

Cheers,

Francie J. Cuffney, Chair, Department of Biology, Meredith College

NCAS News!

Association for Molecular Pathology Hosts Precision Medicine Workshop

Submitted by: Dr. Jim Fuller, Laboratory Start-Up Consultants

The Association for Molecular Pathology (AMP) invites you to join us for this free, full-day interactive professional development workshop, presented by the AMP Training and Education Committee. We hope you will join us in Charlotte!

Workshop Title: Teaching Precision Medicine, Genomics, and Molecular Diagnostics in Your Classroom

Eligible Participants: High School and College Science Teachers and their high-level science students (up to 4 per teacher)

Date: Wednesday, November 9, 2016

Time: 7:30am - 3:45pm. Breakfast, lunch, & snacks included! Full day participation is required.

Location: Westin Charlotte Hotel, Charlotte, North Carolina

Agenda Details and Registration:
http://www.amp.org/meetings/2016/AMP2016ScienceEducatorWorkshop.cfm

This event is FREE, but registration is required no later than November 2! Seats are limited. Attendees are responsible for transportation costs, including parking at or near the hotel or convention center.

At the end of this workshop, we hope you can bring the following teaching points back to your classrooms:

- What is precision medicine and how does that impact our health care system?
- How are diagnoses made for different types of cancers or viral outbreaks?
- When your primary care physician orders a lab test, where does it go & who does the testing?
- What goes on in the lab with your blood sample or other body tissue specimens?
- What does it take for a career in laboratory medicine and molecular diagnostics?
- Where to find teaching tools to teach the scientific concepts back to a classroom of students?

First NCAS Annual Dues Notice

Your member contributions help support programs and maintain the viability of the Academy. Please renew your membership for the upcoming year (due January 1). Visit the membership tab on www.ncacadsci.org to pay your dues today!

NCAS Annual Meeting 2017: Save the Date!

Where:
High Point University

When:
Friday, March 24th & Saturday, March 25th

Job Openings in the Scientific Community

For more information on how to apply, go to http://www.ncacadsci.org/NCAS/jobOpportunites.html

1. Assistant Professor — Medicinal Chemistry, Wake Forest University

The Department of Chemistry is seeking an Assistant Professor to begin in August of 2017. Applicants with research interests in the areas of synthetic medicinal chemistry or a chemical biology approach to drug discovery are particularly encouraged to apply. Review of applications will begin October 10, 2016. Learn more at: https://www.wfu.careers.

2. Assistant Professor — Biochemistry, Davidson College

The Biology Department is seeking an Assistant Professor to begin in August of 2017. Applicants with the ability and interest in teaching a biostatistics course, a nutrition course, or contributing to the genomics program add strength to an application. Materials must be submitted by September 25, 2016. Learn more at https://jobs.davidson.edu.

Do you have exciting news to share with the NCAS Family?
Let the publication committee know, and we can highlight your news!
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Thanks to Meredith College for hosting our Home Office and NC Academy of Science Headquarters!

Featured Scientist:

Report by: Dr. Jess McCann, Duke University

For this installment of "Meet the Scientist," we talked with Dr. Stephanie Mathews, a microbiologist in her first semester as Assistant Professor of Biology at Campbell University.

Dr. Stephanie Mathews, Photo credit: Becky Kirkland

It is a good thing that we don't have Smellivision incorporated into our newsletter, because Dr. Mathew's work really stinks. Or, it may be more accurate to say that Dr. Mathews is working to make our world less smelly. Her main focus is bioremediation, which, as defined by the Environmental Protection Agency, is a "treatment that uses naturally occurring organisms to break down hazardous substances into less toxic or non toxic substances." As a graduate student at North Carolina State University, Dr. Mathews worked mostly on how to break down the fibrous plant material left over after paper is made – called lignocellulose – which is often burned, leaving a sulfurous, smelly waste product. She sequenced the genetic material from a bacterium found in paper pulping waste, and described how that bacterium grew with pulping waste as a food source. Moving forward, she is thinking about how these bioremediating bacteria can be used to produce high value chemicals (think: biofuels) from the lignocellulose waste.

Bacteria are also responsible for making your clothes smell not so fresh after a wear or two. But nobody really understands what bacteria do to the clothes we wear, and what our clothes do to the microbial populations living on our skin. To help define microbial-fabric interactions, Dr. Mathews is participating in the "Life of Pants" citizen science project led by Drs. Rob Dunn and Amy Grunden at NC State. "We are partnering with textile companies who are noticing a problem with smellier clothes when the fibers are different. We are proposing that these differences in odor are due to bacteria," said Dr. Mathews.

Her love for microbes was kindled during her undergraduate years at UNC Chapel Hill. She started as a pre-med major, but was fortuitously steered in a different direction by her undergraduate research mentor, Dr. Ann Mathysee. Dr. Mathews started out washing dishes in the Mathysee lab, but this evolved into a research position studying microbes that infect plants. It was Dr. Mathysee who encouraged her to go into graduate school.

While in graduate school, Dr. Mathews discovered another passion: teaching. She prepped for her college teaching and research career by participating in the highly competitive "Preparing the Professoriate," a nationally recognized teaching training program at NC State. When asked if she had any advice for graduate students who want to pursue teaching, Dr. Mathews stressed that it was important to be upfront with potential mentors about career goals. She advises, "seek out resources and mentors early. It was helpful to declare my interest in teaching." There can be push back – some mentors believe that graduate school is mainly about research. Make sure you are paired with someone who supports your career goals, she suggested. Also, Dr. Mathews recommends taking on guest lectures, observing great teachers, and getting involved in programs that will help you learn teaching strategies.

Thanks, Dr. Mathews, and best of luck in your first semester at Campbell!!

CANCAS Report

Report by: Dr. Beth Overman, Methodist University

The CANCAS Board is scheduled to meet on during the 2nd half of September to draft their annual strategic plan and discuss events for the upcoming workshop.

Fall Undergraduate Research Workshop 2016 is tentatively scheduled to be hosted by Shaw University. The date and a detailed agenda will be sent out through the CANCAS mailing list in late September.

Please encourage your club advisors and other colleagues to nominate one of their students for a CANCAS Campus Liaison position. Campus liaisons are responsible for encouraging participation of their student bodies and organizations with CANCAS. They will stay in touch with CANCAS through the NCAS Newsletter, Facebook and attendance at the Fall Workshop and NCAS Annual Meeting, and recruit new student members from their home institution.

We need all our institutions to renew CANCAS membership for 2016-2017
(Due November 15)

CANCAS Officers, 2016–2017

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President	Anu Hanumanthu *NC State University*	ahanuma@ncsu.edu
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Congratulations to our newest CANCAS Officers!

North Carolina Academy of Science
Since 1902

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"Like" us on Facebook and follow us on Twitter (@NCAcadofSci) to get the latest updates and information on what's happening at your North Carolina Academy of Science!

Check us out on the web!
http://www.ncacadsci.org/home.html

The **objective** of the North Carolina Academy of Science is to *"encourage the advancement of science within the state of North Carolina by promotion of scientific research and by the fostering of education in the sciences*". The North Carolina Academy of Science meets these objectives by...

- Publishing a peer reviewed scholarly journal, the *Journal of the North Carolina Academy of Science*.
- Fostering and encouraging student involvement in the sciences through support of the Collegiate (CANCAS) and Student Academies (NCSAS).
- Promoting interactions among scientists and students throughout North Carolina.
- Providing a forum for exchange of ideas for solving issues important to North Carolina.

The Academy members include individuals from academia, industry, government, and all others who support the objectives and goals of the Academy.

North Carolina Academy of Science

Our Mission

The North Carolina Academy of Science promotes public appreciation of science, science education, scientific research and a meaningful role for science in public policy.

Our Goals:

Promote public appreciation of science

- Partnership with Science Centers
- Public Lecture Series
- Newsletter

Promote science education

- NCAS Webpage
- Academic Lecture Series
- NCAS Publications: Journal, Educational Publications
- Student Academy - Middle & High School

Promote scientific research

- Yarbrough and Bryden Research Grants
- CANCAS Undergraduate Research Workshop
- Presentation Opportunities at Annual Meetings
- Journal of the North Carolina Academy of Science

Promote science in public policy

- Symposia
- News Releases
- Position Statements
- Interactions with Public Officials