

SAVE THE DATE

**MSEC SCIENCE SEMINARS 2018-19:**  
**9/20, 9/27, 10/4, 10/25, 11/8, 11/15, 4/18**  
*Learn more: [msec.appstate.edu](http://msec.appstate.edu)*

- 10/15-1/15: SVSM and NCSSM Applications
- 10/23-10/24: NCABR Bridging the Gap Conference, Raleigh, NC
- 10/31: NCCTM Leadership Seminar, Greensboro, NC
- 11/1-11/2: NCCTM State Mathematics Conference, Greensboro, NC
- 11/28: NCSLA Meeting, Charlotte, NC
- 11/29-12/1: NSTA Area Conference on Science Education, Charlotte, NC

**12/18: Region 7 Science Fair and Student Academy of Science, Appalachian**

**3/21: NCCTM Math Contest, Appalachian**

**3/23: NCCTM Western Region Math Fair, Appalachian**

- 4/1-4/30: North Carolina Science Festival
- 4/3-4/6: NCTM Annual Meeting & Exposition, San Diego, CA
- 4/11-4/14: NSTA National Conference on Science Education, St. Louis, MO
- 4/11: NCCTM State Math Contest (Comprehensive), Durham, NC
- 4/30: STEAM Expo, Appalachian**
- 5/2: NCCTM State Math Contest Levels 1, 2, and 3, Asheville, Greensboro, Fayetteville, NC
- 5/3: NCCTM State Math Fair, Durham, NC

MATH AND SCIENCE PROGRAMS FOR TEACHERS AND STUDENTS

MSEC is always pleased to work with school systems to offer programs that meet your specific needs, either on campus or in the schools.

**Family Math Nights** in elementary and middle schools and **Family Science Nights** in elementary schools are two of our most popular programs. These programs involve students and their parents together exploring interesting facets of mathematics and science.

Contact Leah McManus ([mcmanusld@appstate.edu](mailto:mcmanusld@appstate.edu)) for further information on these or other programs.

Northwest Regional Science Fair and Student Academy of Science is Tuesday, December 18

The Reich College of Education is again hosting the Region 7 Science Fair, which will be held on Tuesday, December 18, 2018.

The counties in Region 7 are Alexander, Alleghany, Ashe, Avery, Burke, Caldwell, Catawba, McDowell, Mitchell, Watauga, Wilkes, and Yancey.

In addition, the North Carolina Student Academy of Science (NCSAS) competition will take place the same day in the afternoon.

Interested in judging? Please contact Phillip Johnson ([johnsnpe@appstate.edu](mailto:johnsnpe@appstate.edu)) or Coleman Bailey ([colemanbailey@averyschools.net](mailto:colemanbailey@averyschools.net)).

Registration fees and other details will be posted online as they become available.

*Learn more: [msec.appstate.edu](http://msec.appstate.edu)*

Special Thanks

For many years, Coleman Bailey has chaired the Northwest Regional Science Fair competition and Susan Purser has chaired the NCSAS competition. Ms. Purser is stepping down, and we would like to thank her for her work and exceptional leadership. Mr. Bailey will assume responsibilities for both competitions beginning this year.

MSEC to Host Post-Lab on Wednesday, January 23

Post-lab is an informal gathering of Appalachian State University faculty and staff interested in Science, Technology, Engineering, and Mathematics (STEM). The first meeting of spring semester will be hosted by MSEC on Wednesday, January 23 in the Reich College of Education Rotunda.

In connection with the event, MSEC will welcome visitors to an Open House at our new space on the fifth floor of RCOE.

North Carolina Science Festival is April 1-30

The ninth annual North Carolina Science Festival will take place during the month of April 2019.

During this year's festival, STEAM (Science, Technology, Engineering, Arts and Mathematics) Expo Day will be held on Tuesday, April 30 on the campus of Appalachian State University.

STEAM Expo Day, with its large number of science and mathematics activities, becomes more popular each year and draws crowds of excited participants.

Dr. Tonya Coffey, of the Physics and Astronomy Department, and Tracey Tardiff, with the Admissions Office, will again coordinate campus events for the North Carolina Science Festival.

Space is limited! Contact Tracey Tardiff ([tardiff@tardiffa@appstate.edu](mailto:tardiff@tardiffa@appstate.edu)) to reserve your spot today. More information will be published online as it becomes available.

*Learn more: [ncsciencefestival.appstate.edu](http://ncsciencefestival.appstate.edu) or [ncsciencefestival.org](http://ncsciencefestival.org)*



Mathematics and Science Education Center

APPALACHIAN STATE UNIVERSITY

SUMMER 2018 SCIENCE INSTITUTES/WORKSHOPS

External funding sources enabled the Mathematics and Science Education Center (MSEC) to offer a series of robust science workshops in the summer.

**Grants and in-kind support totaled \$12,975.**

Our appreciation and congratulations go to Marta Toran of Appalachian's Department of Geology and Environmental Sciences for obtaining funding that largely paid for two geology workshops for elementary and middle school teachers.

*Details: [earth.appstate.edu/news/summer-2018-workshop-series-elementary-teachers](http://earth.appstate.edu/news/summer-2018-workshop-series-elementary-teachers)*

*Pictures: [photos.app.goo.gl/oAeyZeLmqWGyJjqr5](https://photos.app.goo.gl/oAeyZeLmqWGyJjqr5)*

We also held our first GLOBE (Global Learning and Observations to Benefit the Environment) workshop in collaboration with RIEEE and hope to have more in the future.

GLOBE is an international science and education program that started in the mid-1990s that has been successful since its inception.

*Learn more: [globe.gov](http://globe.gov)*

In addition, we were fortunate to be selected as a regional center for two workshops by the North Carolina Department of Public Instruction (NCDPI) and one by the North Carolina Science and Engineering Fair (NCSEF).

The math and science divisions of NCDPI have been combined and that division brought a workshop in mathematics and another in science.

All workshops granted license renewal credits and provided instructional materials for teachers' classroom use, and several gave stipends.

- June 9: "GLOBE Hydrosphere Protocol Training" with Drs. Nicole Bennett, Carol Babyak, and Shea Tuberty, 10 participants, \$100 stipend
- June 21-22: "Implementing the K-8 Mathematics Standards" with NCDPI, 96 participants
- June 25: "Guiding Student STEM Research" with NCSEF, 20 participants, \$50 stipend
- June 26-28: "K-12 Summer Science Institute: School Improvement through Local Curriculum Development" with NCDPI, 31 participants
- August 7, "Rockin' North Carolina" with Marta Toran, 20 participants, \$65 stipend
- August 9, "Deep Time Toolbox for Elementary Educators," 22 participants, \$50 stipend



Appalachian Geological and Environmental Science sponsored sign-in table

msec.appstate.edu

Fall 2018



## NOTES FROM THE DIRECTOR



Hard to believe, but it has been half a year since we moved into our new space on the fifth floor of the Reich College of Education Building.

If you have not visited the MSEC since we moved, I invite you to come and see how we have adapted the area as center with excellent math and science resource rooms. I think you will be pleasantly surprised.

In addition, I am pleased to welcome our two newest faculty members in mathematics education:

- Dr. Ashley Whitehead
- Dr. Travis Weiland

*Learn more in SPOTLIGHTS.*

Please let me know of other App State faculty or teachers in the schools whom you would like to see featured.

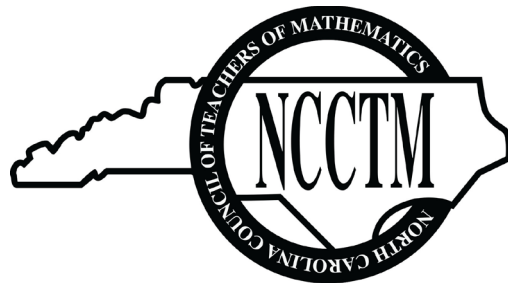
My thanks to everyone who contributed to and helped proofread the newsletter.

If you have ideas for articles in mathematics and science education that should be considered for inclusion in future newsletters, please let me know.

Phil Johnson

*Contributors: Coleman Bailey, Mike Bossé, Tonya Coffey, John Sevier and Tracey Tardiff*

## NORTH CAROLINA COUNCIL OF TEACHERS OF MATHEMATICS NEWS



### NCCTM 2018 STATE MATH CONFERENCE

The 48th Annual State Mathematics Conference will be held on November 1-2, 2018 at the Koury Convention Center in Greensboro.

The theme for the conference is "Cultivating Coherence and Connections."

Keynote speakers include Susan O'Connell, Sandra Linder, Kathy Richardson, Julie McNamara, Graham Fletcher, Pam Harris, Steve Leinwand, Scott Hendrickson, and the North Carolina Collaborative for Mathematics Learning (NC2ML).

Attend 300+ sessions and workshops on a wide variety of topics for teachers and other school personnel at all levels.

This is a wonderful opportunity for teachers and administrators to recharge, network, and continue learning.

*Learn more and register: [ncctm.org](http://ncctm.org)*

### NCCTM FALL LEADERSHIP SEMINAR

The 2018 Fall Leadership Seminar will be held at the Koury Convention Center on Wednesday, October 31. The theme is "Cultivating Coherence and Connections," and the keynote speakers are Graham Fletcher, Pam Harris, and Steve Leinwand.

*Learn more and register: [ncctm.org](http://ncctm.org)*

### NCCTM WESTERN REGION MATH FAIR

The 2019 Western Region Math Fair will be held on Saturday, March 23 at Plemmons Student Union on the campus of Appalachian State University. NCCTM sponsors three regional math fairs, and the winners are invited to participate in the State Math Fair.

The State Math Fair will be on Friday, May 3, 2019 at the North Carolina School of Science and Mathematics in Durham.

*Learn more: [ncctm.org](http://ncctm.org) (look for the Resources and Activities tab and select "Math Fairs" or contact Dr. Betty Long ([longbb@appstate.edu](mailto:longbb@appstate.edu)))*

Information on the 2019 fairs and registration forms are posted.

*2018 State Math Fair pictures and list of winners: [ncctm.org](http://ncctm.org)*

### NCCTM MATH CONTEST

The Department of Mathematical Sciences and the MSEC will host a regional NCCTM Math Contest at Appalachian State University for Level 1 and Comprehensive divisions on Thursday, March 21, 2019.

Qualifiers for Level 1 will advance to the Regional Finals at UNC-Asheville, and the Comprehensive winners will advance to the State Finals at the North Carolina School of Science and Mathematics.

*Learn more and register: [mathsci.appstate.edu/news-events/mathcontest](http://mathsci.appstate.edu/news-events/mathcontest)*

## SUMMER VENTURES IN SCIENCE AND MATHEMATICS

SVSM was held on four UNC campuses this summer (Appalachian, ECU, UNCC, & UNCW) with approximately 225 students attending.

Sixty students participated at Appalachian, representing 43 schools from 26 NC counties.

Research classes included:

- Aquatic Ecology-Geology/Hydrology
- Exploratory Data Analysis
- Human Physiology in Exercise Science
- Robotic Design & Innovations

Students also attended demonstration classes including Forensic Science, Interactive Science, Physics Phenomena, and Sustainability & STEAM. Faculty, graduate/undergraduate students, and teachers from Appalachian and regional high schools taught and/or worked in the residence life program.

SVSM is a cost-free, four-week academic program for high achieving, rising high school juniors and seniors interested in careers/majors in STEM.

Students applying for NCSSM residential or online programs can apply to Summer Ventures at the same time through CFNC.org. Applications are available October 15-January 15.

Contact Lori Tyler ([tylerle@appstate.edu](mailto:tylerle@appstate.edu)) for a school/classroom information session. Webinars are currently being developed to assist students with the application process.

*Learn more: [ncssm.edu/summerventures](http://ncssm.edu/summerventures)*

## SPOTLIGHT: Ashley Whitehead and Travis Weiland



Dr. Ashley Whitehead earned a Ph.D. in mathematics education from North Carolina State University, an MS in applied mathematics from Indiana State University and a BS in mathematics

education from Oakland City University.

Prior to coming to Appalachian, Whitehead served as an instructor at Austin Peay State University and the University of Southern Indiana. She taught mathematics and elementary education courses.

Originally licensed to teach 6-12 mathematics, she began working with elementary education majors as a graduate assistant at ISU, which sparked her current career path and research.



Dr. Travis Weiland earned a Ph.D. in mathematics education from the University of Massachusetts Dartmouth, an M.A.Ed. in mathematics education from Western Carolina University and a BA in mathematics and secondary education at Warren Wilson College.

During his time at UMassD, Weiland worked with teachers by leading professional development, conducting classroom observations, and teaching teacher education courses.

In addition, Weiland is a former high school mathematics teacher. His research focuses on issues of access and equity in the teaching and learning of statistics in middle school through early undergraduate settings.

## MATHEMATICS EDUCATION LEADERSHIP TRAINING SUMMER INSTITUTE

Under the guidance of Dr. Michael Bossé, the 2018 MELT Program offered 14 week-long professional development Summer Institutes to K-12 teachers. Over 170 teachers participated!

To best meet the needs of teachers, MELT Summer Institutes vary offerings and curricula every year.

New MELT Institutes in Literacy and STEM Leadership continue to flourish.

The MELT program has moved its resources from a WIKI space to a Google Drive to provide all MELT participants access to resources.

The MELT email list stands at almost 40,000 teachers and administrators across the state of North Carolina alone and school district administrators in five surrounding states. This has greatly affected the visibility of MELT.

MELT is now looking at participant evaluations, communicating with K-12 and university faculty, planning for this year's Board of Advisors meeting, and communicating with school administrators in order to complete plans for next year's offerings.

MELT wishes to capitalize on, and build upon, a number of successes:

- continued growth in both participation and number of Summer Institutes offered;
- increased student workshop participation;
- continued support and collaboration with MSEC;

In addition, MELT has seen increased enthusiasm among faculty and participants.

MSEC looks forward to continuing its long collaboration with and support of MELT to help make the program the best that it can be.