2013 Fall Leadership Seminar

The 2013 Fall Leadership Seminar will be held at the Koury Convention Center on Wednesday, October 30 (the day before the State Mathematics Conference). The theme is “Common Core Era.” Dr. Schaefer was a Mathematics Specialist and Director of the Office of Instruction for 18 years at the Rhode Island Department of Education and is currently a consultant for the U.S. portion of the Mathematics Assessment Project (MAP) from the Shell Centre (London, UK). Her presentation at the Leadership Seminar will be titled “Broadening our Understanding of Formative Assessment.” The North Carolina Department of Public Instruction will do an information session with updates and time for questions. The Leadership Seminar is another great opportunity for teacher leaders and administrators to recharge, network, and continue learning about the Common Core curriculum, the Standards for Mathematical Practice, technology, and assessment. Visit the NCCTM web site at ncctm.org to register for the Leadership Seminar.

*Visit us online at: [www.msec.appstate.edu](http://www.msec.appstate.edu)*

**NOTES FROM THE DIRECTOR**

Science seminars, Science Festival activities, Family Math and Family Science Nights, science programs for visiting school groups, and a well-stocked math and science resource room are among the offerings of the Math and Science Education Center. In addition to our work with pre-service and in-service teachers, we strive to have programs for the entire community; the science seminars and Science Festival activities are examples of activities that everyone can benefit from and enjoy.

I am sad to report that the MSEC’s long-time Administrative Assistant Judy Bumgarner, who retired about ten years ago, died from cancer on August 31, 2013. Judy was a tireless worker who contributed greatly to the work of the Math and Science Education Center; she made my and former director Steve Dyche’s jobs easier. We will miss our friend and colleague.

My thanks for contributions to the newsletter by Betty Long, Debbie Crocker, Lori Tyler, Tracie Salinas, Mike Bossé, Rahman Tashkakori, and Vickey Isaacs.

Phil Johnson

**DATES TO REMEMBER**

**Science Seminars 2013**
- Sept. 19, 26; Oct. 3, 10, 24; Nov 21; and 28; April 4; April 10
- October 30, 2013: NCCTM Leadership Seminar, Greensboro, NC
- November 1, 2013: NCCTM State Mathematics Conference, Greensboro, NC

**November 7-9, 2013:** NSTA Area Conference, Charlotte, NC

**January 31, 2014:** Deadline for SVSM Applications

**March 22, 2014:** NCCTM Western Region Math Fair ASU

**March 28 - April 13, 2014:** North Carolina Science Festival

**April 1, 2014:** Math Contest, ASU

**April 3-6, 2014:** NSTA National Conference on Science Education, Boston, MA

**April 9-12, 2014:** NCTM Annual Meeting, New Orleans, LA

**May 2, 2014:** NCCTM State Math Fair, Durham, NC

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**E-mail contacts:** saacve@appstate.edu; johnsnpe@appstate.edu

**MSEC Staff:** Phillip Johnson, Director; Betty Long, Assistant Director; Lori Tyler, Summer Ventures in Science and Mathematics Director; Vickey Isaacs, Administrative Assistant

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**Science Contests**

- **October 1, 2013:** NC Basic Mathematics Contest, K-12; Comprehensive, 4, 8
- **October 3, 2013:** Math Contest, ASU
- **October 3, 2013:** National Science Foundation (NSF) to host a Math Contest for K-12 teachers; will be in room 124A in the new Reich College of Education Building from 6:00-8:00pm with refreshments at 6:00. The spring seminar is part of the North Carolina Science Festival that will take place during March 28 - April 13, 2014. The schedule for the 2013-2014 series is:
  - **September 19, 2013:** Tonya Coffey (Physics and Astronomy), "Higgs, Quarks, and Gluons, Oh My!"
  - **September 26, 2013:** Rene Salinas (Mathematical Sciences), "Managing Feral Hogs in Great Smoky Mountains National Park: What Can Models Tell Us?"
  - **October 3, 2013:** Andy Heckert (Geology), "Hot-blooded Dinosaurs!"
  - **October 10, 2013:** Dan Cateon (Physics and Astronomy), "Deep Impact: Our Growing Awareness of Danger from Space"
  - **October 24, 2013:** Carla Rambaud (Physics and Astronomy), "Know Watts Cooking: How to Cook Efficiently in a Vacuum Chamber"
  - **November 21, 2013:** Howie Neufeld (Biology), "What Is Life and How Did it Arise from Non-life?"
  - **April 10, 2014:** Jeff Goodman (Curriculum and Instruction), "Technology and Understanding: How New Tools Shape Scientific Thinking"

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**Math Contest**

The Department of Mathematical Sciences at ASU will host one of the North Carolina Council of Teachers of Mathematics Math Contests again this spring for Algebra 1/Common Core Math and Comprehensive divisions. The contest is scheduled for Tuesday, April 1, 2014. Registration information will be mailed to area schools as well as emailed to sponsors who have brought teams in the past. Please consider bringing a group of students to participate! If you would like further information about ASU’s contest, please check the Math Contest website at: [www.mathsci.appstate.edu/news-events/math-contest](http://www.mathsci.appstate.edu/news-events/math-contest) or contact Lori Tyler at tylerle@appstate.edu. The NC State High School Mathematics Contest page is [http://math.ncssm.edu/sm/state.htm](http://math.ncssm.edu/sm/state.htm)
**SUMMER SCIENCE WORKSHOPS**

In addition to partnering with several other programs to offer professional development in math and science, the Mathematics and Science Education Center was the sole sponsor of three science workshops during summer 2013. All workshops were week-long events, Monday through Friday. Experienced elementary school teachers Judy Sink and Lou Moore led a five-day K-5 workshop that followed up on their successful workshop from last summer with “Unraveling the New Science Essential Standards, Round 2.” Laura Mallard and Crystal Wilson of the Department of Geology led a week-long Earth Science Workshop for middle and high school teachers entitled “Earth-Shaking Science.” The third workshop was held at the new Patterson Science Center in Lenoir, and was led by the Director of the Center, Amy Bradley. Amy’s workshop, “Bringing the Gap: What Do Biotechnology and Agriculture Have in Common,” was for middle school teachers. We are pleased to have a partnership with the Patterson Science Center similar to what we have had with the Catawba Science Center in Hickory for many years. We welcome suggestions from school systems as to what professional development opportunities would be helpful for your teachers.

**APPALACHIAN MATHEMATICS PARTNERSHIP**

Now in its third year, the Appalachian Mathematics Partnership (AMP) brings together teachers and administrators from more than a dozen districts and private schools to collaborate with university faculty in professional development in Common Core mathematics. Through AMP, teachers engage their own mathematical practices and examine rich mathematical content. Through their experiences, teachers gain insight into how to support their students’ mathematical practices and to deliver mathematics content using student-centered and inquiry-oriented methods.

The project has cultivated a growing partnership among counties and districts, resulting in a number of additional scholarship and outreach opportunities. For example,
- Three teams of AMP teachers will be presenting at the North Carolina Council of Teachers of Mathematics state conference in October of 2013.
- The modeling work group has successfully received additional funding from a North Carolina Ready for Success grant to support the developing of vertical alignment materials for mathematical modeling content.
- The project staff will present a poster on the work of the AMP project at the U.S. Department of Education MSP Conference in September 2013.

The AMP project is funded by a Mathematics Science Partnership grant. Dr. Trace Mclemore Salinas of the ASU Department of Mathematical Sciences is the project director. She is joined in grant leadership and management by Drs. Kathleen Lynch-Davis and Lisa Poling of the Department of Common Core: The Journey Continues. There are over 300 seats. A conference app will be piloted. Look for information on participating in this year’s MELT program.

**MATH FAIRS**

The North Carolina Council of Teachers of Mathematics (NCCTM) sponsors three regional math fairs. Winners from the three regional fairs are invited to participate in the State Math Fair. The 2014 Western Region Math Fair will be held on Saturday, March 22 at Plemmons Student Union on the campus of Appalachian State University in Boone, and the NCCTM State Math Fair will be held in April. The North Carolina School of Science and Mathematics in Durham. The winners of the 2013 State Math Fair may be found at nctcm.org/math_facsm.

Start working with your students on their projects for the Western Region Math Fair. For more information on the math fairs, go to the NCCTM web site, nctcm.org, and click on Math Fairs on the left of the screen. New information on this year’s fairs and registration forms are posted.

**MATHEMATICS EDUCATION LEADERSHIP TRAINING (MELT) PROGRAM**

Under the guidance of its new Director, Michael Bossé, the summer 2013 MELT Program experienced one of its most successful years. The six courses that were offered all emphasized the Common Core State Standards for Mathematics (CCSSM). In the first week of Summer Institutes, MELT offered Course I of the CCSSM. In the second week, MELT offered Algebra and Functions in the CCSSM and Course 2 of the CCSSM. The third week offered Course 3 of the CCSSM and Mathematical Modeling with Data and Statistics. The last week concluded with Building Mathematical Thinking through Assessment and Inquiry. Careful consideration was given to just what courses would best meet the needs of teachers as the state implements the CCSSM.

The MELT program aims to build on the success that it experienced under Dr. Debbie Crocker, Interim Director in 2011-2012, and Dr. Bossé in 2012-2013. In addition to the MELT Summer Institutes, the MELT program is conducting fall and spring workshops to provide graduate coursework for students.

Additionally, MELT is currently redesigning and updating a wiki space for MELT participant resources and developing a MELT Facebook page to encourage mathematics education leadership. Thus, MELT is evolving in a number of dimensions to better meet the needs of K-12 teachers in the local and extended region.

**SUMMER VENTURES IN SCIENCE AND MATHEMATICS**

Summer Ventures in Science and Mathematics (SVSM) promotes interest in science and mathematics for curious middle and high school students. SVSM presents a variety of exciting opportunities for students to explore and develop their interest in science and mathematics. SVSM is committed to offering students a rich and engaging learning experience. SVSM is designed to provide a unique and challenging learning environment that encourages critical thinking and problem-solving skills. Students will have the opportunity to work on projects that are relevant and interesting to them. SVSM is dedicated to providing a supportive and inclusive atmosphere where students can feel comfortable asking questions and expressing their ideas.

In addition to college-level courses, SVSM also offers middle school classes that focus on hands-on experiments and interactive activities. These classes are designed to be engaging and fun, with a focus on developing problem-solving skills and critical thinking. SVSM is proud to partner with a variety of local organizations and businesses to provide unique and exciting opportunities for students.

**PROGRAMS FOR K-12 STUDENTS**

The MSEC is always pleased to arrange math or science fairs and other educational events for K-12 students. These events provide an opportunity for students to explore new concepts, connect with peers, and develop a deeper interest in math and science. The MSEC is committed to supporting K-12 teachers and students in their efforts to achieve academic success.

The featured speakers are Jere Confrey, Doug Clements, Linda Gojak, Teruni Lamberti, Stuart Murphy, and Diane Schaefer. The featured speakers are Jere Confrey and David Burleson. The conference consists of many informative sessions on how to continue implementing the standards of the Common Core State Standards for Mathematics. The sessions include content in the Common Core Standards, ideas for incorporating the Standards for Mathematical Practice into classrooms, information on incorporating technology in the classroom, and assessment and grading practices.