

NOTE FROM THE DIRECTOR

Bad news travels fast! I have been asked by several people about changes that have recently taken place at the state level involving Math and Science Education Centers around the state. The centralized coordinating office for the North Carolina Mathematics and Science Education Network (NC-MSEN) has been dissolved. The last day for Dr. Verna Holoman as Executive Director of NC-MSEN was officially September 5. Center Directors and their staffs across the state have expressed our gratitude for Verna's leadership of NC-MSEN over the last several years. Verna was instrumental in leading the establishment of the well-known Statewide Institute for Teaching Excellence (SITE) that has been so successful in offering quality professional development in mathematics and science. You will not notice differences in our local operations, but those of us in the Network will miss the leadership that Verna provided. A Council for Mathematics and Science Education will be established to coordinate discussion among campus-based NC-MSEN Centers focused on mathematics and science professional development and K-12 outreach from UNC campuses. NC-MSEN has operated under the umbrella organization UNC Center for School Leadership Development (CSLD). UNC CSLD suffered large budget cuts, and NC-MSEN is not the only organization in CSLD to suffer from the cuts. Over a two-year period, the existing UNC CSLD will transition to the new concept of a statewide Network of University-School Partnerships. Whatever structure evolves, I am confident that math and science education centers across the state will continue to offer high-quality professional development and other programs in math and science that will serve the needs of their constituencies.

Phil Johnson

DATES TO REMEMBER

Fall 2010 Seminars: Sept. 14, 22, 30; Oct. 7, 14; Nov. 4, 18; Dec. 2, 9

October 28-29, 2010: NCCTM State Mathematics Conference, Greensboro, NC

November 11-12, 2010: NCSTA Annual Professional Development Institute, Greensboro, NC

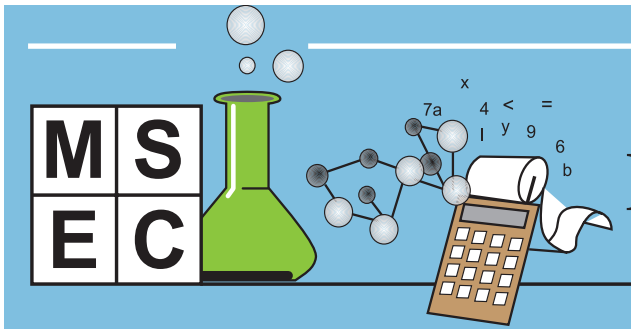
March 10-13, 2011: NSTA National Conference, San Francisco, CA

March 28, 2011: Math Contest, ASU

April 2, 2011: Western Region Math Fair, ASU

April 13-16, 2011: NCTM Annual Meeting & Exposition, Indianapolis, IN

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Fall 2010

Appalachian State University
MATHEMATICS & SCIENCE
EDUCATION CENTER

FALL 2010 SCIENCE SEMINARS

One professor suggested as the title for this year's science seminars, "What you thought but ain't so: Misconceptions of Science." The bad grammar notwithstanding, that does characterize to a large degree this year's offering of "Misconceptions about Science." The seminars are open to everyone, are free, and offer license renewal credits (0.2 per seminar) to teachers. All seminars except the second one on September 22 will be in 105 Walker Hall from 6:00-8:00 p.m. with refreshments at 6:00. The September 22 seminar is a public lecture by David Easterling, Chief of the Scientific Services Division at NOAA's National Climate Data Center in Asheville and lead author on the Nobel Prize winning IPCC Fourth Assessment Report. Easterling's talk will be the first lecture in this year's University Forum and is included in the MSEC seminars since it fits into this year's seminar theme. The Easterling talk will be at 8:00 p.m. in Powers Hall in the Broyhill Inn and Conference Center. Other talks that you may find interesting in the University Forum series are listed at <http://universityforum.appstate.edu>; these are also eligible for CEUs for teachers. Notice that the first two seminars are not on Thursday nights, a departure from past practice.



September 14—Max Dass, Biology: Hypotheses, Theories, Laws and Facts in Science: What's the Big Deal and Why Should You Care?

September 22—David Easterling: Observed and Projected Climate Change

September 30—Howie Neufeld, Biology: Science, Pseudoscience, and Junk Science: How Knowing the Difference Between Good and Bad Science Is Important for Maintaining a Scientifically Literate and Democratic Society

October 7—Sammye Sigmann, Chemistry: Does "organic" automatically mean good? Chemicals: the Good, the Bad and the Ugly

October 14—Tonya Coffey, Physics and Astronomy: Misconceptions in Nanoscience

November 4—Eva Gonzales, Biology: Can two blue-eyed parents have a brown-eyed child? Can two brown-eyed parents have a blue-eyed child? Answers to Questions Concerning Genetics

November 18—Steve Hageman, Geology: A Circular Misconception: The Geologic Time Scale Is Based on Biological Evolution and ... Biological Evolution Is Based on the Geologic Time Scale

December 2—Jon Saken, Physics and Astronomy: Astronomy: Eclipses, The Big Bang, SETI ...

December 9—Dennis Scanlin, Technology: Is there enough wind energy potential to make a significant contribution to our state energy portfolio? The Potential of Alternative Energy Sources



NORTH CAROLINA SCIENCE FESTIVAL

The first North Carolina Science Festival will take place September 11-26. We anticipate that the celebration showcasing science and technology will become an annual event. There will be a Science Expo involving the Math and Science Center and other ASU science areas on Sunday, September 12 from 1:00-5:00 p.m. in the Grandfather Mountain Ballroom in Plemmons Student Union. Our first two seminars are also part of the North Carolina Science Festival. For other events at ASU and around the state, visit <http://www.ncsciencefestival.org> and click on days on the calendar to see what is going on each day. There is also a link to the North Carolina Science Festival on our website, www.msec.appstate.edu.

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PROJECT SMILE OFF TO A GOOD START

Science and Mathematics Integration for Literacy Enhancement, a three-year NSF-funded program, had a successful start this summer with teacher teams from eight middle schools in six counties (Alexander, Avery, Caldwell, Davie, Forsyth and McDowell). A three-week, intensive institute aimed at helping teachers learn how to best use technological tools to integrate teaching scientific inquiry with mathematical problem solving. Teachers will implement what they learned during this academic year and return for another three-week institute next summer, followed by more classroom implementation the following academic year.

KEEP UP WITH WHAT'S HAPPENING AT THE MSEC

The Math and Science Education Center strives to keep you informed of all our programs by means of the Newsletter and a listserv for each of elementary, middle and high schools; however, the best way to keep informed is by checking our website. If you have not visited www.msec.appstate.edu lately, you will be surprised by the new and improved version. Mr. Chris Larson, webmaster of the Reich College of Education, does an excellent job of keeping the site attractive and informative. Budget considerations may eventually necessitate having the Newsletter only on line, but we know that readers like the paper version. Please help us keep your address current for both the Newsletter and the listserv. We have had several newsletters returned and we have removed these addresses from our data base.

SUMMER VENTURES IN SCIENCE & MATH



Applications for the 2011 Summer Ventures in Science & Math (SVSM) program will be available for students to pick up from their guidance counselor or download from www.summerventures.org beginning October 1, 2010. SVSM is a cost-free, state-funded program for academically talented North Carolina residents who may pursue careers based in science and mathematics. The program brings rising high school juniors and seniors together in residential settings for four weeks of intensive study.

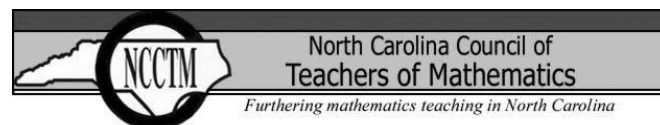
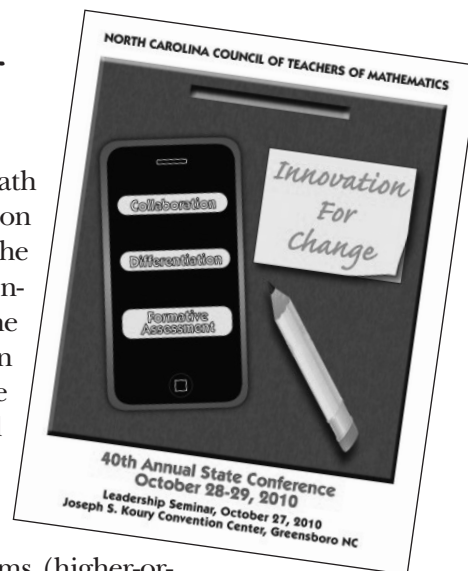
Ms. Lori Tyler, ASU SVSM Director, is available to visit your school and/or classroom to present an overview of the program as well as help students complete the application process. We also have a 12-minute video which can be shown to classes that provides an excellent overview of the academic and residential components of the program. To schedule a visit, please contact Lori at tylerle@appstate.edu.

WESTERN REGION MATH FAIR

The NCCTM Western Region Math Fair will be held on Saturday, April 2, 2011 at the Plemmons Student Union on the ASU campus. Projects may be entered in the following categories: Grades K-2, 3-5, 6-8, 9-12. All projects must be pre-registered, and no late registrations will be accepted. The registration fee is \$8.00 per student, and there is a limit of six projects per category per school. More details and the registration form can be found online at ncctm.org after October 1. If you have questions about the math fair, contact Dr. Betty B. Long at longbb@appstate.edu or 828-262-2372.

40TH ANNUAL STATE MATH CONFERENCE

The NCCTM State Math Conference will be on October 28-29 at the Koury Convention Center in Greensboro. The theme is "Innovation for Change," and the keynote speakers will be Kathy Fosnot (early number sense and constructivist math teaching) and Clif Mims (higher-order thinking skills and technology integration in mathematics). There will be 45 workshops and 198 sessions at the conference. Most of the presenters are classroom teachers, math coaches, and higher education faculty. If you have questions about the State Math Conference, please contact the program co-chairs: Drew Polly (Drew.Polly@unc.edu) and Amanda Northrup (anorthrup@haywood.k12.nc.us). It promises to be a very informative conference with something for everyone. Make plans now to attend. You can view a list of all the workshops and sessions as well as register on-line at ncctm.org.



NC HIGH SCHOOL MATH CONTEST

The Appalachian State University Department of Mathematical Sciences will host the Algebra I and Comprehensive high school math contests on Monday, March 28, 2011. We welcome schools to bring teams of 10 students for this exciting day of mathematical challenge! Information and registration forms are available on the website: <http://www.mathsci.appstate.edu/Events/HighSchoolMathContest/> or contact Lori Tyler: tylerle@appstate.edu.



Algebra was offered across the state for the first time in the Statewide Institute for Teaching Excellence (SITE) program after having been successfully piloted at ASU last summer. Appalachian held a two-day workshop at NC A&T University for instructors who would teach SITE: Algebra in summer 2010 at East Carolina University, UNC Charlotte and Winston Salem State University. With the institute being offered at these three universities in addition to Appalachian, we had a fairly good geographic spread. Three other universities that had hoped to offer the institute did not do so due to lack of funding. At ASU, SITE: Algebra, SITE: Geometry and four other week-long institutes in the Mathematics Education Leadership Training program altogether enrolled 84 teachers for either graduate credits, license renewal credits or credits toward lateral entry. A total of 50 middle school teachers enrolled in two science institutes, all for license renewal credits. Despite the continuing state budget problems, we have been successful in finding funds to support a number of professional development activities.

Mathematics and Science Partnerships (MSPs) are federally-funded programs that are administered by the North Carolina Department of Public Instruction. Grants are typically for three years. Two grants in which the MSEC participated were recently completed, one providing staff development to more than 250 teachers in K-5 mathematics and the other providing staff development to more than 30 middle school science teachers. Participating school systems in the math program were Elkin City, Hickory City and the county systems Ashe, Alleghany, Catawba, Wilkes and Yadkin. Cleveland County, Rutherford County and McDowell County were the participating school systems in the science program. The concluding activity of the middle school science program was a three-day "Water World" workshop held on the ASU campus this summer. Max Dass of Biology and Leslie Bradbury of Curriculum and Instruction led the Water World workshop. Key administrators in obtaining the grants were Dee Hanlin of the Northwest Regional Educational Service Alliance for the K-5 math grant and John Goforth of Cleveland County for the middle school science grant.

While it is too early to tell what programs will be offered in summer 2011, we have several things in the works that will hopefully pan out. Three groups have worked on proposals for MSP grants to fund professional development in math and science. Normally MSP grants would have already been announced, but the timeline was extended for proposals and no awards have yet been made. There is a reasonable likelihood that we will again have SITE: Algebra and SITE: Geometry and we are hopeful of having other math offerings. In science, we will apply to the North Carolina Biotechnology Center for funding for an Introductory Biotechnology Workshop for High School Teachers. If we are able to obtain funding for the biotechnology workshop, participants will receive a \$50 per diem stipend, housing, two meals, and morning and afternoon break refreshments for the week (of course we always have these refreshment breaks for all workshops, but in this case the grant pays for them). At this early date, all plans are tentative and we will have more to report in the spring newsletter. Please let us know if there are programs that you see a need for and would like for us to investigate offering. We can customize offerings for your particular needs in math and science and usually without cost to your school or school system.



K-12 STUDENT PROGRAMS

Math and science programs for K-12 students take place primarily in the academic year, but there are some programs in the summer. The ASU Math Camp for all rising sixth through twelfth graders offers enrichment activities that are also fun for about 120 students each summer. The Mathematics and Science Education Center was pleased to be a joint sponsor with the Department of Mathematical Sciences of the thirteenth annual Math Camp in summer 2010. Watch for the announcement of the summer 2011 Math Camp in the spring newsletter.

We are always pleased to arrange science or math programs for visiting school groups at no cost to the schools. Most of these take place during the academic year, but occasionally groups visit during the summer. Pat Hopper and two other teachers from Avery Middle School brought a group of 18 students to campus as part of a summer program designed to generate awareness and enthusiasm for higher education. The MSEC arranged for a program with Wayne Van Devender of Biology in which he gave a hands-on demonstration about snakes that delighted the entire group. Other programs that teachers may request at no cost to the schools are Family Math Night, Family Science Night, or Geology in the Schools. Family Math Nights and Family Science Nights in elementary and middle schools involve students and their parents exploring together interesting facets of mathematics and science. Bill and Birgitta McGalliard conduct the Family Math Nights; Judy Sink and Gail Bastarache conduct the Family Science Nights. Also popular are presentations by Jack Callahan for grades 3-9 classes on rocks, minerals, North Carolina geology, the Blackbeard shipwreck, geoarchaeology project or other geology topics. Contact Vickey Isaacs at isaacsve@appstate.edu for further information on these or other programs.

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