

Center News

Mathematics Education Center

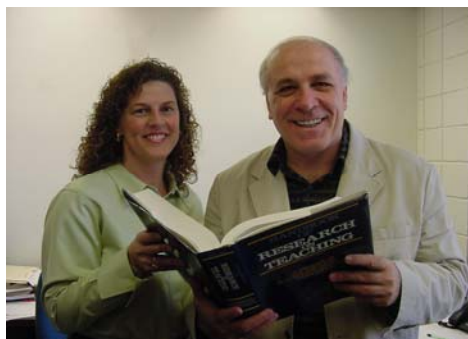
at George Mason University

MEC Faculty Research Featured in NSF Press Release

(This story was adapted from an NSF press release Feb. 9, 2006).

Elementary, middle-, and high-school students participating in the National Science Foundation's (NSF) Math and Science Partnership (MSP) program during the 2002-2003 and 2003-2004 school years showed significant improvements in mathematics proficiency test scores, according to a first analysis of data. During the same period, MSP elementary school students showed significant gains in science proficiency. But, high-school math students showed the greatest improvement with 14.2 percent more "at or above proficiency" after one year of MSP participation. Elementary school students performed better in both math and science with 7.3 and 8.6 percent more reaching or exceeding proficiency, respectively.

These data, the first available since MSP's establishment in 2002, were collected from 130 partnership schools that received first-round NSF awards.



Patricia Moyer-Packenham and Dimiter Dimitrov collaborate on the MSP Evaluation.

Dr. Dimiter Dimitrov, MEC Faculty Associate, contributed his research and measurement skills to a major portion of these analyses.

The NSF-MSP program supports partnerships among higher education, local K-12 school systems and supporting stakeholders. At a minimum, each partnership must contain one institution of higher education and one K-12 school system.

The COSMOS Corporation, faculty at Brown University,

George Mason University and Vanderbilt University are working collaboratively to analyze incoming data. Using data collected by the Partnerships since inception, the evaluation began in 2004 and covers the entirety of the program's activities.

After a complete analysis of the data, results from the first-year evaluation will be publicly available at the NSF's MSP website. The full text of this story is available on the NSF website: http://www.nsf.gov/news/news_sum.jsp?cntn_id=1058128&org+NSF&from+news.

Hjalmarson Receives Outstanding Paper Award at RUME Conference

Dr. Margret Hjalmarson presented her paper "Engineering as Bridge for Undergraduate and K-12 Curriculum" at the [Ninth Conference on Research in Undergraduate Mathematics Education](#) (RUME) held in Piscataway, NJ and organized by Rutgers University in February 2006. RUME is a Special Interest Group of the Mathematical Association of America. The paper was awarded Honorable Mention in the Best Paper Award

competition held at the conference. She discussed potential links between research in engineering education aimed at bringing engineering into K-12 classrooms and research in mathematics education. Problems and issues identified include the need for vertical connectivity of content across K-16, means for introducing content at the cutting-edge of engineering research, and methods for recruiting and retaining students

in engineering with particular attention to under-represented groups. Currently, there are partnerships between universities and K-12 institutions in the NSF Math Science Partnership. Engineering plays a role in such partnerships so one question is how engineers and K-12 stakeholders collaborate. The engineering profession and the teaching profession also both need students with strong mathematics skills.

Volume 3, Issue 2

April 2006

Special points of interest:

- Accepting Applications for Math Specialist Leader 2006 Cohort
- New Staff
- Spikell Award in Mathematics Education

Inside this issue:

New Staff	2
MEL Master's Degree Students	2
Spikell Mathematics Award	2
ICRSME Conference	3
MEC Faculty Serve on State Committees	3
MEL Recruiting for 2006	3

New Center Staff

The Mathematics Education Center welcomes Sherry Patterson!

Sherry Patterson joined the staff of the Math Education Center as an Administrative Assistant on November 10th, 2005. Sherry has many years of experience working at GMU. She started at George Mason in January 1999 working at Mason Hall for the Foundation. After several years of serving GMU students, faculty and staff, assisting with admissions, and acknowledging a need for change to fulfill

her administrative background, she decided to take Microsoft classes and work on obtaining several certificates. This led to her current move to the Mathematics Education Center. Sherry has over 20 years of customer service experience and approximately 10 years of clerical experience. MEC faculty, staff and students are so happy she has joined the team.



Sherry Patterson

MEL Master's Degree Students Making a Difference

Students in GMU's MEL Masters Degree program are making a difference in mathematics in Virginia's schools. Theresa Dawkins-Smith has 9 years teaching experience at Prince William County schools. Susan Godfrey is a Math Middle School resource teacher for Loudoun County schools. Judith Hall has 16 years with Fairfax County Schools as Math Lead Teacher. Julie Healy moved the 8th grade Math tutorial to a new level through her use of technology. Carol Livingston works as an In-

structional Support Team leader at Prince William County schools. Shannon Manke will be moving to 7th grade teaching with Fairfax County Public Schools. Clementine McIntosh currently works as a Math Support Teacher at Prince William County Schools and Karen Mirkovich currently work as an Elementary Math Resource Teacher K-5th at Prince William County Schools. We are very proud of the impact these educators have on the teaching and learning of mathematics.

"Your work is to discover your work and then with all your heart to give yourself to it"

- Buddha

Gwenanne Salkind Receives the First Spikell Award in Mathematics Education

Dr. Mark A. Spikell, Professor Emeritus, established The Spikell Award in Mathematics Education in honor of Hy and Lillian Spikell, loving and supportive parents; children, Adam Eli and Emily Erin Spikell; and brother and sisters, Bruce Carl, Stefanie Hope and Deena Rae Spikell.

The award, currently in the amount of \$500, is given annually in the Spring semester to a Ph.D. student in Mathematics Education in the College of Education and Human Development at George Mason University, who writes a statement describing the role of concrete and/or virtual manipulatives in the teaching of school-based mathematics at the elementary, middle or secondary level.

The 2006 Spikell Award winner is Gwenanne Salkind. Gwenanne is a Title I teacher with the Fairfax County Public Schools. In her award winning statement she wrote:

"I believe that in order for students to learn mathematics with understanding, they must use mathematical materials (or manipulatives) as tools to develop conceptual ideas.

When students use manipulatives, they are simultaneously constructing meaning for the manipulatives and with the manipulatives."



Gwenanne Salkind

ICRSME Conference

GMU Mathematics Education Faculty and former Ph.D. students presented their research at the International Consortium for Research in Science and Mathematics Education. The following papers were presented:

1. Presenters: Jennifer Suh & Patricia Moyer-Packenham

Session Title: Fraction and Algebra Achievement of Third Graders Using Virtual and Physical Manipulatives

2. Presenters: Lynn Salvo & Patricia Moyer-Packenham

Session Title: Effects of an Experimental Curriculum on Third Graders' Knowledge of Manipulation Facts

3. Presenters: Johnna Bolyard & Patricia Moyer-Packenham

Session Title: The Impact of Virtual Manipulatives on Students' Learning of Integer Concepts

ICRSME was held in March 2006 in Nassau, Bahamas.



Johnna Bolyard, Patricia Moyer-Packenham, Jennifer Suh, and Lynn Salvo - March 2006 ICRSME Conference

MEC Faculty Serve on Statewide Math Specialist Development Committees

Two MEC faculty have been selected to serve on statewide Math Specialist Course Development Committees. Dr. Margret Hjalmarson is serving on the Functions and Algebra course development committee and Dr. Johnna Bolyard is serving on the Geometry and Measurement and Geometry for Middle School Specialists course development committees. These committees convene mathematics educators from across the state of Virginia to revise and refine the common mathematics courses offered at various state colleges and universities as part of the Virginia Math Spe-

cialist endorsement. In addition, committees will work on the development of three new courses – Topics in Mathematics for Diverse Populations, Algebra for Middle School Specialists, and Geometry for Middle School Specialists. Committee participants represent several institutes of higher education including George Mason University, the University of Virginia, Longwood University, Virginia Commonwealth University, the College of William and Mary, James Madison University, and Norfolk State University, as well as the Virginia Department of Education and school districts across the state.

Mathematics is the gate and key to the sciences"

-Roger Bacon

MEL Recruiting for 2006 Math Specialist Cohort Program

The Math Specialist Leader K-8 Master's Degree Program prepares individuals for master teacher, teacher leader, content expert, and math specialist positions in K-8 school mathematics. Students in the Math Specialist program concentration study math content and math pedagogy in interdisciplinary coursework in the College of Education and Human Development and the Department of Mathematical Sciences. Students completing the program will be eligible to apply for the proposed Virginia math specialist endorsement. During 2005

the MEL program admitted the first cohort of 24 students into the new program. Faculty and program staff are currently recruiting for summer/fall 2006.



To get more information about the program contact Sherry Patterson in the Math Education Center by email: (mathcntr@gmu.edu) or call us at: (703-993-4789).

To Apply to the Math Specialist Program online, go to <http://admissions.gmu.edu/onapps.asp>.



Mathematics Education Center

Director: Patricia Moyer-Packenham, Ph.D.

Assistant Director: Margret Hjalmanson, Ph.D.

George Mason University
Mathematics Education Center
4085 University Drive, Comm II, Suite 200A
Fairfax, VA 22030

Phone: 703-993-4789

Fax: 703-993-3643

E-mail: mathcntr@gmu.edu



The Mathematics Education Center (MEC) is located in the Graduate School of Education in the College of Education and Human Development at George Mason University, Fairfax, VA. The MEC conducts research, provides professional development, and designs instructional materials. The MEC works in collaboration with the Mathematics Education Leadership programs at George Mason University to support the scholarly research and professional development of Ph.D. and Master's level graduate students enrolled in the programs.

