



# Center News

## Mathematics Education Center

College of Education and Human Development

### Faculty and Students Present at AERA 2007 Conference



(left to right) Kenneth Wong (Brown University), Drs. Margret Hjalmarson, Patricia Moyer-Packenham and Dimiter Dimitrov (GMU)

In April 2007 faculty and students from the Mathematics Education Leadership program participated in the annual conference of the American Educational Research Association (AERA) in Chicago. Presentations included a symposium panel featuring research from the NSF-funded MSP-Program Evaluation. These papers and lead presenters included: (1) Early Changes in K-12 Student Achievement (Dimiter Dimitrov); (2) Multi-State Estimates of Relationships between the MSP Program and K-12 Student Achievement (Kenneth Wong); (3) Representations of Teacher Quality, Quantity, and Diversity in the MSP Program (Patricia S. Moyer-Packenham); and, (4) Finding the Challenge in Mathematics Curricula (Margret A. Hjalmarson). MEL Faculty and students gathered at a reception hosted by Dean Jeff Gorrell. Drs. Johnna Bolyard and Sherry Steely presented a session titled Pakistan and Pedagogy: A Critical Reflection of Process and Outcomes of a Donor-Funded Teacher Education Project and Pakistani Teacher Educators. Dr. Jennifer Suh presented a poster titled Third Grader' Mathematics Achievement Using Virtual and Physical Manipulatives for Adding Fractions and Balancing Equations.



Drs. Johnna Bolyard, Sherry Steeley and other presenters

Volume 5, Issue 1  
October 2007

#### Special points of interest:

- MEL Doubles in Size
- MEL Program Grads
- PME Conference in Seoul



(front row) Dr. Johnna Bolyard, Hana Oh, Dr. Patricia Moyer-Packenham, Jana Parker, and Dr. Jennifer Suh, (back row) Dr. Margret Hjalmarson, Chris Johnston and Dean Jeff Gorrell



Dr. Jennifer Suh

### Math Leadership Program Doubles in Size

The Math Specialist concentration of the Mathematics Education Leadership (MEL) program started in 2005. During that fall, the program admitted 24 students to begin the program. Over the next year, 13 additional students were admitted bringing the size of the program to 37 students. Through the collaborative work of program faculty with surrounding school systems, interest in the Math Specialist concentration has grown and several school systems have expressed a desire to host off-campus cohorts of the program.

During the summer of 2007, the MEL program accepted 30 additional students into the first off-campus cohort program, almost doubling the size of the existing MEL program. The 30 new students are Fairfax County Public School

(FCPS) teachers who will complete a 2 ½ year cohort program supported by FCPS. Teachers will attend classes at a FCPS site making it easier for them to make the commute to class. Through this GMU-FCPS partnership, the math

specialist leaders will improve mathematics learning for teachers and students. School systems interested in off-campus cohort programs should contact the MEL Program Coordinator.



Fairfax County Public Schools 2007 Math Specialist Cohort

#### Inside this issue:

MEL Students Graduate	2
PME Conference in Seoul	2
ICTMA Conference	2
Exxon Mobil Award	3
Mason Math Institute	3
ISTE/NECC Conference	3

## Master's and Ph.D. Math Education Program Graduates



(left to right) Dr. Patricia Moyer-Packenham, Shannon Manke and Dean Jeff Gorrell



Drs. Patricia Moyer-Packenham and John Staley



(left to right) Theresa Wills, Christie Schertz, Hoda Al-Oyaidi, Shannon Manke, and Melissa Parker

Graduation is a time to celebrate our students' accomplishments. During the May 2007 graduation ceremonies, Shannon Manke was honored as the outstanding

graduating MEL Master's Degree student. Dr. John Staley completed his dissertation titled: Examining Electronic Learning Communities as a Means for Sustaining and Supporting

Mathematics Professional Development. Five students graduated from the MEL Master's Degree program. Congratulations Graduates!!

## ICTMA Conference



Dr. Margret Hjalmarsen

The 13<sup>th</sup> International Conference on the Teaching of Mathematical Modeling and Applications was held in Bloomington, Indiana from July 22 to 26, 2007. The meetings brought together international scholars from multiple disciplines in education including engineers, mathematicians, scientists, and educators to discuss the role of modeling in mathematics education. The plenary talks were broadcast to a parallel conference occurring in Africa. The conference was intended to provide networking opportunities for graduate students and junior faculty with senior researchers. Conference organizers provided a number of social opportunities to encourage informal conversations about future research.

Dr. Margret Hjalmarsen presented a paper titled "Design, Engineering and Education" about the use of engineering as a perspective for designing and implementing educational research. Design research is an emerging methodology for conducting and designing educational research studies that are simultaneously developing educational products and generalizable theories about teaching and learning. Dr. Hjalmarsen also participated in a symposium panel about design research methods for education organized with Dr. Eamonn Kelly and Dr. John Baek of George Mason University and Dr. Guadalupe Carmona of the University of Texas at Austin.

## PME Conference in Seoul, Korea

Two MEL faculty members, Dr. Patricia Moyer-Packenham and Dr. Jennifer Suh, traveled to Seoul, Korea, to present their research at the 31st annual meeting of the prestigious Psychology of Mathematics Education (PME) International Conference, July 8-13, 2007. This conference is highly competitive and features the work of international researchers from all over the world. Only 10% of conference participants reported English as their first language. The theme of the conference was School Mathematics for Humanity Education, which was hosted by the Korea Society of Educational Studies in Mathematics (KSESM) and took place at the Center for Educational Research of Seoul National University.

Suh and Moyer-Packenham presented a research report titled: The Application of Dual Coding Theory in Multi-Representational Virtual Mathematics Environments, and Suh presented a poster session titled: Building Mathematical Knowledge for Teaching Using Technology.

In addition to a variety of research presentations, the conference included a dinner at the Lotte Hotel hosted by the mayor of Seoul featuring traditional Korean music and dance. Conference participants also had the opportunity to tour an ancient Korean folk village to taste a variety of foods including kimchi, bulgogi and sam guap sai. The 32nd Annual Meeting of the International Group for the Psychology of Mathematics Education will be held in Morelia, Mexico.



Drs. Patricia Moyer-Packenham and Jennifer Suh at the PME Conference in Seoul, Korea

## ExxonMobil Math Specialist Excellence Award

For many years ExxonMobil has been a strong supporter of Virginia's Math Specialist initiatives by providing funds for mathematics specialists throughout the state. In 2006, the ExxonMobil Corporation began the ExxonMobil Math Specialist Excellence Award given to a George Mason University student enrolled in the Math Specialist Master's Degree program.

The annual award recipient is selected based on a number of criteria including high quality academic work, excellent leadership qualities, the potential to have a positive influence on mathematics education, and enthusiasm and passion about mathematics that shows a true commitment to students and teachers in the improvement of mathematics education.

The 2007 recipient of the ExxonMobil Math Specialist Excellence Award is Karen Mirkovich. Karen is currently a K-5 Elementary Mathematics Resource Teacher for the Prince William County Schools, where she has provided numerous professional development workshops in mathematics for teachers. Karen holds the honor of being a National Board Certified teacher, and was the Washington Post Agnes Meyers award winner for Teacher of the Year from Prince William County. Karen has taught every grade level from Kindergarten to 8<sup>th</sup> grade in her 33 years of teaching. Karen is currently in her second year as a Master's Degree student in the Math Specialist program at George Mason University. As part of the award, Karen received \$1000 from ExxonMobil to further her education.



Patrick Dexter (ExxonMobil), Dr. Patricia Moyer-Packenham, Karen Mirkovich and Dean Jeff Gorrell

## Faculty, Students and Staff Provide Leadership for Mason Math Institute



Dr. William Haver, VCU, and Hana Oh, MEL Ph.D. student



Vickie Inge, MEL Ph.D. Student and UVA Instructor



(left to right) Dr. Jennifer Suh, GMU, Dr. Robert Berry, UVA, Deena Bulick, PWC, and Terri Donnelly, Hanover County

During the summer of 2007, CEHD and GMU served as the host site for a summer Math Specialist Institute supported by an NSF MSP grant under the direction of Loren Pitt, UVA, and Bill Haver, VCU. The summer institute brought 27 teachers from across the state of Virginia to GMU's campus for 5 weeks of mathematics and leadership training from

June 24<sup>th</sup> to July 26<sup>th</sup>, 2007. The math specialists stayed in GMU campus housing during the week and commuted to their home locations on weekends. Vickie Inge, MEL Ph.D. student, served as a Lead Instructor, and Hana Oh, MEL Ph.D. student, served as a master teacher for the *Algebra & Functions* course. Dr. Jennifer Suh, MEL faculty, served as a Lead Instructor

for the *Teaching Math to Diverse Learners* course. Dean Jeff Gorrell, Dr. Patricia Moyer-Packenham, MEC Director, and Sherry Patterson, MEC Office Support Specialist, served as hosts for the event and provided on-campus coordination for housing, course registration, copying, and facilities arrangements.

## ISTE/NECC Conference



Dr. Jennifer Suh and Christopher Johnston

Dr. Jennifer Suh, Assistant Professor of Mathematics Education, and Christopher Johnston, Ph.D. student in the Mathematics Education Leadership program, presented at the International Society for Technology in Education/National Educational Computing Conference (ISTE/NECC) in Atlanta in June 2007. The theme of this year's conference was: Learning and Leading with Technology.

Their session was titled: Investigating Mathematical Models and Concepts Using Virtual

Manipulatives. The session explored critical lesson components and how to effectively integrate technology and mathematics by focusing on modeling mathematics concepts and investigations using virtual manipulative applets. Suh and Johnston shared guidelines for appropriate uses of technology in mathematics, highlighted exemplary lessons using virtual manipulatives, described the affordances of these tools, and discussed design and assessment issues.



## MATHEMATICS EDUCATION CENTER

College of Education and Human Development

4085 University Drive, 200 A  
Fairfax, VA 22030

Phone: 703-993-3926  
E-mail: [mathcncr@gmu.edu](mailto:mathcncr@gmu.edu)

Director: Patricia Moyer-Packenham, PhD.

Assistant Director: Margret Hjalmanson, PhD.

*We're on the web!*

<http://gse.gmu.edu/cscvm/main>



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 mathematics education 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 PhD and Master's level graduate students enrolled in the programs.



**MEC Faculty and Staff**