Research Council for Diagnostic and Prescriptive Mathematics

Twenty-fifth Annual Conference

College Park, Maryland
February 19-21, 1998
General Conference Chair
Martin L. Johnson
College of Education
University of Maryland
College Park, Maryland

Conference Program Co-Chairs
Anna Graeber and Marilyn Strutchens

Current RCDPM Officers

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University of Texas

Kathy Litz
Secretary
K.O. Knudson Middle School,
Clark County School District, NV

George Wyer
Membership Coordinator
Retired from West Hartford
Public Schools

RCDPM Conference Committee Members: Dan Brahier, David Davidson,
Margie Mason, Karen Norwood, Caroline Pinchback, and Alan Zollman

The 25th Annual RCDPM Conference was funded in part by the
Department of Curriculum and Instruction
College of Education
University of Maryland
College Park
CONFERENCE PROGRAM

THURSDAY, FEBRUARY 19, 1998

8:00 - 11:30  RCDPM Executive Committee Meeting  Room 2119

11:30 - 5:00  REGISTRATION OPEN  Second Floor Stair Landing

1:00 - 1:50

♦ Beginning Secondary Mathematics Teachers' Personal Theories about Teaching and Learning and the Realities of Practice
  Victoria B. LaBerge, Northern Illinois University
  Diana Steele, Northern Illinois University
  Room 2101

♦ Including All Learners in a Third Grade Community of Mathematics
  Lisa Pericola Case, University of Maryland
  Room 2103

♦ Secondary Students' Knowledge Pertaining to Linear Equations
  David K. Pugalee, University of North Carolina at Charlotte
  Room 2105

2:00 - 2:50

♦ Students' Difficulties in Applying Mathematics for Solving Physics Problems
  Gilli Shama, University of Maryland
  Edward Redish, University of Maryland
  Room 2101

♦ A Grounded Model of Mathematics Learning
  Jon M. Engelhardt, Wichita State University
  Room 2103

♦ Preservice Preparation and Middle School Mathematics
  Kimberly Sapp, Texas A&M University
  Room 2105

2:50 - 3:10  Refreshment Break  Second Floor
THURSDAY, FEBRUARY 19

3:15 - 4:15

♦ How Do We Develop Students Who Think Algebraically?
  Ann R. Crawford, University of North Carolina - Wilmington
  Sid Rachlin, East Carolina University

♦ The Connection Between Teacher’s Misconceptions About Mathematics and Students’ Achievement Outcomes in Elementary School Mathematics
  Taanya Monogue, Texas A&M University
  and
  Preservice Teachers Learning to Use Manipulatives to Teach Whole Number Operations
  Enrique Ortiz, University of Central Florida

♦ The Graphical Construction of Functional Sums
  Frank B. Pullano, University of Virginia
  and
  Research on the Understanding and the Teaching of Mathematical Modeling: From a Literature Review to Directions for the Future
  Gill Shama, University of Maryland
  John Layman, University of Maryland

4:30 - 6:00 Plenary Session:

Theme Panels’ Preview of Sessions to Come
What Have Been and What Are The Issues in . . .
Moderator: Melfred Olson

Diagnosis and Assessment Presenter, Alan Zollman
Instructional Tools and Strategies Presenter, Kay Wohlhuter
Special Education Presenters, Claudia Pagliaro and Bea Babbitt
Teacher Education Presenter, Virginia Usnick

Dinner on Your Own   Trips to nearby Vietnamese, Indian, or seafood restaurants will be organized. See conference registration desk, second floor. Or, eat on site at THE GARDEN RESTAURANT.
FRIDAY, FEBRUARY 20th

7:00 - 8:00 Continental Breakfast

7:00 - 11:00 and 1:30 - 3:00 REGISTRATION OPEN

8:00 - 8:50 AM

♦ Enhancing Secondary Teachers' Manipulative-based Teaching Repertoire
  Juli Dixon, University of Nevada, Las Vegas

♦ Learners As Complex Adaptive Agents: Implications for Mathematics Education Research in the Future
  Jayne Fleener, University of Oklahoma

♦ A Session Sponsored by the Instructional Strategies and Tools Theme Group
  Problem Solving and Manipulatives
  Melfred Olson, Western Illinois University
  and
  What Do They Know? What Would We Like Them to Learn?
  Cooperative Learning as an Answer
  Lynae Sakshaug, Western Illinois University

♦ The Changing Nature of University and Common School Partnerships With Respect to Teacher Professional Development
  Roland Pourdavood, Cleveland State University

FRIDAY 9:00 - 10:15 John Wilson Memorial Lecture

Dr. Robert Slavin, Johns Hopkins University

Dr. Slavin is currently Co-Director of the Johns Hopkins University Center for Research on the Education of Students Placed at Risk. He received his B.A. in Psychology from Reed College, and his Ph.D. in Social Relations from Johns Hopkins University. Dr. Slavin has co-authored more than 180 articles and 15 books, including School and Classroom Organization; Cooperative Learning: Theory, Research and Practice; and Every Child, Every School: Success for All. He received the American Education Research Association's Raymond B. Cattell Early Career Award for Programmatic Research, the Palmer O. Johnson award for the best article in an AERA journal in 1998, and the Charles Dana award in 1994. Robert Slavin is currently a candidate for president of AERA.

The Wilson Memorial Lecture is an annual lecture established by the RCDPM Executive Committee as a result of a memorial fund instituted by Dr. Wilson's family. John Warner Wilson, a founding member of RCDPM, died while attending the annual RCDPM Conference held in Tampa, Florida. Dr. Wilson was on the Faculty of the University of Maryland from 1969 until his death in 1979. He was Director of the Arithmetic Clinic and Professor of Mathematics Education at the University of Maryland.

Dr. Wilson held a liberal arts degree from Bowling Green State University, a masters degree in epistemology from Harvard, and a Ph.D. degree in Education from Syracuse. After service in the Army, he became a kindergarten and later a second grade teacher on the Onandaga Indian Reservation in New York State. In the early 1960's he directed the country's first arithmetic clinic. That clinic was begun by Dr. Vincent Glennon for the diagnostic study and treatment of learning problems in mathematics.
FRIDAY  10:30 - 11:20

♦ Using Time Series Analyses to Understand the Complexity of the Classroom with Regard to Mathematics Instruction, Sociocultural Norms, and Sociomathematical Norms
Shelia Brinnall, University of Oklahoma
Jayne Fleener, University of Oklahoma

♦ MathWings: Unfettered to Fly or Stifled by Strategies?
Sheryl A. Maxwell, University of Memphis

♦ Graphing Calculator-Associated Misconceptions Among High School Students
Robin Ward, California Polytechnic State University

♦ Performance-Based Assessment of Beginning Mathematics Teachers: The INTASC Project
William B. Weber, Jr., University of Toledo

11:45 - 1:30 Lunch and Annual Business Meeting  Chesapeake Room

1:45 - 2:45 Sessions Sponsored by the 25th Anniversary Theme Groups

♦ Diagnosis and Assessment:
Robert Ashlock and Alan Zollman, Organizers

Classroom Assessment as a Window on Students’ Thinking: Recommendations for Learning, Teaching, and Teacher Education
George Bright, University of North Carolina - Greensboro

Assessment as a Lever to Reform Teaching and Curriculum
Daniel Brahier, Bowling Green State University
William Speer, University of Nevada - Las Vegas

♦ Instructional Strategies and Tools:
Judith Olson and Kay Wohlhuter, Organizers

The Use of Technology as a Teaching Tool and Strategy in Mathematics
James Olsen, Western Illinois University

Integrating Technology into the Elementary School Curriculum
Judith Olson, Western Illinois University

Technology Tools Provide New Insights into the Teaching and Learning of Mathematics and the RCDPM Mission
George Wyer, Retired from West Hartford Public Schools
FRIDAY 1:45 - 2:45 continued

♦ Special Education:
Claudia Pagliaro and Bea Babbitt, Organizers
Room 2105

♦ Teacher Education:
Virginia Usnick and Sue Brown, Organizers; David Boliver, President
A Historical View of Teacher Education
Grace M. Burton, University of North Carolina - Wilmington
and
Current Events in Teacher Education
Bill Speer, Bowling Green State University
and
Future Trends in Teacher Education
Jon Englehardt, Wichita State University
Room 2117

2:45 - 3:05 Refreshment Break
Second Floor
Stair Landing

3:05 - 4:05
Sessions Sponsored by the 25th Anniversary Theme Groups

♦ Diagnosis and Assessment:
Robert Ashlock and Alan Zollman, Organizers
A Panel Discussion of Issues and Directions
Room 2101

♦ Instructional Strategies and Tools:
Judith Olson and Kay Wohlhuter, Organizers
A Panel Discussion of Issues and Directions
Room 2103

♦ Special Education:
Claudia Pagliaro and Bea Babbitt, Organizers
Diagnostic and Remedial Perspectives in Mathematics Learning Problems
Mahesh Sharma, Center For Learning and Teaching Mathematics
Room 2105

♦ Teacher Education:
Virginia Usnick and Sue Brown, Organizers
David Boliver, President
A View from the Classroom
Kathy Litz, K.O. Knudson Middle School, Clark County School District
Room 2117

4:15 - 4:45
♦ Publishing in FOCUS on Learning Problems in Mathematics
Jean Schmittau, State University of New York - Binghamton
Margot Vagliardo, State University of New York - Binghamton
Room 2101

FOCUS—On Learning Problems in Mathematics is an interdisciplinary journal, edited jointly by the Research Council for Diagnostic and Prescriptive Mathematics (RCDPM) and the Center for Teaching/Learning of Mathematics (CT/LM). The types of manuscripts sought for FOCUS include reports of research on processes, techniques, tools and procedures useful for addressing problems in mathematics teaching and learning, descriptions of methodologies for conducting, and reporting and interpreting the results of various types of research, research-based discussions of promising techniques or novel programs, and scholarly works such as literature reviews, philosophical statements or critiques.

6:00 Conference Dinner
Chesapeake Room
SATURDAY, FEBRUARY 21

7:00 - 8:00 Continental Breakfast  Second Floor Stair Landing

7:00 - 11:00 REGISTRATION OPEN  Second Floor Stair Landing

8:00 - 9:15

♦ High School:  Room 2101
   A Constructivist Approach to Geometry
   W. Gary Martin, National Council of Teachers of Mathematics

♦ Elementary School:  Room 2103
   Exploring the Mathematics in Children's Literature
   Grace M. Burton, University of North Carolina - Wilmington

♦ Middle School:  Room 2105
   Making Sense of Graphs: Theory Development for Instruction
   Susan N. Friel, University of North Carolina - Chapel Hill

9:30 - 10:45

♦ Elementary School:  Room 2101
   The NCTM Standards in a Third Grade Classroom
   Catherine Lindenmann, Forest Ridge Elementary School, Howard County

♦ Middle School:  Room 2103
   Teaching Statistics for Understanding
   Donnette Dais, On leave from Parkland Middle School, Montgomery County

♦ High School:  Room 2105
   Discrete Mathematics
   Frederick Thomas and Michele Williams
   Forestville High School, Prince Georges' County

♦ Theme Groups:  Room 2117
   Round Table Report
   Diagnosis and Assessment Presenter, George Bright
   Instructional Tools and Strategies Presenters, Judith Olson and Kay Wohlhuter
   Special Education Presenters, Claudia Pagliaro and Bea Babbitt
   Teacher Education Presenters, Susan Brown
SATURDAY, FEBRUARY 21

11:00 - 12:15

♦ Elementary School:  
  NAEP Data and the Classroom Teacher  
  Marilyn Strutchens, University of Maryland  
  Room 2101

♦ Middle School:  
  Eighth Graders' Concepts of Area  
  Pat Lamphere, Oklahoma State University  
  Room 2103

♦ High School:  
  Algebra II as Influenced by the NCTM Standards and Block Scheduling  
  Catherine VanNetta, Mt. Hebron High School, Howard County  
  Room 2105

♦ Theme Group Session, Continued  
  Round Table Discussion on Theme Group Sessions,  
  Everyone is invited to join in the discussion  
  Diagnosis and Assessment Presenter, George Bright  
  Instructional Tools and Strategies Presenters, Judith Olson and Kay Wohlhuter  
  Special Education Presenters, Claudia Pagliaro and Bea Babbitt  
  Teacher Education Presenter, Susan Brown  
  Room 2117

12:30 - 12:45 Brief Plenary: Conference Close:  
  Looking Toward the Next 25 Years  
  Martin Johnson, University of Maryland  
  Bill Speer, University of Nevada -Las Vegas  
  Room 2117

1:30 - 4:00 RCDPM Executive Committee Meeting  
  Room 2119

Enjoy the Washington area: Inside or outside the beltway there is plenty to do!

Please thank all of the presenters and especially the strand organizers: Robert Ashlock, Bea Babbitt, Sue Brown, Claudia Pagliaro, Judith Olson, Virginia Usnick, Kay Wohlhuter, and Alan Zollman.

Sincere thanks also go to Ethel Greer, Elaine Henry, and Eileen Banner who gave their secretarial skills and support to this conference. Also many thanks to Donnette Dais, Bonnie Handel, Jody Magner-Wuertzer and Ann Wallace for their help at the registration table.
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<th>Name</th>
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<tr>
<td>Ashlock, Robert</td>
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<tr>
<td>Babbitt, Bea</td>
<td>Fri. 1:45 &amp; 3:05</td>
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<td>Boliver, David</td>
<td>Fri. 1:45</td>
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<td>Brahier, Daniel J.</td>
<td>Fri. 1:45 &amp; Sat. 9:30 &amp; 11:00</td>
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<td>Bright, George W.</td>
<td>Fri. 10:30</td>
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<td>Britnall, Sheila</td>
<td>Fri. 1:45 &amp; 3:05; Sat. 9:30 &amp; 11:00</td>
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<td>Brown, Sue</td>
<td>Fri. 1:45 &amp; Sat. 9:30 &amp; 11:00</td>
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<td>Burton, Grace M.</td>
<td>Fri. 1:45; Sat. 8:00</td>
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<td>Case, Lisa Pericola</td>
<td>Thurs. 1:00</td>
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<td>Crawford, Ann R.</td>
<td>Thurs. 3:15</td>
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<td>Dais, Donnette</td>
<td>Sat. 9:30</td>
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<td>Dixon, Juli K.</td>
<td>Fri. 8:00</td>
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<td>Engelhardt, Jon M.</td>
<td>Thurs. 2:00; Fri. 1:45</td>
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<td>Fleener, M. Jayne</td>
<td>Fri. 8:00; Fri. 10:30</td>
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<td>Friel, Susan N.</td>
<td>Sat. 8:00</td>
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<td>Johnson, Martin</td>
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<td>LaBerge, Victoria B.</td>
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<td>Lamphere, Pat</td>
<td>Sat. 11:00</td>
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<td>Layman, John</td>
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<td>Lindenmann, Catherine</td>
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<td>Liz, Katy</td>
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<td>Martin, W. Gary</td>
<td>Sat. 8:00</td>
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<td>Maxwell, Sherry A.</td>
<td>Fri., 10:30</td>
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<td>Mongoose, Teeny</td>
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<td>Olden, James</td>
<td>Fri. 1:45</td>
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<td>Oslo, Judith</td>
<td>Fri. 1:45 &amp; 3:05; Sat. 9:30 &amp; 11:00</td>
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<td>Oslo, Melfred</td>
<td>Fri. 8:00</td>
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<td>Orates, Enrique</td>
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<td>Pagliaro, Claudia</td>
<td>Thurs. 4:30; Fri. 1:45 &amp; 3:05; Sat. 9:30 &amp; 11:00</td>
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<td>Pourdavood, Roland G.</td>
<td>Fri. 8:00</td>
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<td>Pugalee, David K.</td>
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<td>Puliano, Frank B.</td>
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<td>Rachlin, Sid</td>
<td>Thurs. 3:15</td>
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<td>Redish, Joe (Edward)</td>
<td>Thurs. 2:00; 2:00 Sakshaug, Lynae Fri. 8:00</td>
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<td>Sapp, Kimberly</td>
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<td>Schmittau, Jean</td>
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<td>Shama, Gilli</td>
<td>Thurs. 2:00 &amp; 3:15</td>
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<td>Sharma, Mahesh</td>
<td>Fri. 3:05</td>
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<td>Slavin, Robert</td>
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<td>Speer, Bill</td>
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<td>Steele, Diana F.</td>
<td>Thurs. 1:00</td>
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<td>Strutchens, Marilyn</td>
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<td>Thomas, Frederick</td>
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<td>Usnick, Virginia</td>
<td>Thurs. 4:30; Fri. 1:45 &amp; 3:05</td>
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<td>Vagliardo, Margot</td>
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<td>Vanetta, Catherine</td>
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<td>Ward, Robin</td>
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<td>Weber, William B.</td>
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<td>Williams, Michelle</td>
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<td>Wohlhuter, Kay</td>
<td>Thurs. 4:30; Fri. 1:45 &amp; 3:05; Sat. 9:30 &amp; 11:00</td>
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<td>Wyer, George</td>
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<td>Zollman, Alan</td>
<td>Thurs. 4:30; Fri. 1:45 &amp; 3:05</td>
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Past RCDPM Conference Sites

1974 - National Conferences
1975 - on Remedial Mathematics,
1976 - Kent State University, OH
1977 - Fourth, University of Maryland, College Park, MD [1]
1978 - Fifth, Arizona State University, Tempe, AZ [2]
1979 - Sixth, University of South Florida, Tampa, FL
1980 - Seventh, University of British Columbia, Vancouver, B.C. [3]
1981 - Eighth, Penn State University, Hershey, PA
1982 - Ninth, State University of New York, Buffalo, NY
1983 - Tenth, Bowling Green State University, Bowling Green, OH
1984 - Eleventh, University of California, San Francisco, California [4]
1985 - Twelfth, University of Texas, Austin, TX
1986 - Thirteenth, University of Maryland, College Park, MD
1987 - Fourteenth, University of California at Los Angeles, Lake Arrowhead, CA
1988 - Fifteenth, New Orleans, LA
1989 - Sixteenth, Texas A&M University, College Station, TX
1990 - Seventeenth, Galludet University, Washington, D.C.
1991 - Eighteenth, California State Polytechnic, Pomona, CA
1992 - Nineteenth, Trenton State College, Princeton, NJ
1993 - Twentieth, University of Central Florida, Melbourne, FL
1994 - Twenty-first, Fort Worth, TX
1995 - Twenty-second, University of Nevada at Las Vegas, Las Vegas, NV.
1996 - Twenty-third, University of Central Florida, Melbourne, FL
1997 - Twenty-fourth, University of Oklahoma and University of Central 
        Oklahoma, Oklahoma City, OK
1998 - Twenty-fifth, University of Maryland, College Park, MD
1999 - Twenty-sixth, ?

[1] Officers were elected, including Robert Ashlock, Thomas Romberg, Michael Hyenas, Martin 
    Johnson, and Jon Engelhardt. James Hidden was elected as the first RCDPM President.
[2] The RCDPM incorporated at this meeting.

MISSION

RCDPM seeks to simulate, generate, coordinate and disseminate research efforts designed to understand and/or overcome factors that inhibit maximal mathematics learning.