

STEM Education, Learning Disabilities, and the Science of Dyslexia

Day 1: Tuesday, September 26

Continental breakfast will be served between 8-9am

PRESENTERS AND WORKING TITLES	TIME
<p>OPENING REMARKS</p> <ul style="list-style-type: none"> ▪ Representative Lamar Smith, <i>Chairman of the House Science, Space, and Technology Committee</i>, introduced by Joan Ferrini-Mundy, <i>Chief Operating Officer of NSF</i> ▪ Russell Gersten, <i>Instructional Research Group</i> <i>Brief overview of the conference framework</i> 	<p>9:00 to 9:20 <i>(20 minutes)</i></p>
<p>PLENARY I: Understanding Dyslexia: A Scientific Approach</p> <ul style="list-style-type: none"> ▪ Jack Fletcher, <i>University of Houston</i> ▪ Chair: Robbi Cooper, <i>Decoding Dyslexia</i> 	<p>9:25 to 10:00 <i>(35 minutes)</i></p>
<p>PLENARY II: Advances in Understanding Neuropsychological Bases of Dyslexia</p> <ul style="list-style-type: none"> ▪ John Gabrieli, <i>Massachusetts Institute of Technology</i> ▪ Chair: Sheldon Horowitz, <i>NCLD</i> 	<p>10:05 to 10:40 <i>(35 minutes)</i></p>
<p>BREAK</p>	<p>10:40 to 10:55 <i>(15 minutes)</i></p>
<p>KEYNOTE: What to Teach in Mathematics Intervention: Perspectives from Math Education Scholarship</p> <ul style="list-style-type: none"> ▪ Karen Karp, <i>Johns Hopkins University</i> ▪ Chair: Karen King, <i>NSF</i> 	<p>10:55 to 11:30 <i>(35 minutes)</i></p>
<p>PLENARY III: Longitudinal Evidence on the Role of Executive Function Deficits in Early Childhood</p> <ul style="list-style-type: none"> ▪ Paul Morgan, <i>Pennsylvania State University</i> ▪ George Farkas, <i>University of California, Irvine</i> ▪ Chair: Rob Ochsendorf, <i>NSF</i> 	<p>11:35 to 12:10 <i>(35 minutes)</i></p>
<p>LUNCH (will be provided)</p>	<p>12:10 to 1:10 <i>(60 minutes)</i></p>
<p>BREAKOUT – PREMIER POSTER SESSION: Theoretical and Methodological Advances</p> <ul style="list-style-type: none"> ▪ Michele Mazzocco & Sarah Lukowski, <i>University of Minnesota</i> <i>“Early Math and Executive Function Skills as Predictors of MLD: Correlation Does Not Ensure Concordance”</i> ▪ Marcia Barnes & Nathan Clemens, <i>University of Texas, Austin</i> <i>“Predicting Risk for Co-Occurring Difficulties in Reading and Mathematics in Prekindergarten Children”</i> ▪ Hank Fien, <i>University of Oregon</i> & Yaacov Petscher, <i>Florida Center for Reading Research</i> <i>“Broadening our Horizons in Screening and Identification of Students with Reading Disabilities”</i> ▪ Rose Vukovic, <i>University of Minnesota</i> <i>“Math Skills and Attitudes of Children with Reading Difficulties”</i> 	<p>1:10 to 2:15 <i>(65 minutes)</i> <i>13-minute fixed rotations</i></p>

PRESENTERS AND WORKING TITLES	TIME
<p>BREAKOUT – PANEL SESSION: RtI Implementation and Related Research</p> <ul style="list-style-type: none"> ▪ Barbara Dougherty, <i>University of Hawaii</i> <i>“It Isn’t All about Algorithms and Facts: Mathematical Content for Learners Who Struggle”</i> ▪ Madhavi Jayanthi & Robin Schumacher, <i>Instructional Research Group</i> <i>“Intervention in Fractions at 5th Grade: The Central Role of the Number Line”</i> ▪ Nicole Bucka, <i>Northern Rhode Island Collaborative</i> <i>“RtI Implementation in Mathematics at the Middle School”</i> ▪ Rebecca Zumeta Edmonds & Kathleen Pfannenstiel, <i>American Institutes for Research</i> <i>“Tier 3 Mathematics Intervention in Elementary School: What Should It Look Like?”</i> ▪ Chair: Paula Maccini, <i>Office of Special Education Programs, U.S. Dept. of Education</i> 	<p>1:10 to 2:15 (65 minutes)</p>
<p>BREAK</p>	<p>2:15 to 2:35 (20 minutes)</p>
<p>BREAKOUT – PREMIER POSTER SESSION: STEM Intervention and Instruction for Students with Learning Disabilities</p> <ul style="list-style-type: none"> ▪ Ben Clarke, <i>University of Oregon</i> & Chris Doabler, <i>University of Texas, Austin</i> <i>“Investigating the Impact of Group Size on the Treatment Intensity of a Tier 2 Mathematics Intervention”</i> ▪ Michael Kennedy, <i>University of Virginia</i> <i>“Improving Inclusive Science Teachers’ Vocabulary Instruction: A Multimedia-Based Professional Development Process”</i> ▪ Maya Israel, <i>University of Illinois, Urbana-Champaign</i> <i>“K-8 Computer Science Instruction for Students with Learning Disabilities”</i> ▪ William Therrien, <i>University of Virginia</i> & Jonte Taylor, <i>Pennsylvania State University</i> <i>“Effectiveness of a Science Inquiry Instructional Approach on 3rd Through 5th Grade Students with Learning Disabilities Achievement”</i> 	<p>2:35 to 3:40 (65 minutes) 13-minute fixed rotations</p>
<p>BREAKOUT – RESEARCH PANEL: The Role of Executive Function and Language in Learning Disabilities</p> <ul style="list-style-type: none"> ▪ Philip Zelazo, <i>University of Minnesota</i> <i>“Development of Executive Function Skills in Childhood: Implications for Learning and Learning Disabilities”</i> ▪ Lee Swanson, <i>University of California, Riverside</i> <i>“Latent Class Analysis of Children with Math Difficulties and/or Disabilities: Are There Cognitive Differences?”</i> ▪ Lynn Fuchs, <i>Vanderbilt University</i> <i>“Does Language Comprehension Instruction Improve Word-Problem Learning?”</i> ▪ Chair/Discussant: Daniel Berch, <i>University of Virginia</i> 	<p>2:35 to 3:40 (65 minutes)</p>
<p>BREAK</p>	<p>3:40 to 3:50 (10 minutes)</p>
<p>PLENARY IV: Policy Issues Related to Learning Disabilities and STEM Learning</p> <ul style="list-style-type: none"> ▪ Lindsay Jones, <i>NCLD</i> <i>“NCLD: Policy and Parental Perspectives”</i> ▪ Karen Cheser, <i>Superintendent of the Fort Thomas Independent Schools</i> <i>“LEA Perspectives on RtI Implementation in Mathematics”</i> ▪ Chairs: Lizzette Gonzales Reynolds, <i>Foundation for Excellence in Education</i> 	<p>3:50 to 4:30 (40 minutes)</p>
<p>SOCIAL HOUR</p> <ul style="list-style-type: none"> ▪ Co-Sponsored by Instructional Research Group, the National Center for Learning Disabilities, & American Institutes for Research 	<p>4:30 to 6:00 (90 minutes)</p>

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Day 2: Wednesday, September 27

Continental breakfast will be served between 8-9am

PRESENTERS AND WORKING TITLES	TIME
<p>KEYNOTE: Revisiting the Role of Reading and Discussion in Content Area Teaching of History and Science: Experimental Research</p> <ul style="list-style-type: none"> ▪ Sharon Vaughn, <i>University of Texas, Austin</i> ▪ Chair: Brett Miller, <i>NICHD</i> 	<p>9:00 to 9:45 <i>(45 minutes)</i></p>
<p>PLENARY I – RESEARCH SESSION: Neurobiological Basis and Comorbidity of Learning Disabilities</p> <ul style="list-style-type: none"> ▪ Guinevere Eden, <i>Georgetown University</i> <i>“Brain Imaging Studies of Reading and Arithmetic in Dyslexia”</i> ▪ Nancy Jordan, <i>University of Delaware</i> & Luke Rinne, <i>University of Maryland</i> <i>“Connections Between Calculation Fluency and Reading Fluency: Findings from a Longitudinal Study Between Third and Fifth Grade”</i> ▪ Douglas Fuchs, <i>Vanderbilt University</i> <i>“Does Embedding Arithmetic Instruction in Word-Reading Instruction Improve Word-Reading Performance for First-Graders At-Risk for Dyslexia?”</i> ▪ Chair: Sarah Brasiel, <i>NCSE</i> 	<p>9:50 to 10:50 <i>(60 minutes)</i></p>
<p>BREAK</p>	<p>10:50 to 11:05 <i>(15 minutes)</i></p>
<p>PLENARY II – PANEL: Professional Development</p> <ul style="list-style-type: none"> ▪ John Woodward, <i>University of Puget Sound</i> <i>“Critical Issues in Professional Development”</i> ▪ Tim Jacobbe, <i>University of Florida</i> <i>“New Frontiers: Teaching Statistics, Probability, and Data Science”</i> ▪ Chair: Madhavi Jayanthi, <i>Instructional Research Group</i> 	<p>11:05 to 11:35 <i>(30 minutes)</i></p>
<p>PLENARY III: Exceptional Abilities and Dyslexia</p> <ul style="list-style-type: none"> ▪ Don Compton, <i>Florida State University</i> <i>“Examining the Hypothesized Linkage Between Exceptional Abilities and Dyslexia: Considering Population and Distributional Issues”</i> ▪ Mark Tumeo, <i>University of North Florida</i> <i>“Perspectives of a Dyslexic Engineer”</i> ▪ Chair: Larry Wexler, <i>Office of Special Education Programs</i> 	<p>11:40 to 12:20 <i>(40 minutes)</i></p>
<p>WRAP UP</p> <ul style="list-style-type: none"> ▪ Program Co-Chair: Russell Gersten, <i>Instructional Research Group</i> ▪ Closing Remarks: Evan Heit, <i>NSF, Division Director in the Division of Research on Learning</i> 	<p>12:25 to 12:45 <i>(20 minutes)</i></p>