Symposium Title: Multiple Perspectives on Understanding the Trajectory of Mathematical Learning During the Elementary School Years
Organizers: Alice Klein, WestEd, Oakland, CA & Marcia A. Barnes, University of Texas at Austin, Austin, TX

This symposium brings together several math cognition researchers whose work represents different perspectives or levels of analysis in understanding the developmental trajectory of mathematical thinking and learning during the elementary school years. The first paper (Jordan) will present new longitudinal research on the developmental predictors of children's difficulty in learning fraction concepts and procedures, an important aspect of mathematics, but one which has not received much study in young children. The second paper (Levine et al.) will present findings on gender differences in math anxiety in first- and second-grade children, the role that teachers and parents play in the math anxiety of young girls, the cognitive mechanisms underlying children's math anxiety, and the implications of these findings for learning and instruction. The third paper (Menon) will bring a developmental neurobiological perspective to the symposium by presenting research on the importance of different memory systems in the development of mathematical learning and how neural measures of these memory systems predict response to intensive math interventions in children with math learning difficulties. The importance of these quite different types of studies and levels of analysis in understanding young children's mathematical thinking and learning will be discussed by Dan Berch.