

Abstract Submitted
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Building K–12 Teacher Conceptual Physics Understanding and Teaching Toolkits through Long-Term Professional Development MARY URQUHART, The University of Texas at Dallas — The Department of Science/Mathematics Education (SME) in the School of Natural Sciences and Mathematics of the University of Texas at Dallas (UTD) has several long-term professional development programs designed to build and strengthen teacher conceptual understanding simultaneously with pedagogical content knowledge, classroom-ready activities, and teaching resources. The Master of Arts (MAT) in Teaching Program in Science Education is designed for in-service teacher enhancement and secondary STEM teaching certification preparation through our UTeach Dallas/MAT partnership. The 9-credit hour MAT Conceptual Physics series brings together content experts and novices in a rich exploration of physics ideas and common barriers to understanding, integrated with practical strategies and resources. SME is also home to the UTD Texas Regional Collaboratives (TRC) for Excellence in Science and Mathematics Teaching. Through these grant-supported, content-focused programs we serve dozens of teachers each year. A UTD TRC partnership brought physics professional development directly to middle school teachers in one local high-needs school district. We will present on the structure of our programs, our successes and challenges, and our partnerships. We will also share some free resources!

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