

## Department of Mathematics Colloquium

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### *Campus Viviente in STEM Education*

Prof. Guadalupe Carmona  
UT San Antonio

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3:30 - 4:30pm  
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As a response to the need to prepare a next generation of students for democratic access to the fundamental and complex ideas in STEM from an early age, we propose Campus Viviente in STEM Education. Campus Viviente integrates the design of learning environments for STEM education, an emergent model for professional development, and assessment of student knowledge in ways that capture the complexity of learning in the STEM areas in deep and meaningful ways. We propose the innovative designs of learning environments that seamlessly make connections between formal and informal learning, where the school or campus becomes a vital source and a “living” object of knowledge. Campus Viviente is an international research project that gives place to an organic and dynamic educational system, where schools become more than the place where teaching occurs, and become places where students, teachers, researchers and the community can interact in natural and constructed contexts. Our objective is to support a new educational vision for STEM education by generating interdisciplinary experiences that can take place in the schools, universities, or nearby areas, and utilizing technologies that are easily available and low cost (e.g., a protractor, a compass, open-source software) to prepare the next generation of STEM students for the needs of the 21st Century.

In a time when Hispanic students are the fastest-growing population in the U.S., providing support for these STEM education resources that are also culturally sensitive in Spanish and English, and strengthening ties with STEM researchers in Mexico and Latin America is a fundamental piece to achieve these needed changes. Campus Viviente has been strategically engineered to build and sustain the infrastructure to support an international network of scholars, research, and resources, through which we have been able to receive funding to support our efforts and shared vision. In this talk, I will provide an overview of Campus Viviente in STEM Education as a partnership with the Ministry of Education in the state of Coahuila, Mexico, and share project’s longitudinal results after a 3-year implementation.