**PROJECT ABSTRACT**

The Colleges of Education and Engineering at The University of Texas at El Paso (UTEP) propose to collaborate with the El Paso Community College (EPCC) and partner Local Education Agencies (LEAs) with the goal of creating an innovative program that (1) produces, (2) nurtures, (3) sustains, and (4) professionally develops *teacher-engineers*. The outcome of the program will be to change the face of teacher education through: (1) recruitment, (2) training, (3) induction and (4) steady clinical advancement of a new cadre of *highly qualified STEM teachers* who will provide outstanding service to our 7 partner LEAs Clint, El Paso, Fabens, San Elizario, Socorro, Tornillo and Ysleta Independent School Districts (ISDs), located in rural/urban areas of the Upper Rio Grande Region (URGR). Additionally, through an Online Alternative Teacher Certification Program, UTEP will collaborate with at least 10-20 of the rural and urban districts now participating across the state, including Alpine, Georgetown and Tyler ISD.

The UTEP-led consortium of actively partnering institutions, which includes 10 high-need LEAs, proposes to: strongly advance, promote and support Science, Technology, Engineering and Mathematics (STEM) education that will *change the face of teacher education in the URGR*. The project features: (A) providing highly qualified teacher staffing in identified high-needs STEM subjects for rural LEAs; (B) new strategies for selecting, recruiting and retaining talented individuals from traditionally underrepresented groups, notably minorities and women; (C) a model trans-disciplinary (engineering and education) infrastructure, rigorous curriculum and active learning process for teachers to become certified in key high-need areas (STEM and particularly *engineering and mathematics*), and (D) a comprehensive post graduation ATCP professional development system provided for teachers to nourish and enhance career growth.