Abstract: Through this grant Temple University, in partnership with the School District of Philadelphia (SDP) and the American Paradigm of Charters (APC), will recruit cohorts of undergraduate majors in math, science, and engineering into a fifth year, contiguous residency program that will prepare students for STEM teaching through intensive and integrated course- and clinical-work, and will culminate with a Master of Education (M.Ed.), a Teacher Certification in Middle-Grades (4th – 8th), as well as an optional endorsement in Special Education. This program will include:

- Comprehensive and rigorous recruitment and selection strategies.
- Robust and flexible residency program design – including tightly-integrated coursework and clinical work that provides in-depth conceptual and practical knowledge of content and content-specific pedagogical knowledge, as well as an extensive mentorship program that creates reciprocal learning opportunities.
- Comprehensive post-residency induction program, including support, continuous progress monitoring, and continuous instructional improvement.
- Powerful management plan that utilizes the partnership’s strengths and resources to ensure the successful launch, growth, and sustainability of this program.
- Rigorous evaluation methods that incorporate performance data and regular feedback in the assessment of project goals.

The goals of this project are to: 1) increase the number and diversity of effective teachers serving in high-need schools and in high-need fields through the preparation and support of 53 new STEM teachers over five years; 2) increase the effectiveness of the mentor-teachers through targeted professional development and support; 3) create a system of best practice sharing across a network of district and charter schools that improves the effectiveness of residents and mentor teachers participating in the program, breaks down traditional collaboration barriers; and transforms the learning culture of TTR host schools; 4) increase the capacity of Temple University to deliver high-quality teacher preparation in critical content areas, with a focus on meeting the needs of urban school.

Our project recruits students with bachelor’s degrees in math, science, and engineering – a feature that distinguishes TTR from other middle-grades preparatory programs. This allows us to build pedagogical training upon a strong foundation of content expertise so that our graduates enter the schoolroom with a deep knowledge of their subject and the skills necessary to share it with a classroom. Furthermore, this program is built upon existing partnerships between Temple and district schools and charters; this diverse partnership will give our students and mentors a wide array of learning environments and will support cross-population of best-practices. Included in our partnership is the IHE, Temple University, along with its Colleges of Education, Engineering, and Science and Technology as well as an LEA, the School District of Philadelphia, and five high-need district schools (Amy Northwest, Hill-Freeman, Russell
Conwell, Penn Treaty, and Grover Washington) and three high-need charter schools (First Philadelphia Charter School, Tacony Academy, and Memphis Street Academy). Together this partnership will strive to create a residency program that will truly change the educational climate of Philadelphia schools.