

Science Excellence through Residency (SER)

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Abstract: *Science Excellence through Residency (SER)* is an innovative, research-based pathway to highly effective science teaching in Chicago's highest-need public schools. *SER* builds on the foundation of one of the country's longest-standing and largest teacher residency programs. The project will be carried out in partnership between National Louis University (NLU), the Academy for Urban Leadership (AUSL), Chicago Public Schools (CPS) and the Illinois Institute of Technology (IIT). The project will serve teachers and students in Chicago's highest-need school settings.

The core of the project is an innovative practice-based curriculum and technology platform that supports teacher candidates to continuously improve their enactment of high leverage science teaching practices and implements the Next Generation Science Standards (NGSS). Teaching will further be supported by strengthening K-12 science curriculum through integrating connections to science in the community and science careers.

The project is guided by five goals:

Goal #1: Integrate pedagogy, classroom practice with teacher and faculty mentoring in the Chicago Teacher Residency through Active Cycles of Teaching (*ACT*) curriculum and design based research teams for continuous improvement of candidate performance.

Goal #2: Build teacher capacity and increase training site capacity to 100% for effective implementation of Next Generation Science Standards.

Goal #3: Maintain 40% diversity in residency cohorts and increase diversity of candidates for science teaching to 35%.

Goal #4: Build science curriculum that enacts NGSS and connects to community and college and career readiness.

Goal #5: Positively impact science achievement of K-12 students.

The project intends to serve a total of 215 pre-service teachers plus 30 mentors.

SER will contribute the field of teacher preparation and the enactment of NGSS by building strong models of integrating theory and practice in teacher preparation, and supporting teachers in becoming adaptive experts in enacting NGSS.