Project Summary: MSP Start Partnership

Title: Environment, Energy, and Sustainability Science: An Institute for 21st Century Teacher Leaders

Lead Institution: Widener University


Introduction: Widener University will be the Lead Partner on a MSP-Start Partnership that will develop a grant proposal to create a Greater Philadelphia Environment, Energy, and Sustainability Science (ES)² Teacher Leader Institute. Building on a base of relationships developed over the past five years by many partners in the Math Science Partnership of Greater Philadelphia, the project will engage additional institutions in the MSP program to raise regional cooperation to a new level. We will bring together faculty and resources from multiple institutions (a “Mega-University” model) to develop a coherent, innovative, and content-rich, multi-year curriculum in environment, energy, and sustainability science for an Institute that will lead to a newly developed Master’s degree. Teachers participating in the Institute will (A) improve their STEM content knowledge in areas critical to human environmental sustainability, (B) improve their use of project based/service learning and scientific teaching pedagogies in their teaching, (C) engage in real-world sustainability problem solving in an “externship” with a local business, non-profit or
government organization that is active in the newly emerging green economy, and (D) develop important leadership skills as change agents in their schools. All of the above will improve student interest, learning, and engagement in STEM education. The Institute aims to serve as a regional hub, connecting educational, business, non-profit and government organizations to strengthen the STEM education and workforce development pipelines in the region and simultaneously support positive social change toward environmental sustainability and citizenship.

**Intellectual Merit:** The project will develop a coherent, innovative, and content-rich, multi-year curriculum in environment, energy, and sustainability science that will be integrated with an externship with business, non-profit and government organizations. Teachers will link STEM learning in their classrooms with hands-on engagement with environmental issues in their schools and society to improve student interest, learning, and engagement in STEM education.

**Broader Impact:** The project’s “Mega-University” and “Institute as regional connector-hub” approaches are powerful models of collaboration that could have widespread and significant national applicability as organizations and systems adjust to the new challenges of our global economy and to the needed transition to sustainability.