University of South Florida
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July 29, 2019

Dr. Sylvia Thomas was awarded a grant of $582,334 by The National Science Foundation for support of the project entitled "The AGEP Florida Alliance Model: Improving Minority Women Success in STEM Faculty Careers," USF's portion of the award is expected to total $1,316,000.

This project, entitled "The AGEP Florida Alliance Model: Improving Minority Women Success in STEM Faculty Careers," is under the direction of Allyson L. Watson, Devona Pierre, Tonisha B. Lane, Sylvia W. Thomas. The AGEP Florida Alliance Model was created in response to the NSF's Alliances for Graduate Education and the Professoriate (AGEP) program solicitation. The AGEP program seeks to advance knowledge about models to improve pathways to the professoriate and success of URM graduate students, postdoctoral fellows and faculty in specific STEM disciplines and/or STEM education research fields. AGEP Alliances develop, replicate or reproduce, implement, and study, via integrated educational and social science research, Alliance Models to transform the dissertation phase of doctoral education, postdoctoral training and/or faculty advancement, and transitions within and across the pathway levels, for URMs in STEM and/or STEM education research careers. This collaborative research project brings together the University of South Florida, Florida Memorial University, Bethune-Cookman University, Florida International University and Florida Agricultural and Mechanical University to form the AGEP Florida Alliance Model project. The Alliance team is developing, implementing, studying, evaluating, disseminating and sustaining an AGEP Alliance Model to successfully advance STEM faculty career outcomes for historically underrepresented minority (URM) women doctoral students, postdoctoral researchers and early-career faculty. The project focuses interventions on professional development training via research boot camp experiences, mentoring and coaching by tenured women STEM faculty, and accessing support networks and programs through the National Center for Faculty Development and Diversity. Additionally, the Alliance team is engaging campus administrators and leadership to address systemic institutional barriers that are limiting the success of URM women in STEM faculty careers. The targeted outcomes of this AGEP Florida Alliance project include a large group of URM women publishing scholarly work in their STEM disciplines, securing faculty positions and earning tenure. The project's vision is to see the collaborative work sustained at the partnering universities and to see other institutions in our country adapt, adopt and reproduce this AGEP Alliance Model.

As the nation addresses a STEM achievement gap between URM and non-URM undergraduate and graduate students, our universities and colleges struggle to recruit, retain and promote URM STEM faculty who serve as role models and academic leaders for students to learn from, work with and emulate. Recent NSF reports indicate that URM STEM associate and full professors occupy only 8% of senior faculty positions at all four-year colleges and universities, and only about 6% of those positions at the nation's most research-intensive institutions. The AGEP Florida Alliance has the potential to advance a model to improve the success of female URM doctoral students and postdoctoral researchers as they

enter STEM faculty careers, and to advance URM women early-career STEM faculty through tenure and promotion. Advancing the careers of URM women faculty ultimately leads to improved academic mentorship for undergraduate and graduate students in STEM fields. The integrated education research being conducted by this AGEP Alliance team investigates the underlying personal, interpersonal, organizational and professional issues and experiences that facilitate or inhibit URM women STEM faculty career entrance, persistence and advancement. The research team is also investigating ways that URM women in STEM build skills, knowledge and competencies to successfully enter and persist in faculty careers. There is a Research Advisory Board that provides feedback to the AGEP Florida Alliance research team.

The AGEP Florida Alliance Model institutions are working with an independent external evaluator who is conducting formative and summative evaluations. This AGEP Alliance also engages two advisory boards - an AGEP Florida Alliance Model External Advisory Board and an institutional Executive Leadership Board - that provide feedback to the institutions and the project team, and that suggest adjustments to project management about model development, implementation, testing, evaluation, dissemination, sustainability and reproduction potential. The institutional Executive Leadership Board is also addressing the institutional barriers that warrant change to successfully advance women URM STEM students, postdoctoral researchers and early-career faculty in their transitions into and through faculty professions. The project team is disseminating findings from their research, and from their work on the AGEP Florida Alliance Model's development, implementation, self-study, evaluation, dissemination, sustainability and reproduction potential, by presenting at national conferences of STEM professional societies and publishing peer-reviewed articles in professional journals.

Additionally, Dr. Sylvia Thomas had the opportunity to be a Guest Editor for a Special Issue of the Journal of Functional Biomaterials on the topic of "Conductive Polymers and Composites for Medical Application". This Special Issue aims at describing the recent progress in the design and investigation of functional conductive polymers and composite materials as smart devices to be applied in, but not limited to, biomaterials, bioengineering and bioelectronics.