

Urban Environmental Practice Network

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The Discovery Opportunity

Cities, where over two-thirds of the Earth's population will live by 2050, are experiencing dramatic challenges due to climate change. New urban environmental science research is needed in heat island mitigation, environmental health, environmental justice, pollution abatement, infrastructure resilience, displacement of human populations associated with natural disasters, urban forestry, land use, air and water quality, and biotic change. Research coupled with informed professional practice is urgently needed to build resilience in urban systems. Practice is the “boots on the ground” domain where research can be applied and tested in contexts such as state and municipal government agencies, NGOs, and private firms.

ESF researchers have expertise to build resilient urban systems, but the visibility of *urban* scholarship (teaching and research) is low to external constituencies. The discovery opportunity presented in this proposal, in part, is to expose and accentuate existing urban research at ESF, including research that is perhaps not *labeled* urban. Building the reputation of ESF in the domain of **urban environmental science** takes advantage of untapped potential that can be leveraged for high national and international visibility. Urban environmental science itself is an underdeveloped body of knowledge, in part due to its complexity and transdisciplinary nature. Research needed in this domain matches the structure of ESF perfectly, suggesting that ESF could become a global leader if investments are made. Urban sustainability and resilience are central to the world's most pressing societal concerns, representing a “grand challenge” that is widely recognized (e.g., 2016 UN New Urban Agenda).

ESF alumni work in cities across the nation to plan, design, and manage natural resources, policy, and public outreach. Alumni represent an untapped opportunity for building new funded research at ESF and for making significant on-the-ground contributions to pressing questions associated with climate change. Federal funders commonly ask for community partners, and alumni are a source of these partnerships. **This proposal aims to integrate the extensive alumni network of ESF into a transdisciplinary program that bridges research and practice.** It would unite ESF researchers with ESF alumni, and ultimately include ESF students.

The centerpiece of this proposal is the development of an Urban Environmental Practice (UEP) Network, a research infrastructure that facilitates and supports iterative production and application of knowledge between ESF and the extensive group of ESF alumni working in major U.S. cities. The UEP Network will form a hub at ESF where **scientific inquiry, alumni outreach, student recruitment and retention, and transdisciplinary training** reinforce integrative research and practice.

The alumni network concept has already been tested, and ESF alumni response was overwhelmingly positive. In late 2017, a sample of 230 ESF alumni working in cities across the country were identified through LinkedIn. They were contacted with a single email, or LinkedIn InMail, and asked (a) if their work contributed to the quality of the urban environment, and (b) if they were interested in being involved in an ESF initiative about the urban environment. Seventy percent responded affirmatively to both questions, resulting in 160 “urban environmental professionals” being identified. (See <https://www.esf.edu/cue/initiatives.htm>.)

Effect on Student Programs, Including Career Advancement and Leadership

This proposal addresses all four themes in SUNY Chancellor Johnson’s 2018 State of the University address: innovation, sustainability, partnerships, and individualized education. The UEP Network addresses current student demand for urban programs and links students to alumni who can provide access to real-world projects, allowing ESF students to gain practical experiences that lead to successful careers. Engagement with the UEP Network also can enhance graduate student training in transdisciplinary practices through applied projects. Alumni benefit by furthering their knowledge development through ESF online courses or other continuing education and by furthering their own projects through collaborations with ESF researchers. Seventy-eight percent of respondents to the 2017 alumni survey said they would be interested in continuing education through ESF online courses.

Student recruitment and retention, especially of underrepresented students, is a critical component of this proposal. ESF has long realized the need to attract students from urban areas, but the college has struggled to achieve this goal. Last month, the Pew Research Center described the “post-Millennial” demographic as the most diverse and learned youth of our time. Early benchmarks indicate that post-Millennials are nearly half non-white and the majority live in metropolitan settings or urban counties. Post-Millennials remain attached to their home communities; in New York State alone, ESF has a well of potential STEM graduates in Syracuse, Rochester, Buffalo, Albany, and New York City. Unfortunately, STEM institutions have a poor track record of retaining students from underrepresented groups unless--in addition to research opportunities and specific academic interventions--these institutions have strong mentoring programs in place (Wilson, et.al., 2012). By providing students from underrepresented groups with additional mentoring, internship, and research resources, the UEP Network complements ESF’s current efforts to increase student diversity and provide support for existing programs like EOP and C-STEP. In addition, increased networking will scaffold outreach programming like ESF in the High School. Through the UEP Network and our existing outreach programming, ESF can provide a gateway for urban students to matriculate into ESF.

Interested Agencies, Partners, and Funding Entities

This discovery opportunity, a combination of strengthened urban environmental science programming at ESF and a new UEP Network, will enhance student recruitment and retention. This matches a primary strategy for addressing the ESF budget shortfall, enrollment increase. This proposal is a revenue generator through the mechanism of student tuition, in addition to increased extramural grants and philanthropic donations. The UEP Network can also serve as one

of many multichannel approaches to alumni engagement. Blackbaud Institute's Annual Alumni Giving Report suggests that alumni donor retention rates remain steady, especially with first time donors. Still, donor lapse is trending as fewer first time donors continue to donate in successive years. Engaging alumni partners in meaningful post-graduate networking is shown to increase donor activity both to prevent donor lapse and/or to reactivate lapsed donors. Although there is only a slight uptick in the number of alumni who donate to public colleges, the good news is that alumni who donate are increasingly more generous, with 2017 seeing the highest increase in revenue per donor.

The NYS DEC Region 2 office, through Director Steve Zahn, has been engaged in conversations with proposal partners on collaboration opportunities. Proposal partners are also engaged in ESF efforts to build research partnerships on Long Island, particularly concerning the Pine Barrens. These are some specific agencies and partners that are potential funding entities for projects that would evolve through the UEP Network.

Impact of the Initiative and Partnerships With Other Organizations

What is proposed here is a praxis (research + practice) network, a platform for collaboration and knowledge sharing that leverages resources at different scales and across geographic and disciplinary boundaries. Such networks can identify critical points in complex systems where one can positively intervene. They attract knowledgeable and engaged members because of the high quality knowledge transfer. The network forms a communication infrastructure, a pathway for knowledge transfer. The UEP Network will address a need for normalized pathways for scientific research and practical knowledge to inform on the ground users, and for users to give feedback about applied practice to inform the researchers. The UEP Network can pool and leverage skills, knowledge, and other resources to make gains in urban environmental science in the face of economic instability and rapid environmental change. This represents the impact of the initiative and the possibility of partnerships created through connections to alumni. It is a partnership and learning network that will develop new generations of ESF graduates equipped to work in a multicultural and globally connected world. Through its various initiatives, the UEP Network is a cross-cutting proposal that will yield a sizable and sustained return to ESF.

Use of ESF Assets and New Investments Required

This proposal received favorable responses from ESF staff in Alumni Relations, Career Services, Enrollment Management, Diversity and Inclusion, and Experiential Learning and Outreach. Further consultation and coordination will occur as necessary.

The need now is to expand this concept outside of the immediate sphere of ESF to achieve national recognition. Investments needed to support the effort include (1) office space and a full time administrative assistant to coordinate development of a SUNY major in Urban Ecosystems, to help coordinate a regional conference to bring immediate visibility to the effort, and to help facilitate future proposals, (2) funding for two post-doctoral research associates who can provide high visibility for the program, and (3) competitive support for at least four graduate students per year to initiate the first cohort of students in the program.