UF Research Challenge Grant: Florida Waste Material Innovation, Process Improvement & Data Insights for a Circular Economy – April 2019

Solicitation: The Office of the Senior Vice President and Chief Operating Officer of the University of Florida seeks proposals from faculty for research projects designed to explore and test innovative, sustainable waste solutions and closed-loop re-manufacturing processes as means to improve waste diversion and materials reuse within the North Central Florida region.

Call for Proposals: This challenge grant is a call to all researchers to propose small-scale research projects with immediate application to address the recycling and waste crisis in Florida and to support material reuse and recycling with an emphasis on ultimately developing a Florida-based manufacturing sector focusing on the circular economy of materials. This opportunity supports a partnership between the University of Florida and Alachua County, with an Eco-Industrial Park serving as a research and incubation hub that targets waste materials for innovative reuse and re-manufacture.

Proposal Development: Proposals should be tied to developing market-based solutions via one or more of the following categories:

1. Creation of new intellectual properties, businesses, and Florida manufacturing jobs
2. Development of innovative material reuse or re-manufacture processes
3. Evaluation and analysis of data as it relates to waste streams, economic impacts, and/or regional market demand for recovered materials

Considerations: Private sector partnerships - specifically in the manufacturing and processing fields - are strongly encouraged. Proposed research should attempt to close the loop of the useful lifecycles of materials. Successful proposals should also address the current challenges in processing and reusing Targeted Waste Materials by the private sector (MSW, Construction and Demolition Waste (C&D), Electronic Waste (E-Waste), and Organics).

Funding: Total funding available is $50,000, to be distributed among multiple awards. The maximum award amounts will be $25,000, with the expectation that most awards will be in the range of $10,000-$12,000. Funds may be restricted from purchase of certain equipment, supplies, or software deemed to be part of indirect costs.

Eligibility: Proposals may be submitted by any University of Florida faculty member (PI) who is eligible to submit a proposal to an external funding agency. Courtesy, Adjunct, Visiting and OPS faculty; Assistant In, Associate In, Senior Associate In; Research Associates; and Postdoctoral Associates are not eligible to be PIs for these research awards but may participate as co-PIs or co-investigators.

Proposals: Proposals should provide a budget and timeline including the specified use of the funds such as faculty buy-out or salary, graduate assistants, materials, etc.

Schedule: Deadline for submission of a proposal with a detailed budget is **5:00 PM on June 14, 2019.** The proposal and all questions regarding this solicitation should be sent to **Matthew Williams, Director, UF Office of Sustainability** at **miwilliams@ufl.edu**. Applicants will be notified of the award no later than **August 23, 2019**. Research projects including a final project report must be completed no later than **September 4, 2020.**

Additional Information

Challenge Background: Florida is home to almost 21 million people, ranking third in population in the United States. Additionally, Florida is known for its robust tourist economy which attracts more than 120 million visitors each year. As a result of both Florida's growing population and the annual tourism activity, significant amounts of waste are generated in the state each year. According to the Florida Department of Environmental Protection's 2017 Municipal Solid Waste (MSW) Management Annual Report, more than 21 million tons of MSW were landfilled, 16.4 million tons were recycled, and 4.7 million tons were combusted.

In 2008, the Florida legislature set a statewide recycling goal of 75% by the year 2020, underscoring the need for local governments to explore effective and sustainable waste solutions. In response to the 2020 goal – and coupled with the decreasing international market demand for low-grade recycled materials – many communities throughout Florida implemented Zero Waste programs that include strategies such as banning select plastic and polystyrene materials to lessen the global and local impacts of waste. The City of Gainesville, Florida recently passed an ordinance banning certain single-use plastic bags and expanded polystyrene containers from retail and restaurant establishments, which will take effect in August 2019. Alachua County will soon follow suit with a parallel plan to implement by August 2019.

In a partnership effort to further develop sustainable waste alternatives, the Eco-Industrial Park will serve as a research and incubation hub that targets waste materials for innovative reuse and re-manufacture. The Park will build upon the successes of the Innovation Hub and Sid Martin Bio-Science Park to bring private sector innovation into collaboration with the best of UF research. The goal of the Park is to create sustainable, closed-loop re-manufacturing systems that will propel the waste industry beyond the insufficient solutions of landfills and incineration.

Example Targeted Waste Materials:

- Tires
- Glass
- Plastics
- Textiles
- Paper and fiber products
- Carpeting and Mattress Materials
- Scrap Metals and Electronic Waste
- Organics

Example Private Sector Partners and Industries:

Processors:

- Recycled glass processors
- Storage and resale of recovered building materials
- E-waste processors

- Mattress and carpet materials recovery

Manufacturers:

- Industrial rubber compound manufacturers
- Recycled paper manufacturers
- Manufacturers of steel castings
- Iron foundry
- Secondary aluminum smelters
- Non-cellulosic fiber manufacturers
- Plastic sheet and film manufacturers
- Plastic bottle manufacturers
- Other plastic product manufacturers
- Lawn and garden product manufacturers
- Electronics refurbishing
- Independent artists