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FuzeHub Announces Grant Awards to Support Innovations in Manufacturing throughout New York State

FuzeHub's Manufacturing Grants Program awards nearly \$400,000 in grants to facilitate research and development, technical advancements and process improvements for New York State manufacturers.

(Albany, NY – May 19, 2020) – FuzeHub, a not-for-profit organization providing small to medium-sized manufacturers with guided access to an extensive network of industry experts, programs and resources to solve business growth challenges, recently awarded eight collaborative projects through the Jeff Lawrence Innovation Fund.

The Innovation Fund, consisting of \$1 million annually, supports a set of activities designed to spur technology development and commercialization across New York State.

As part of the fund, FuzeHub offers Manufacturing Grants to New York State not-for-profit organizations, including higher education institutions, which are proposing innovative projects to be undertaken in partnership with a New York State small to medium-sized manufacturer. Project categories cover adoption of new technology to enhance a process and/or product, prototype development, design for manufacturing, proof-of-concept manufacturing, certain equipment purchases, manufacturing scale-up, and other projects to advance manufacturing capabilities. In addition, the fund is used to provide assistance to early-stage companies through an annual commercialization competition and an innovation challenge.

The awardees plan to add over two dozen technical and skilled labor positions to bolster the workforce within the manufacturing sector and across New York State as well as contribute to an increase in economic investment. "In the current climate, the Jeff Lawrence Innovation Fund Manufacturing Grant awards are a vital resource to the companies that are supported in these projects" said Julianne Clouthier, industry engagement manager for FuzeHub. "These awards are allowing the applicant organizations, where possible, to continue to stimulate the economy through the purchase of raw materials, supplies and equipment along with funding engineering and design-for-manufacturing service costs. From medical device innovations and novel antimicrobial treatment technology to development of advanced materials

for manufacturing and fuel cell design, these grant awardees have the potential to provide opportunities to many small New York manufacturers that may be experiencing disruption in their businesses,” she added.

FuzeHub is pleased to announce the grantees:

Alfred University / New York College of Ceramics / Department of Glass Science / Hillcrest Industries \$50,000 (Western NY)

Dr. Alexis Clare and Dr. William LaCourse, professors of glass science in the New York State College of Ceramics at Alfred University, in partnership with Hillcrest Industries of Attica, NY, will develop 2 related processes which allow glass powder waste to be reprocessed into retro-reflective beads and to novel luminescent glass microbeads. Hillcrest Industries is a leading manufacturer of glass beads used for highly reflective road markings. Alfred University's low-temperature process is expected to increase Hillcrest Industries' profitability and employment through process changes that not only recycle the waste powder into currently produced reflective beads, but also into a wide range of new "glow in the dark" luminescent glass formulations. The new compositions developed at Alfred cause the glass to emit light of a given color when exposed to ultraviolet light emitted by modern auto headlamps.

Canisius College / Electroskip LLC \$34,000 (Western NY)

Researchers at Canisius College have patented a system for gait training and analysis of walking disabilities resulting from neuromuscular movement disorders that affect large patient populations. The technology has been licensed to Electroskip LLC, a local start-up founded by the inventors. In this all-New York State manufacturing collaboration, Canisius researchers will manage the production of a new FiberOptic Footbed utilizing technology from NYS start-ups and manufacturers that will be utilized in Electroskip's product.

Central New York Biotech Accelerator / SUNY Upstate Medical University / CathBuddy, Inc. \$50,000 (Central New York)

SUNY Upstate Medical University is pleased to announce receipt of a \$50,000 FuzeHub Manufacturing Grant on behalf of the CNY Biotech Accelerator (CNYBAC) and their client, CathBuddy, Inc. in performance of CathBuddy, Inc.'s Catheter and Insertion Aid Design for Manufacture project. CathBuddy, Inc., led by CEO Souvik Paul, was a CNYBAC 2019 Medical Device Innovation Challenge (MDIC) graduate and is now a client tenant. While participating in the MDIC program, CathBuddy, Inc. also won a FuzeHub Commercialization Competition Grant. The CathBuddy reusable urinary catheter technology provides a method for users to sterilize no-touch catheters between uses reducing their catheter supply costs and potentially improving user health. The ultimate goal of CathBuddy, Inc.'s patented technology is to improve long-term urinary health through the implementation of reusable smart catheters that can gather key bladder and urine diagnostics repeatedly on a daily basis, allowing physicians to make personalized recommendations for patients.

This project involves vetting manufacturers to complete design for manufacture efforts and production of manufacturing molds for the completion of verification and validation testing for CathBuddy, Inc.'s FDA regulatory submission. Success in this project will directly translate to the allocation of annual manufacturing spend to NYS medical device manufacturers, increased CathBuddy, Inc. employment, and investment in manufacturing capital equipment. This project forms the foundation of in-state efforts to establish CathBuddy, Inc.'s manufacturing capabilities in New York.

Queens College / City University of New York / QuatCare LLC \$50,000 (New York City)

Queens College, CUNY (QCC) is collaborating with the manufacturer and the distributor, Quatcare LLC

(QCL), in an all New York-based effort to create means for production of an antimicrobial treatment media. QCL has licensed CUNY IP for the use of novel porous media for the treatment of industrial process waters and, as a result, has the potential to decrease energy, water and biocide consumption. QCL, in collaboration with QCC, has developed initial manufacturing processes for coating of porous media, including recycled glass. Through funding from the Innovation Fund with FuzeHub, the collaboration of Queens College and QCL can scale manufacturing for our innovative entrant into the expanding market for technologies that can reduce microbial loads in industrial process waters. This would enable scaling of manufacturing to meet QCL's supply chain needs and position NY to lead in these novel antimicrobial treatment technologies.

Rochester Institute of Technology / Golisano Institute for Sustainability / Falcon Fuel Cells, Inc. \$49,589 (Finger Lakes)

This project aims to capitalize on the existing commercial demand for improved power sources for unmanned aerial vehicles (UAV or "drones"), by advancing fuel cell design and manufacturing. Rochester Institute of Technology (RIT) is collaborating with a local Monroe County company, Falcon Fuel Cells Inc. (Falcon), to develop a process to manufacture the crucial membrane-electrode assemblies (MEAs) needed for high-temperature proton exchange membrane (HT-PEM) fuel cells, and required system components capable of powering a UAV. A mobile system comprised of an HT-PEM fuel cell integrated with a propane fuel reformer has already been demonstrated by project team members in their prior work. However, further progress toward a validated MEA fabrication process is needed to demonstrate commercial scale manufacturability of such MEAs, and the fuel cell powered system as a whole. This project will provide critical design methods and data to advance the fabrication of the MEA component of the fuel cell, and the manufacturability of fuel cell propulsion systems for UAVs. The outcomes of this research could eventually lead to commercialization opportunities for Falcon and additional technological research advances for RIT.

University at Buffalo / School of Dental Medicine, Department of Oral Biology / OptiMed Technology, Inc. \$50,000 (Western NY)

The Arany Lab, Department of Oral Biology and Biomedical Engineering, University at Buffalo and OptiMed Technology, Inc. has developed a novel approach to improve oral-dental health that is currently a 14-billion-dollar market. A novel formulation with polymeric microspheres has been developed to address a condition termed Drug-Induced Gingival Overgrowth (DIGO) that is caused by side-effects of commonly used medications for high blood pressure, convulsions, and organ transplants. This disease affects over 20 million patients in the U.S. currently. The commercialization of these formulations is currently underway.

University at Buffalo / School of Engineering and Applied Science / Innosek. LLC \$50,000 (Western NY)

Dr. Shenqiang Ren of the University at Buffalo's Mechanical and Aerospace Engineering, Chemistry and RENEW is partnering with Innosek, LLC to develop advanced structural polymers. This project will leverage advanced polymer processing and local manufacturing capabilities to enable superior engineering polymer materials. The impact of this new technology will shine a light on the University at Buffalo and the entrepreneurial success of a Buffalo innovator. This project is transformative in that it will revolutionize additive manufacturing of UHMWPE-based personalized product applications in military, law enforcement, sports as well as medical implant devices that are lighter, stronger and biocompatible.

University of Rochester / Biomedical Engineering / SiMPore \$49,540 (Finger Lakes)

The last decade has seen the emergence of miniature models of human tissues that have revolutionary promise for medicine. With tools such as the "gut-on-a-chip," the "brain-on-a-chip," and the "lung-on-a-chip," biomedical scientists are able to quickly make discoveries that were previously only available

through slow and limited animal studies. The laboratory of PI James McGrath at the University of Rochester has used SiMPore's ultrathin (< 300 nm) and transparent porous membranes to make a novel platform for "tissue chips" called the μ SiM. The μ SiM is quickly growing in popularity and has strong commercial potential. This project will have SiMPore adopt the manufacturing methods of the McGrath lab to create a commercial offering of the μ SiM.

FuzeHub is also preparing for the Commercialization Competition:

In 2020, FuzeHub will host its fourth Commercialization Competition. The competition is a two-day event to be held on November 18 & 19, 2020 at the Albany Capital Center in Albany, New York and will feature a pitch competition showcasing innovative early-stage companies, panelist discussions and networking opportunities. Finalists will compete to demonstrate the commercialization potential of their technology or product. To learn more about the event and to register, visit www.fuzehub.com/commercialization-competition/.

For more information about the Jeff Lawrence Innovation Fund, visit www.fuzehub.com/innovation-fund/ or contact Julianne Clouthier, Industry Engagement Manager at julianne@fuzehub.com.

About Jeff Lawrence

During his more than 20 years at the Center for Economic Growth, the Manufacturing Extension Partnership (MEP) affiliate in the Capital Region where he served as executive vice president and MEP Center Director, Jeff Lawrence directed programs of direct assistance to manufacturers and technology companies to increase their competitiveness. He is remembered for being an invaluable and generous mentor to many in the area's business community and a tireless advocate for manufacturing innovation throughout New York.

About FuzeHub

FuzeHub is a not-for-profit organization that connects New York's small to medium-sized manufacturing companies to the resources, programs and expertise they need for technology commercialization, innovation, and business growth. Through our custom assessment, matching, and referral platform, we help companies navigate New York's robust network of industry experts at Manufacturing Extension Partners centers, universities, economic development organizations, and other providers. FuzeHub is the statewide New York Manufacturing Extension Partnership Program (MEP) center, supported by Empire State Development's Division of Science, Technology & Innovation.

For more information on FuzeHub, visit www.fuzehub.com.

About Empire State Development's Division of Science, Technology and Innovation (NYSTAR)

Empire State Development's Division of Science, Technology and Innovation (NYSTAR) mission is to advance technology innovation and commercialization in New York State. NYSTAR's programs are designed to enable new and existing businesses to become more competitive through the use of innovative technologies, and emphasize the importance of working with industry to leverage the state's technology strengths. Through funded programs that support world-class technology research at colleges and universities, NYSTAR works to promote a robust network of industry-university partnerships throughout the state. It administers the New York Manufacturing Extension Partnership, which provides direct technology assistance to small to-medium sized manufacturers.

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