



National Corn-to-Ethanol Research Center and Scientific Bioprocessing Partner to Advance Novel Biobased Products

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EDWARDSVILLE – Through funding provided by BioMADE, the National Corn-to-Ethanol Research Center (NCERC) at Southern Illinois University Edwardsville,

Valerian Materials, the University of Minnesota, and Scientific Bioprocessing Inc. (SBI) have partnered to perform research and development on novel sustainable materials solutions.

Launched in 2021, BioMADE is the most-recently established Manufacturing Innovation Institute. By supporting the development of biomanufacturing technologies, BioMADE and its network of 150+ members are strengthening American competitiveness, creating a more resilient supply chain, and helping the U.S. becoming more self-sufficient. This project is one of several being funded by BioMADE as part of its mission to secure America's future through bioindustrial manufacturing innovation, education, and collaboration.

“Projects like this are a perfect example of the research we do in the bioproducts space,” said John Caupert, NCERC executive director. “Creating value for our partners who are scaling up novel biotechnologies is what we do best and we’re eager to be part of this next generation of bioproducts. We are excited about this new partnership and to be working with a dynamic group of researchers with similar missions in mind. This is our second BioMADE-funded project and we are extremely appreciative of their ongoing generosity and support of NCERC.”

Valerian Materials, an emerging company focusing on the development of bio-derived, recyclable, and sustainable polymers, will lead the partnership that will optimize and scale the production of betamethylvalerolactone (BMVL), a bio-based molecule with potential to be converted into several different types of polymeric materials and products. The fermentation and downstream processing will be performed at NCERC, a globally-recognized research institution dedicated to the commercialization of biobased fuels and products. Scientific Bioprocessing Inc., a leading-edge instrumentation company focused on connecting sensor technology to data analytics, will work in tandem with NCERC to provide equipment and expertise related to fermentation monitoring, analysis and control.

Simultaneously, at the University of Minnesota, researchers in the Departments of Chemistry and Chemical Engineering and Materials Science will explore the incorporation of BMVL into advanced polymeric materials. They will be working to define not only the range of possible properties and applications of these sustainable polymers, but will also investigate their environmental degradation and chemical recycling characteristics to develop viable and sustainable end-of-use solutions.

“We are thrilled to pursue this research and development project through BioMADE funding in partnership with leading organizations dedicated to bioindustrial manufacturing,” said Valerian Material’s Co-founder Frank Bates. “Valerian Materials aims to be a leader in the production of next generation biopolymers and BioMADE

support is critical for realizing a vision for marketing commercially competitive sustainable materials.”

“We at SBI know the challenges when optimizing microbial fermentation processes towards production scale,” commented John Moore, chairman of SBI’s parent company, Scientific Industries. “With our DOTS platform, we support bioprocess researchers to simplify their bioprocessing. The combination of our cutting edge sensors and feeding technologies are ideal tools for applications like media optimization and characterizing and ranking genetically modified organisms. Start-ups like Valerian get actionable insights for their bioprocesses faster and more affordably. We are excited to add the National Corn-to-Ethanol Research Center as a center of excellence providing screening and scale-up services using the DOTS platform.”

About BioMADE

Launched in 2021, BioMADE is the latest Manufacturing Innovation Institute. It is a member of [Manufacturing USA®](#), a national network created to secure U.S. global leadership in advanced manufacturing through large-scale public-private collaboration on technology, supply chain, and education and workforce development. Learn more about BioMADE by visiting [BioMADE](#).

About Valerian Materials

Valerian Materials will lead the way in renewable, degradable, and recyclable polymers. The biomass derived materials have applications as resilient foams and elastomers as well as tough plastics and thermosets. The principal technology relies on efficient and economical fermentation of sugar to generate small molecules that can be catalytically converted to polymers in high yields at low temperatures with controlled molar mass. The versatility of the polymer platform is a key aspect and allows for broad penetration in a wide variety of industries.

About NCERC at SIUE

The National Corn-to-Ethanol Research Center (NCERC) at Southern Illinois University Edwardsville (SIUE) is a nationally recognized research center dedicated to the development and commercialization of biotechnologies. Their unique research laboratories house bench- to demonstration-scale bioreactors and pretreatment and downstream processing equipment, making it the perfect partner to companies in the biotechnology industry. Through their contractual research services, NCERC has played an instrumental role in commercializing more than eighty products that are now used in the commercial marketplace. In addition to its research and development services, NCERC leverages its experienced staff and unique facility to provide a variety of

workforce training and education initiatives to train the next generation of bioeconomy professionals. For more information, contact Jackie Hayes at jhayes@ethanolresearch.com, or visit www.EthanolResearch.com

About Scientific Bioprocessing Inc.

Scientific Bioprocessing, Inc. (SBI) is dedicated to pioneering digitally simplified bioprocessing by providing actionable insights from lab to production floor. With the DOTS platform, SBI offers a broad portfolio of state-of-the-art bioprocessing sensors and actuators as well as the innovative DOTS software, for sensor control and data monitoring. Or in other words: one sensor platform to simplify your bioprocessing. SBI is a subsidiary of Scientific Industries Inc. To learn more, visit www.scientificbio.com