

Seed Grant Awardees

February 2012 - 50 Word Non Confidential Project Summaries

All awardees will be contacted by MTI within 5 business days.

All non-awardees will receive written feedback via mail within 10 business days.

SG5009 - *Multispectral Imaging Phase 3, Howell MSI INC, Westbrook.*

Howell MSI will use proprietary photographic technology to create digital archives of cultural artifacts for scientific study, reproduction and proof of authenticity. This proposal focuses on completion of a device equipped with fifteen color filters, from ultraviolet through infrared, and two fixed light sources to photograph multispectral images of reflective media and artwork including transparent negatives and slides and paintings.

Award: \$12,500

Match: \$84,270

Sector: Information Technology

SG5010 - *Educational Publishing Platform, J. Weston Walch, Portland.* Walch Publishing is developing a cloud-based platform to expedite the process of authoring, managing, publishing and monetizing highly customized educational materials. In public education, there is a growing demand for accessible resources that meet the specific requirements of individual district, school, classrooms and student. Incumbent solutions are “one size fits all” and based on legacy architectures. Only through such a modern platform can this pressing need be met conveniently and cost effectively. MTI funding will help us to take advantage of important opportunities for commercialization in the Spring/Summer of 2012 and to revitalize our 80-year-old Maine company.

Award: \$25,000

Match: \$64,435

Sector: Information Technology

SG5011 - *VetEnvoy Telemedicine Transfer Protocol, VetEnvoy, Inc., Portland.* VetEnvoy, Inc. has developed a software hub for connecting veterinary clinics electronically with veterinary suppliers and businesses. Vet Envoy has developed and commercialized protocols for transferring medical records and information through their software platform. Significant market potential has been identified for the development of a diagnostic image protocol that would allow clinics and suppliers to share greater amounts of information and increase health communications efficiency. This project will focus on determining the market and technical feasibility of bidirectional telemedicine communications through VetEnvoy, and lead to a large research and development project involving the prototyping and ultimate deployment of a market-ready solution.

Award: \$21,000

Match: \$28,600

Sector: Information Technology

SG5012 - Composite Fuel Commercialization Testing, PelletCo, LLC, Orono. Pelletco has developed and is commercializing a high-energy composite fuel pellet that is moisture resistant and provides 11,000 BTU/LB versus dry wood at 8,000 BTU/LB. Pelletco needs comprehensive emissions and heat generation data from existing biomass boilers in order to accelerate the commercialization of composite biomass fuel. Pelletco will test and compare fuel heat generation and emissions characteristics of Pelletco fuel with other fuels typically used for thermal energy. This test data will enable Pelletco to provide potential customers with comparison data on the heating performance and the emissions characteristics of various fuels leading to accelerated fuel substitution decisions.

Award: \$25,000

Match: \$39,000

Sector: Advanced Technologies for Forestry and Agriculture

SG5014 - Novel Release Paper, Stirling Consulting, Inc., Yarmouth. The use of nanofibrillated cellulose offers a strong potential for Maine-based paper manufacturing capacity to effectively participate in this growing value-added paper market utilizing capacity that is potentially in danger of closure because of declining markets for current grades without major equipment rebuilds. This project will establish the base line standards and the prototype product design in preparation for pilot work planned at the University of Maine Process Development Center.

Award: \$8,995

Match: \$9,195

Sector: Advanced Technologies for Forestry and Agriculture

SG5015 - Concentrating Solar PV-Thermal Prototype, Beltane Solar Inc., Topsham. Beltane Solar Inc. is commercializing technology that will concentrate the sun's energy to create power and hot water. The design has a total efficiency of >60% yet is simple, scalable, reliable and low cost. Future accessories will allow energy autonomous water desalination and sanitation for grid-isolated applications worldwide. We believe you should "get more from the sun™." Beltane Solar will utilize the seed grant to complete the design and development of our solar module in a ¼ scale and full-size operating version, test and verify the module's safety and performance and demonstrate the performance to potential customers.

Award: \$25,000

Match: \$39,250

Sector: Environmental Technology

SG5023 - Detailed Cost of Energy Analysis for SWF System, University of Maine System acting through the University of Maine, Orono. Submerged Web Foundation (SWF) is a novel approach to overcoming the challenges of making a cost-competitive deepwater foundation for offshore wind farms. Preliminary hydrodynamic analysis supported by MTI last year has generated very encouraging results, and the team is preparing to conduct detailed Cost of Energy (COE) analysis of the SWF system prior to further R&D activities. This follow-up grant would fund the COE analysis that would strengthen future grant proposals and help fund raising and business development activities. The expected outcome is a final report of the detailed COE analysis.

Award: \$25,000

Match: \$25,000

Sector: Environmental Technology

SG5024 - Market and Regulatory Analysis for Commercializing, Refill Management Systems, LLC, Yarmouth. Refill Management Systems LLC, a Maine-based software company, is innovating the way medical practices and pharmacies manage medication renewals, leading to improved efficiency and better quality. With funding from Maine Technology Institute, RMS will undertake a comprehensive regulatory, technical and market review of its proposed business model. With the results of that review, RMS will be able to develop its business plan to be used to raise additional capital for commercialization.

Award: \$25,000

Match: \$31,600

Sector: Information Technology

SG5025 - Pleurabrade Proof of Concept & FDA Approval, Butterfield Technologies, LLC, Portland. Butterfield Technologies, LLC intends to commercialize and market its patented medical device, the Pleurabrade™. This exclusive technology will fill a need for cardiothoracic surgeons who perform the pleurodesis procedures. Inventors, Keith and Kevin Butterfield, are seeking matching seed funding from MTI to support their personal financial investments in: 1) proof of concept (including prototype creation and live porcine lab testing), 2) submission of FDA 510(k) notification, and 3) pre-manufacturing marketing elements to include publication and presentation of the findings from the proof of concept lab by the performing cardiothoracic surgeon as well as website development. This is the first of several product launches planned by Butterfield Technologies, which is a Maine-based company led by natives of Gorham, Maine.

Award: \$25,000

Match: \$46,524

Sector: Biotechnology

SG5026 - WOOLY ROUNDS - Process to Mechanize Production, WOOLY ROUNDS, Camden. WOOLY ROUNDS is a small Camden-based business that manufactures and distributes felted wool dryer balls. WOOLY ROUNDS wool dryer balls have the ability to help conserve energy by reducing dry time in a clothes dryer. Since inception in October 2010, over 3000 balls have been produced, all by hand. Due to increase in market demand for this product, and the desire to grow this company, I am seeking assistance for manufacturing scale-up in order for production to be partially or completely mechanized and volume increased by developing a machine with the University's Manufacturing Applications Center (MA) at USM.

Award: \$4,687

Match: \$4,700

Sector: Environmental Technology

SG5027 - Abalone Culture as a Sustainable Business, University of Maine,, Orono. Pacific abalone are a high value aquaculture species that are about to be reared in Maine for the first time. To make the growing of abalone a sustainable business in this area, where they are not native and brood stock are difficult to obtain, a process is required for repeatedly spawning brood stock in a captive environment. The development of protocols for repeat conditioning and spawning of captive abalone will allow for additional growers within Maine to expand into this high-value aquaculture product that has a large market potential within the US and globally.

Award: \$17,011

Match: \$17,887

Sector: Aquaculture and Marine Technology

SG5028 - RTI G2 SOWEC Performance Enhancements & Mountings, Rohrer Technologies, Inc. , York. Rohrer Technologies, Inc. (RTI) has developed a deep water deployable Submergible Ocean Wave Energy Converter, the “G2”, an elongated, self orienting, wave front parallel, semi-submerged, utility scale wave energy absorption barrier. It utilizes light weight composites, rather than heavy, costly steel plate, to reduce cost and increase performance. Previous G2 wave tank testing used a rigid mounting system. A floating mount will be required for deployments exceeding 50 meters ocean depth, typical of the Gulf of Maine. RTI will utilize UMO to analyze performance impacts of proposed G2 mounting/mooring systems, including attachments to fixed and floating off-shore wind turbines while RTI prepares a floating mount G2 model for future testing in UMO’s new wave tank.

Award: \$25,000

Match: \$25,000

Sector: Environmental Technology

SG5031 - Development of a new biological trap for sea lice, University of Maine, Orono. The sea louse is currently the greatest economic threat to Atlantic salmon culture in the North Atlantic. A biological sea lice trap consisting of mussel rafts containing slow-release semiochemicals may reduce sea lice densities while contributing to environmental and economic sustainability. Semiochemicals would attract planktonic sea lice larva without affecting other plankton. The filter-feeding mussels would remove sea lice from the water column. We propose to demonstrate that the addition of semiochemicals to a mussel mass enhances the reduction of sea lice settlement on co-habiting Atlantic salmon as proof of concept to develop and commercialize a biological sea lice trap.

Award: \$14,387

Match: \$14,397

Sector: Aquaculture and Marine Technology

SG5032 - Kitchen Appliance Development, Karkos Group, LLC, Cumberland Foreside. The Karkos Group, LLC in Lewiston is developing a new technology kitchen appliance. The MTI funding will be used to advance the product design and prototype development with engineering and testing support from the Advanced Manufacturing Center at the University of Maine in Orono.

Award: \$25,000

Match: \$32,720

Sector: Precision Manufacturing Technology

SG5034 - College Recommender Integration, Cambium Enterprises, Yarmouth. Possibility U is a college admissions software and services provider that supports aspiring students with the high-stakes decisions related to discovering, choosing and getting into a college where they will succeed – academically, socially and financially. The market for college admissions services is large and growing. As the cost of college continues to escalate, it is more important than ever to make a good match the first time around. Finding the right fit often reduces the overall cost of attendance to a family and increases student confidence and success during their college career.

Award: \$25,000

Match: \$38,032

Sector: Information Technology

SG5035 - *Sani Seat Prototype and Testing Phase, Sani Seat, Portland.* This sanitation improvement project consists of the building, testing and improving of a working prototype for the fully-developed design of the Sani Seat, a simple-to-use and inexpensive pedal system that attaches to any toilet to lift and lower the seat. The goal of this project is to improve the cleanliness of public and private male restrooms by creating an environment in which stall seats remain raised if up or can be easily lifted if down without the use of one's hands. The result of the project will be a fully refined and operational design ready for mass production and commercialization.

Award: \$8,000

Match: \$8,000

Sector: Environmental Technology

SG5036 - *A Social Platform for Outdoor Recreation, Chimani, LLC, Yarmouth.* Chimani LLC proposes to develop a social platform which encourages individuals to increase outdoor recreation and connect with related non-profit organizations and businesses. The grant will provide resources to prototype a design and product.

Award: \$25,000

Match: \$25,000

Sector: Information Technology

SG5041 - *Micro Wireless Stress Sensors for Aircraft, Greenwood Tech Strategies LLC, Rockport.* Greenwood Tech Strategies, LLC, a new Maine company, proposes to design and develop Meso-scale wireless Sensors to detect strain and stress in US Military Aircraft components. Utilizing new laser direct-write micro-manufacturing technology, miniaturized sensors meet size requirements of the market- specific application, while eliminating photolithography and other expensive, slower, non-green processes. The technology is ideal for prototyping or small production runs, allowing customization of sensors.

Award: \$25,000

Match: \$25,000

Sector: Precision Manufacturing Technology

SG5043 - *Mapping Solar P-V Electric Generation Potential, James W. Sewall Company, Old Town.* This project will develop a cost-effective method for mapping the potential for solar P-V electrical generation on rooftops using LiDAR (Light Detection And Ranging) as compared to aerial photography databases. Sewall will determine the slope, aspect, and shading for rooftops in three pilot areas and calculate the costs using each method. Revision Energy will provide Sewall information and guidance to develop maps showing solar potential for cities useful for a) long-range planning, and b) development of micro-grids or neighborhood-scale electric cooperatives. We will also provide solar installation companies with PV potential by house address, using our city mapping databases.

Award: \$24,958

Match: \$26,870

Sector: Environmental Technology

SG5047 - *Large Area Ultra-Thin, Pressure Sensor Arrays, Maine Marine Composites LLC, Portland.* Maine Marine Composites is developing a sensor system to collect multi-point pressure data on large surfaces immersed in fluids. Modules containing piezoresistive sensors and supporting electronics can be daisy-chained together to cover large, irregular surfaces. This

project will result in preliminary design, prototype construction, and field test program of a large area pressure array system. The project will result in an innovative, flexible pressure sensor system with broad applications in research and process control, and also in a comprehensive marketing plan for the project.

Award: \$24,730

Match: \$41,400

Sector: Information Technology