

FY 2104 Round 2 - TCIP Grant Awardees

Institution	Licensee/ University	Cluster	Application Title	DESCRIPTION OF TECHNOLOGY
U of U	Licensee	LS	CoNextions Med	<p>A novel tendon repair device for flexor and extensor tendons of the hand. The innovative design of the CoNextions repair device confers a number of advantages. It is easy to apply, which may lead to reduced surgical time and a decrease in complications associated with surgeon error. The finger trap behavior of the tendon results in pressure only being exerted on the tendon when it is under tendon. This allows the resting tendon to heal with limited interference. The plurality of micro-hooks evenly distributes the load across the tendon end, reducing the stress concentrations associated with suture repairs. This may not only prevent cell death, but result in a stronger repair. Sutures repair tendons from the “inside-out” (via passing the suture into the tendon with a needle). The CoNextions tendon repair device repairs tendons from the “outside-in”, and this is the core innovation.</p>

U of U	Licensee	LS	Fast Diagnostic	<p>Espira has developed an automated pathogen detection system with water quality testing and food pathogen testing as initial targets. Using a unique combination of advanced technologies, the pathogen detection system goes beyond lab culturing of indicator coliforms and E.coli by detecting a suite of specific bacteria, protozoa and viruses in the same test. Total organisms and viable organisms are separately reported for each pathogen with an additional electrochemical scan. All the analysis steps including automated sample collection, concentration, and detection can be operated by minimally trained personnel in less than 30 minutes. The limit of detection for our technology is 3cfu/100 ml which is 33 times better than that of minimum reported in literature (1 cfu/ml) and 200 times better than that of commercial kits 600 cfu/100 ml).</p>
U of U	Licensee	LS	MFI	<p>MultiFunctional Imaging, LLC is an emerging medical software device company providing patented technologies for obtaining and quantifying multiple diagnostic imaging results in a single scan. These technologies include systems and methods for single-scan rest+stress myocardial perfusion imaging, single-scan multi-tracer cancer imaging for quantification and assessment of tumor function, and fast and robust kinetic modeling of dynamic images. The technology has five distinct value propositions: 1) Improved patient throughput 2) Improved patient and healthcare worker safety 3) Raises standard of care through image quality 4) Reduces costs of diagnostic imaging 5) Increases accessibility of procedure to more patients.</p>

U of U	Licensee	IT	NeuroVersity	NeuroVersity leverages SketchUp Make (a free 3D drawing/design tool) in our unique and evidence-based educational curriculum that is strengths-based, family-focused, and matches the visual-spatial abilities of youth on the autism spectrum. There is no other existing educational training program like Neuroversity in the US/world in relation to serving youth on the autism spectrum that focuses on talent and ability in a virtual 3D environment. Our unique and proven training model facilitates both social and occupational skill development for youth with ASD. Our educational model prepares youth for transition to adulthood and vocational opportunities in computer-based design programming. Our partnership with Columbus Community Center will create job opportunities for youth on the autism spectrum.
BYU	Licensee	MMEE	Open Air Compos	Open Air Composites manufactures carbon fiber bicycles using Isotruss tech. We are utilizing BYU's patented IsoTruss structure in a carbon fiber bike application to create a bike.
U of U	Licensee	IT	Asthma Tracker	Asthma Tracker ("AT") is patent-pending technology that reduced recurring ER visits by 98% among child asthmatics in a clinical study. AT reduces recurring emergency room visits and hospitalizations by tracking symptoms and closing the surveillance treatment gap and notifying physicians of progress for patients suffering from asthma. AT helps patients take control of their disease, which reduces the chance that they will need expensive and often-life threatening ER visits and hospitalization. AT is the only available technology that seamlessly integrates tracking, notification, and scoring, and is based on clinical research conducted at the U of U and Primary Children's Medical Center.

U of U	University	LS	ATLAS	<p>Rehabilitation of lower extremity fractures relies on the ability of patients to repeatedly place a certain percentage of their weight on the injured limb. Studies have shown that patients are unable to do so even when they believe they are compliant. Currently, there are no monitoring devices that are capable of recording and reporting limb loading between follow up clinical visits. To address this unmet market need we have designed the Ambulatory Tibia Load Analysis System (ATLAS). The ATLAS uses a novel load sensing technology to continuously record limb loading and is coupled with consumer electronics that can store and report limb loading data wirelessly to a smartphone. Thus enabling patients to improve their rehabilitation.</p>
U of U	University	LS	6S Troclosure	<p>6S Medical's Troclosure™ incorporates a suture deployment mechanism that is integrated into the trocar and facilitates rapid and accurate suture placement for effective closure of intra-abdominal defects. This device will improve patient outcomes, reduce operating room procedure time, decrease the incidence of suture related injuries to medical staff, and lower the rate of post-surgical herniation through the trocar port site. The device provides an unprecedented solution to trocar port closure. The solution is mechanically simple, reliable, and effective. Other devices have been developed to address this problem, but they are either too complex and cumbersome, or require the purchase of an additional costly device.</p>

U of U	University	LS	Glaucoma Drugs 2	<p>We developed a series of new small molecule prodrug molecules that is just as effective in lowering IOP as are current clinically used drugs. They have 2 additional advantages: First, in contrast to the standard IOP-lowering drugs such as timolol which are effective for 4-7 hours and need to be applied at least twice a day, some of our compounds are effective for 24-27 hours. This is important because patient compliance has been a major impediment for effective glaucoma therapy. Secondly, and crucially, the drugs do not only lower the IOP but also protect against pressure-induced RGC death under in vitro (isolated RGCs) and in vivo conditions. Our basic science research that is conducted in parallel to translational/glaucoma research uses biophysical, genetic, physiological and whole-animal approaches to characterize the properties of the glaucoma targets in ocular cells and to test the efficacy of the antagonist drugs in blocking RGC degeneration in animal glaucoma models. The new generation of eye drops ameliorate glaucoma by simultaneously depressing IOP and protecting RGCs. Importantly, these highly selective, high-affinity non-toxic compounds do not affect other types of channels. We developed these drugs as an eye drop formulation, which exempts us from the FDA standards used for systemically applied drugs and will speed up both the clinical testing and federal approval.</p>
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WSU	Licensee	MMEE	Vortecx	<p>The Vortecx Winglet technology provides up to a 12% increase (from 3 years of vortex test data) in either operational efficiency or air speed for no additional increase in engine power for the aircraft owner. Current general aviation winglet designs are expensive and only marginally efficient. Due to patented, proprietary technology, the Vortecx winglet design dramatically reduced the drag created by a typical wing as it flies through the air. This reduction in drag equates to the improvement in either operational efficiency or airspeed to the aircraft owner.</p>
U of U	Licensee	LS	Laparoscope	<p>Xenocor is developing a low cost surgical camera (laparoscope) that can readily be used throughout the world. Our state-of-the-art, proof of principle prototype was designed by Dr. Brooks and was recently used by Dr. Langell to operate in a pig for animal model simulation. The current system is readily portable because of a built-in LED light source, is compatible with both iPad and Android platforms, and will cost less than \$7,000. Contrast that with current technology, which includes an independent light source, large monitor, and recording system. These systems more than 200 lb of equipment, are not readily transportable, and cost nearly \$100,000, which prohibit their use in outpatient surgical centers and developing countries.</p>