The Center for Medical Innovation at the Swanson School of Engineering is a collaboration among the University of Pittsburgh’s Clinical and Translational Science Institute (CTSI), the Innovation Institute, and the Coulter Translational Research Partnership II (CTRP). Established in 2011, CMI promotes the application and development of innovative biomedical technologies to clinical problems; educates the next generation of innovators in cooperation with the schools of Engineering, Health Sciences, Business, and Law; and facilitates the translation of innovative biomedical technologies into marketable products and services. CMI has supported 67 early-stage projects through more than $1.2 million in funding since inception.

**CMI MISSION**

The mission of CMI has three essential components:

- **Research:** To provide an organizational structure to link engineering faculty, clinicians, and students at the University of Pittsburgh, and to fund early-stage development of innovative biomedical technologies.

- **Education:** To educate the next generation of innovators in the design, development, and commercialization of medical technologies through classroom and hands-on experiences in cooperation with the schools of Engineering, Health Sciences, Business, and Law.

- **Development:** To facilitate the translation of innovative biomedical technologies into marketable products, services, and business ventures in collaboration with the University of Pittsburgh Innovation Institute, Clinical Translational Science Institute (CTSI), and the Coulter Translational Research Partnership.

**CMI VISION**

The vision of the CMI is to establish an internationally recognized center for developing innovative medical technologies, educating students, and facilitating commercialization.

**Educational Program**

CMI will offer, through the Swanson School’s Department of Bioengineering, two options for a Professional Masters degree, and a new graduate Certificate in Medical Product Innovation. Additionally, engineering graduate students may participate in courses and innovation projects as part of their dissertation work. Medical students will be able to satisfy School of Medicine research requirements through participation in CMI sponsored projects. Courses in innovation and entrepreneurship already offered through the Swanson School of Engineering, the Katz School of Business, and the School of Law will be available to all students interested in medical innovation. Multi-disciplinary student teams (including graduate students in engineering and business, as well as law and medicine) will work with engineering faculty, clinicians, and industry advisors to develop innovative medical technologies through the prototype stage.

**Structure**

CMI promotes collaborations among University of Pittsburgh clinicians and engineers which are likely to result in improvements to healthcare. A multi-disciplinary CMI leadership team is in place to manage the process. Seed money will be available to clinician-engineer teams whose collaborative project proposals are successfully reviewed and approved by CMI.

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The University of Pittsburgh’s Center for Medical Innovation (CMI) awarded grants totaling $60,000 to three research groups through its 2018 Round-2 Pilot Funding Program for Early Stage Medical Technology Research and Development. The latest funding proposals include a new drug-eluting contact lens for treatment of dry eye disease, a new method of measuring ocular changes in glaucoma, and a new instrument for management of ketogenic diets.

CMI, a University Center housed in Pitt’s Swanson School of Engineering, supports applied technology projects in the early stages of development with “kickstart” funding toward the goal of transitioning the research to clinical adoption. Proposals are evaluated on the basis of scientific merit, technical and clinical relevance, potential health care impact and significance, experience of the investigators, and potential in obtaining further financial investment to translate the particular solution to healthcare.

2018 ROUND-2 CMI PILOT FUNDING AWARDEES

AWARD 1
Bryan Brown, PhD
Assistant Professor, Departments of Bioengineering, Obstetrics, Gynecology, and Reproductive Sciences, McGowan Institute for Regenerative Medicine

Vishal Jhanji, MD, FRCSG, FRCophth
Professor of Ophthalmology, Cornea, External Eye Diseases and Refractive Surgery Services, UPMC Eye Center

Mangesh Kulkarni, MD, PhD
Research Assistant Professor, McGowan Institute for Regenerative Medicine and Department of Bioengineering

FOR: Polyelectrolyte Multilayer Coating for Delivery of IL-4 from Contact Lenses for Dry Eye Disease

Development of a drug-eluting contact lens for treatment of chronic “dry eye” disease.

AWARD 2
Piervincenzo Rizzo, PhD
Professor, Department of Civil and Environmental Engineering, University of Pittsburgh

Ian A. Sigal, PhD
Assistant Professor, Department of Ophthalmology, University of Pittsburgh Medical Center, Eye & Ear Institute

Ian Conner, MD, PhD
Assistant Professor of Ophthalmology, Department of Ophthalmology, University of Pittsburgh

FOR: Quantitative Analysis of a New Tonometer to Manage/Prevent Glaucoma

Development of a novel pulse wave device for measurement of ocular tissue characteristics in the detection and treatment of glaucoma.

AWARD 3
Sung Kwon Cho, PhD
Department of Mechanical Engineering and Materials Science, Swanson School of Engineering

David Rometo, MD
Division of Endocrinology and Metabolism, University of Pittsburgh Medical Center

David Finegold, MD
Department of Human Genetics, Graduate School of Public Health

Alex Star, PhD
Department of Chemistry, Dietrich School of Arts and Sciences

FOR: Acetone Breathalyzer for Monitoring the Ketogenic State

Development of a cost-effective, rapid acetone “breath-alayzer” for clinical and consumer usage in ketogenic diets.

Details of this program and other CMI related information can be found at engineering.pitt.edu/cmi