In this Issue

Spotlight: OHSU researchers, residents and surgeons develop novel inguinal hernia repair simulator

Technology Transfer and Business Development (TTBDB): Introducing the Senior Technology Development Manager

Funding: OCTRI announces award recipients of this year’s pilot project funding, fostering creative bioengineering solutions for important health care problems

Missed the INVENT Series? Each session was videotaped! Watch them all HERE

OHSU Team Advances Medical Education with Novel Inguinal Hernia Model

Development and Design Team:
Jessica M. Scott, B.S., OHSU School of Medicine
Shanley Deal, M.D., Virginia Mason Medical Center Department of Surgery
Mackenzie Cook, M.D., OHSU Department of Surgery
Alexis Moren, M.D., M.P.H., OHSU Department of Surgery
Laszlo Kiraly, M.D., OHSU Department of Surgery

“Resident work hour restrictions and surgical faculty oversight requirements have limited the role of medical students and interns in the operating room. This has the potential to reduce active student learning and interest in surgical careers. Including high-fidelity surgical models as a training tool helps learners to actively engage by integrating anatomy, technical skills and teamwork. There is not, however, an easy to construct, affordable and team-based simulator that can simultaneously support the development of medical students while enhancing the clinical teaching abilities of residents. We sought to design such a model.

We built and revised an inguinal hernia model with input from six expert general surgeons and a pilot group of students and residents from Oregon Health & Science University. The model was evaluated with a pilot study that yielded qualitative feedback from students and residents, including modifications for a more realistic inguinal canal, adherent fascial layers for blunt dissection, and alteration of both inguinal rings. This inguinal hernia simulator allowed mid-level residents to take on an “attending” role and guide medical students and interns through the open repair of an inguinal hernia. The simulation experience is the first of its kind that can meet the technical education needs of more junior learners while facilitating the team leadership and mentoring educational needs of senior learners. Medical education must include model-based simulation to optimize the surgical skills of learners in a changing environment. Low-cost, team-based simulators are feasible and, for the first time, can now meet the learning needs of multiple learners simultaneously. In the future we look to formalize the construction process of these models to add fidelity and standardization without dramatically increasing cost. This will allow us to expand the reach of the simulation to all levels of medical student education as well as increase its utilization in the OHSU intern and resident skills lab.”

Inguinal Hernia Model Team Presentation
Monday, April 6th, 12 - 1 PM
OHSU, BioMedical Research Building 581
Meet the OHSU Department of Surgery Senior Technology Development Manager

Michele Gunness, Ph.D., CLP
Senior Technology Development Manager

Dr. Michele Gunness received a Bachelor’s degree from Franklin Pierce University in Rindge, NH, a Ph.D. from the University of Connecticut, and was the recipient of a National Research Service Award Post-Doctoral Fellowship at the University of Connecticut Health Center. Michele achieved “Certified Licensing Professional” certification from the Licensing Executives Society (LES) in November 2014. She is a member of the Licensing Executives Society, past Chair for the Oregon/SW Washington LES Chapter, Association of University Technology Managers and the Oregon Bioscience Association.

Prior to her career in university Technology Transfer, Michele was an Assistant Professor at the University of Connecticut Health Center, a Research Scientist at the Portland Veterans Affairs Medical Center, Pathology and Laboratory Medicine Service, and an Assistant Professor in the Department of Pathology at OHSU.

Michele is currently a Senior Technology Development Manager and has been with TTBD for over 13 years. Michele is a member of the Licensing group and responsible for evaluating new invention disclosures, identifying commercial opportunities, and negotiating license agreements.

Got a Great Idea? Take Action:

Fill out an Intellectual Property Disclosure Form and submit to the Office of Technology Transfer and Business Development (techmgmt@ohsu.edu).

Contact Dr. Michele Gunness (gunnessm@ohsu.edu) with any questions or concerns about the form or process.

After you submit your Intellectual Property Disclosure Form, Dr. Gunness and Innovation Manager Sharon Kryger will meet with you to facilitate the next steps.
2015 Biomedical Innovation Awardees

This year OCTRI funded three projects designed to identify and foster creative bioengineering solutions for important health care problems. Well-developed ideas and visions of the end products, as well as collaboration between clinician scientists and bioengineering led to these innovative solutions. Collaboration allows the identification of a significant clinical problem, an innovative idea for a device to address the problem, bioengineering approaches for device development, and early clinical validations of device effectiveness.

Major funding for the Biomedical Innovation Program comes from OCTRI, with supplemental support from the Oregon Translational Research and Development Institute (OTRADI) and in collaboration with OHSU Technology Transfer and Business Development.

Erin W. Gilbert, M.D., M.C.R.
Assistant Professor of Surgery
Division of General Surgery
OHSU

Project: “Eliminating Retained Surgical Items Using an Embedded Detector System”

“There is no commercially available device that utilizes magnetic field detection technology to identify retained surgical items (RSIs). This technology is ideal for this application as it capitalizes on the inherent nature of surgical instruments (ferrous) and can easily detect altered surgical sponges previously developed by our project team. Our system will be easier, safer, more efficient and less costly than competing commercially available devices.”

Gregory J. Landry, M.D.
Professor of Surgery
Division of Vascular Surgery
OHSU

Project: “Remote Endarterectomy Device”

“Currently, peripheral arterial disease affects 8-12 million Americans with a growing incidence due to the rise in diabetes, continued smoking, and an aging population. Surgeons use remote endarterectomy as a method of removing plaque from occluded arteries through an incision in the groin. The current remote endarterectomy device on the market has limited application due to its design. Working with biomedical engineers I plan to develop and test a prototype of a new remote endarterectomy device with greater ease of use.”

John Muschler, Ph.D.
Research Associate Professor
Department of Biomedical Engineering
OHSU

Project: “Developing Novel Bioconjugates for the Detection and Treatment of Bladder Disease”

“We are creating novel affinity-based targeting agents (bioconjugates) that are designed to be selectively absorbed by diseased cells of the bladder where normal tissue structure is disrupted. These bioconjugates will have applications for imaging of diseased cells in the bladder, and also for targeted drug delivery. Multiple products can be developed through this platform technology, including imaging agents for early detection, diagnostic agents for disease stratification, fluorescent bioconjugates for guided surgery, and targeted therapeutics.”

Looking for research funding?

Visit OCTRI’s Research Funding and Developments website to access the OHSU Funding Portal and Medical Research Foundation.
January 7: “First the valve, then the heart – how logic is not essential to innovation”
Introduced by: Kent L. Thornburg, Ph.D. (OHSU)
Speakers:
Albert Starr, M.D. (OHSU)
Richard Wampler, M.D. (Hemopump, OHSU)

January 14: “Evaluating and pitching your concept”
Panel moderated by: Ron Sakaguchi (OHSU)
Panelists:
Melissa Appleyard (PSU)
Abhijit Banerjee (OHSU)
Angela Jackson (Portland State Business Accelerator)
Patricia Pearson (The WWW Group)

January 21: “Protecting your concept”
Panel moderated by: Jeff Jackson (OHSU Technology Transfer & Business Development)
Panelists:
Frank Curci (Ater Wynne)
Joseph Janda (PSU)
Michael Phillips (Davis Wright Tremaine)

January 28: “Protecting yourself and others”
Panel moderated by: Ron Sakaguchi (OHSU)
Panelists:
David Farrell (OHSU, Gamma Therapeutics)
David Forman (Tonkin Torp)
Brie Stoianoff (Vision 28)

February 4: “Testing your concept”
Panel moderated by: Colleen Lay (OHSU)
Panelists:
Josh Hoyt (Gearhead Associates)
James McNames (PSU)
Dorota Shortell (Simplexity)

February 11: “Seeking funds”
Panel moderated by: Colleen Lay (OHSU)
Panelists:
Kate Corcoran (Allegory Venture Partners)
Duffy DuFresne (Medrock, Alignment Ventures)
Eric Hanson (Tier 7)
Sandra Shotwell (DesignMedix, Alta Biomedical Group)
Michael Tippie (Oregon Nanoscience & Microtechnologies Institute)

February 18: “Building collaborations”
Panel moderated by: Dennis McNannay (Oregon Bioscience Association)
Panelists:
Jennifer Fox (Oregon Translational Research & Development Institute)
Michael Hutchens (OHSU)
Angela Jackson (Portland State Business Accelerator)
Andrew Watson (OHSU Technology Transfer & Business Development)

February 25: “Building the business model and plan”
Panel moderated by: Ron Sakaguchi (OHSU)
Panelists:
Steve Morris (Oregon Technology Business Center)
William Newman (Northwest Technology Ventures)

March 4: “Getting started”
Panel moderated by: Clyde Taylor (Knight Cardiovascular Institute, OHSU)
Panelists:
Ann Demaree (Healogics, Inc.)
Akana Ma (Ater Wynne)
Michael Phillips (Davis Wright Tremaine)
Linda Weston (Oregon Entrepreneurs Network)

March 11: “From sketch to launch – The pathway to commercialization of innovations”
Introduced by: Andrew Watson (OHSU Technology Transfer & Business Development)
Speaker: Michael Baker (Baker Group)