

Medical Devices Center Quarterly Newsletter

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Note from the Director

We are very privileged to be in our new MDC facility which is located in the former Mayo garage space. If you have not visited us or taken a tour, we invite you to do so. The year 2014 has been a very exciting year by all measures. As the expression goes: location, location, location. It seems on a weekly basis that MDs and other medical professionals walking in our front door or call us expressing their needs for our Centers' services

or interaction with the Innovation Fellows. We have expanded our staff and have added significantly new equipment to the core facility to allow us to rapidly prototype medical devices and serve the needs of our students. Last spring the MDC had 19 design teams from the Biomedical and Mechanical Engineering departments. Our new connections with the Academic Health Center has also initiated summer design experiences

for student volunteers. Our seventh Innovation Fellows class is off to a roaring start and currently narrowing down their lengthy needs list with the help of our three new directors, Ben Arcand, PhD, Joe Hale, PhD and Gwen Fisher, MD. There are some serious discussions with both China and Japan about building a MDC facility in those countries. Stay tuned for further updates on this exciting global possibility. *-Arthur G. Erdman*

Innovation Fellows Program

In 2008, the Innovation Fellows Program was launched to train new leaders that drive the innovation of medical devices. In this intensive one-year program, the Fellows learn to create new and useful medical device prototypes in a disciplined,



2014-15 Innovation Fellows Team
Kate Taylor PhD, Meghan Thorne PhD, Mike Sullivan AuD, Dan Glumac PhD, Bryce Beverlin II PhD, Akshay Gupte MBBS MPH, Reza Bagherpour MD, Jim Cezo PhD

efficient, and cost-effective manner. The U of M has filed 78 patents from 152 disclosures submitted by the Fellows since the Program's inception. The Program invites individuals who are dedicated to improving human health and well-being, and are highly motivated individuals with entrepreneurial spirit and committed

to working in a collaborative team setting.

The curriculum includes important steps involved in medical device creation, such as identifying important clinical needs, interpreting current clinical research, and building and maintaining a professional network to support medical device development. The Program's educational rotation brings in more than 100 guest speakers from an extensive network of experts, allows Fellows to observe operating room procedures spanning a variety of medical specialties during clinical immersion, and ends in the project development phase where Fellows solve needs, form idea concepts, and develop the evidence to support their solutions. Throughout the process, Fellows will work closely with alumni Fellows, who will act as mentors who support and evaluate progress.

The Innovation Fellows Program is fortunate to have three new directors to lead the program. The Director,

Dr. Ben Arcand, is an engineer and product innovator with over 10 years of experience in the medical devices industry. He will guide the program vision and goals for the training, curriculum, projects, IP, and goal metrics. Dr. Joe Hale, the Program Associate Director, is an independent medical device consultant with expertise in new product and business development. Joe will develop and maintain collaborative relationships as well as arrange mentorship opportunities for the Fellows. The Program's Clinical Advisor, Dr. Gwen Fischer is a pediatric critical care physician at the University of Minnesota's Children Hospital and founder and director of the Pediatric Device Innovation Consortium (PDIC). Gwen will act as the main support for the program with respect to clinical immersion, such as setting up meaningful experiences with healthcare providers and guiding the Fellows through hospital orientation.

Prototyping Facility

The Core Laboratories Branch of the Medical Devices Center takes up the largest amount of space in the MDC's new home within the Academic Health Center. The purpose of the Core Laboratories is to provide prototyping resources and educational support, promoting the MDC brand of unique medical problem solving and device development to all University students and researchers. The core labs include a mechanical prototyping shop, an electrical prototyping lab, tissue labs, and lots of prototyping supply and storage areas.

With the help of our many generous industry partners, as well as the continued support from the College of Science and Engineering, the MDC was able to add a high resolution Polyjet 3D Printer, a High-Resolution, Hand-Held 3D Scanner, a Laser Cutter, a Micro-Welder, and an Electroforce Material Testing System to its facility. These additions have aided not only in the development work done by the Innovation Fellows program, but also, they have supported the Senior Design Classes in the Mechanical and Biomedical Engineering Departments as well as the many student design teams managed by the MDC that work on projects with Physicians at the University.



Innovation Collaborations

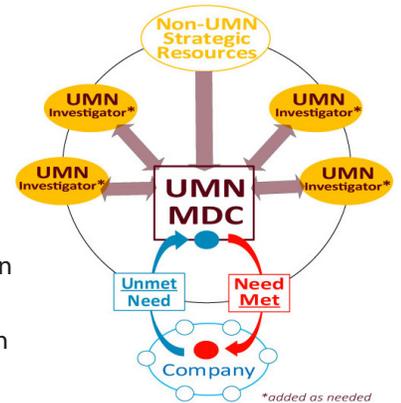
Innovation Collaborations (IC), lead by Greg Peterson, extends the industry outreach of the UMN Medical Devices Center with increased visibility and expanding value as a resource to the med tech community, not only in MN, but nationally and globally.

The Innovation Collaborations process:

- engages companies in discovering unmet needs
- identifies available UMN transdisciplinary resources
- assembles expert research/engineering team
- incorporates the company's team in collaborations
- manages UMN IC team project schedule
- produces deliverables based on individual agreements

Under this initiative, the MDC has successfully engaged more than three dozen local, national and global companies, helping them discover our unmatched collaboration process, that effectively partners companies with academia.

For more information, please contact Greg Peterson gkpeters@umn.edu



Design of Medical Devices Conference

**April 13-16, 2015
Minneapolis, MN**

Highlights Include:

- Medical Device Innovation Workshop
- 'Medical Device Innovation in the Far East' Symposium
- Live Clinical Cases
- Three-in-Five Competition
- Over 100 Scientific Posters Presented

Complete program details can be found at:
www.dmd.umn.edu



Registration Now Open!

Early Bird Registration Rate until March 29:

One Day	\$370	\$395 with lunch
Three Days	\$590	\$665 with lunch

Special Student Rate:

One Day	\$30	\$55 with lunch
Three Days	\$30	\$105 with lunch

UMN Employee Rate:

One Day	\$90	\$115 with lunch
Three Days	\$190	\$265 with lunch

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