2018 UMN BME MedTech Industry Day

Wednesday, May 2
3:00 - 6:00 pm
Boston Scientific
Arden Hills Campus, Building #3
4211 Lexington Ave N, Arden Hills 55126

Department of Biomedical Engineering
University of Minnesota
Senior Design Projects

1. **RadTherapy Group**
   Joshua Cadavez, Gabe Jacobs, Jennifer Kim, Sasha Safonov, Danning Tian
   Advisors: Sean Lundquist (Surmodics, Inc.)
   Dr. Yoichi Watanabe (University of Minnesota, Department of Radiation Oncology)

2. **Wireless Vitals Monitoring System in the PICU**
   Erin Coyer, Giuliana Giannelli, Julian Lagman, Elizabeth Rengers, Ansel Shuster
   Advisors: Nathan Weidenhamer (Medtronic)
   Gwenyth Fischer (University of Minnesota Masonic Children's Hospital)

3. **SimPORTAL: Automated Triple-Cuffed ET Tube**
   Kristen Cox, Kaitlin Maile, Adam Shore, Steven Sobojinski, Andrew Wloch
   Advisors: Ralph Cardinal (Boston Scientific)
   Marcos Molina, MD (University of Minnesota Medical School)

4. **Infiltration Innovation**
   Miranda Becker, Weston Fiebiger, Joey Mathew, Sarah Spector
   Advisors: Megan Lanigan (University of Minnesota)
   Mauris DeSilva (3D PARS)

5. **Vision Quest**
   Anmol Jaguste, Zachary Klesch, Erik Robinson, Anne Rogers
   Advisors: David Bergstrom (Ametek)
   Dr. Dara Koozkanani (UMN Ophthalmology)
   Dr. Cheryl Zabrowski (UMN Ophthalmology)

6. **Safetie Trach Ties**
   Zachary Eitel, Joseph Evan Molitor, Andrew Nawrot, Luke Troxel, Caleb Zarns
   Advisors: Michelle Wick (Monteris)
   Rick Odland (Hennepin County Medical Center)

7. **Automating Paracentesis**
   Philip Ganion, Logan Grace, Perry Handahl, Bhavani Murakonda, Bita Rajablou
   Advisors: Dr. Bradley Benson (Department of Medicine - University of Minnesota)
   Pramote Hochareon (Nirva Medical)

8. **Lumbix**
   Jessica Barry, Darian Bergerson, Meghan Eisenmann, Christine Lui, Drew Redepenning
   Advisors: Niraj Rauniyar (Boston Scientific)
   Brian Watschke (Boston Scientific)
   Jonathan Strutt (University of Minnesota Masonic Children's Hospital)
Senior Design Projects (continued)

9 Tromos
Cliff Dellamano, Felipe Guedes, Madison Haugen, Kyle Levac, Anant Naik
Advisors: Ricky Chow, Ph.D. (Boston Scientific)
          Matthew Hunt, M.D. (Department of Neurosurgery, University of Minnesota)

10 Hyperbaric Capnograph
Tatum Dalton, Connor Hagen, Colin Lim, Joseph Tombers
Advisors: Karl Jagger (Boston Scientific)
          Christopher Logue (Hennepin County Medical Center)

11 Celesté Turn
William Anderson, Brian Bertram, Joseph Kangas, Samuel Scholz, Sophia Szymonski
Advisors: Richard E. Stein (BSI)
          Dr. Greg Molnar (University of Minnesota)
          Kathy Borchert (Fairview Health Services)

12 TroCare
Caleb Fick, Cameron Motameni, Bjorn Olmanson, Jon Schrope, Tayvin Viratynosin
Advisors: Paul Emerson, PhD (Boston Scientific)
          James V. Harmon, Jr, MD, PhD (Critical Care Surgeon, General Surgeon, UMMC)

13 Islet Therapy
Brooke Braman, Anna Fossum, Arthur Lembong, Jake Siebert
Advisors: Andrew Walsh (Medtronic)
          Josh Wilhelm (Schulze Diabetes Institute, University of Minnesota)

14 The Clowder
Hannah Boman, NaTalie Neidenfeuhr, Patrick Olson, Vikram Puram, Anna Spracklin
Advisors: Lynn Seifried (Baxter)
          Andrew Schmidt, MD (Hennepin County Medical Center)

15 SRABB Technology
Nick Ambrosius, Nahome Biniam, John Byers, Katherine Rojas, Marisa Sanchez
Advisors: Clark Chen (Clinical Advisor, University of Minnesota Department of Neurosurgery)
          Joram Slager (Industry Advisor, Surmodics)

16 Vibration Sensation
Matt Krueger, Quynh Nguyen, Vinh Tran, Dylan Zawila
Advisors: Steven Saliterman (University of Minnesota)
          Kevin Peterson (University of Minnesota)

17 ECG Highlighting for Arrhythmia Detection & Diagnosis
Ben Hoenes
Advisor: Bill Rissman (Medical Innovations Product Development, LLC)
Graduate Student/Post-Doc Posters

Determining oxygen-dependent blood rheology in sickle cell disease
XINRAN (DANIEL) LU, PhD | Post-Doctoral Researcher | Advisor: David Wood

Deep learning methods for automatic pain detection using EEG
VISHAL VIJAYAKUMAR | PhD Student | Advisor: Bin He

Development of a Photoacoustic imaging modality for tissue oxygen imaging using Methylene Blue dye: System development and phantom testing
SAURABH KOTIAN | MS Student | Advisor: Shai Ashkenazi

Electrotherapy in Wound Healing, Cancer, and Visual Disease: Fundamentals and Results
GEORGE O’CLOCK, PhD | MS Graduate | Advisor: Alena Talkachova

Thanks to
Boston Scientific
for hosting this event!