2018 Healthcare Engineering & Patient Safety Symposium

Monday, September 17th
5 – 7:30 p.m.

Robert H. Lurie Engineering Center
3rd & 4th Floors

Learn more about how the Center for Healthcare Engineering and Patient Safety (CHEPS) is improving the safety and quality of healthcare delivery by identifying, fostering, and promoting collaborative projects across the University.

Posters will represent collaborations between:
- College of Engineering
- Medical School
- School of Public Health
- School of Nursing
- Michigan Medicine
- and more!

CENTER FOR
HEALTHCARE ENGINEERING & PATIENT SAFETY
UNIVERSITY OF MICHIGAN

Masco Commons (3rd Floor)

The Center for Healthcare Engineering & Patient Safety
CHEPS

Master's Concentration in Healthcare Engineering & Patient Safety
CHEPS

The Institute for Healthcare Policy and Innovation
IHPI

Precision Health at the University of Michigan
PHI

Seth Bonder
CHEPS and The Seth Bonder Foundation

The Seth Bonder Foundation
CHEPS and The Seth Bonder Foundation

Johnson Rooms (3rd Floor)

A Novel Prediction and Classification Model for Medical Diagnosis
Minmin Zhang, Zheng Zhang, Brian Denton

Allocating Scarce Resources with Stochastic Demand in a Patient Centered Medical Home (PCMH)
Romesh Saigal, Jingxing Wang

Dermatology Residency Scheduling Tool
Riley McKeown, Justin Rogers, Muhammed Ugur, William Pozehl, Amy Cohn, Emilie Dore

Estimating Treatment Effects in the Presence of Latent Confounders using Regularized Auto-Encoders
Haozhu Wang, Jenna Wiens

Evaluating Dental School Faculty Clinical Supervision Using Simulation
Carol Anne Murdoch-Kinch, Vidya Ramaswamy, Romesh Nalliah, Palaniappan Chellappan, Jordan Goodman, Lauren Hirth, Jakob Kiel-Locey, Riley McKeown, Adam VanDeusen, Zhipeng Xu, Amy Cohn

Improving Aperture Control Methodologies for VMAT Delivery Systems
Wilmer Henao, Marina Epelman, Martha Matuszak, Edwin Romeijn, Kelly Younge, Carlos Anderson

Improving Veteran Access to Eye Care Using Facility Location Models
Adam VanDeusen, Jordan Goodman, Muhammad Ugur, James McAuliffe, Cliff Guyton, April Maa, Amy Cohn

Nurse Staffing under Uncertain Demand and Absenteeism
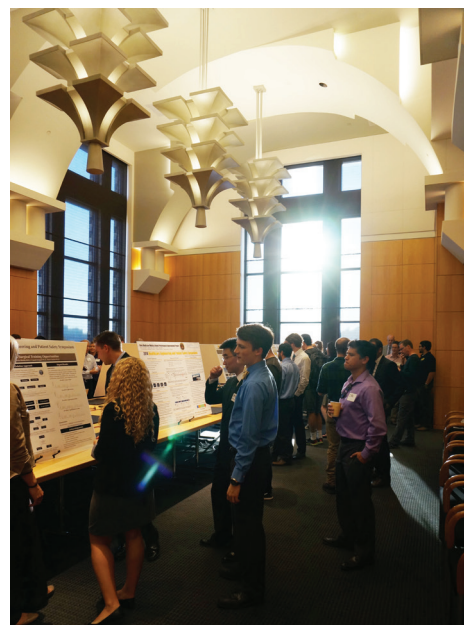Minseok Ryu, Ruiwei Jiang

Preventing Drug Shortages: Analysis of Regulatory and Contractual Strategies
Emily Tucker, Mark Daskin, Burgunda Sweet, Wallace Hopp

Treating Cardiovascular Disease: Optimization Models vs Risk-based Heuristics
Aditi Vachhani, Ryan Krueger, Weiyu Li, Lauren Steimle, Brian Denton

Validating the Surgical Instrument Cleanability Index
Emily Krebs, Jakob Kiel-Locey, Caroline Owens, Wesley Chen, Lauren Hirth, Malcolm Hudson, William Pozehl, Joseph DeRosier, James Bagian

GM Room (4th Floor)

A Dynamic Approach to Improve Chemotherapy Pre-mix Policies
Matthew See, Donald Richardson, Hwon Tak, Amy Cohn

Addressing Parameter Ambiguity in Medical Decision Making
Charmee Kamdar, Vinayak Ahluwalia, Lauren Steimle, Brian Denton

Advanced Algorithms for Optimized Medical Decision Making
Vinayak Ahluwalia, Charmee Kamdar, Lauren Steimle, Brian Denton

Development of a Predictive Model for Deceased Donor Organ Yield
Wesley Marrero, Mariel Lavieri, Seth Guikema, David Hutton, Neehar Parikh

Evaluating Fire and Burn Risk Posed by Fiberoptic Cords
Emily Krebs, Lauren Hirth, Caroline Owens, Alexander Mize, Jakob Kiel-Locey, Wesley Chen, Michael Kalmus, William Pozehl, Joesph DeRosier, James Bagian

From Big Data to Good Data: Analysis of the Variability in Colonoscopy Appointments
Karmel Shehadeh, Amy Cohn, Michelle Bochinski, Jacob Kurlander, Lisa Ferguson, Emily Dibble, Sharon Murphy

Improving Residency Annual Block Schedule Quality with Automation
William Pozehl, Theodore Endresen, Jordan Goodman, Junhong Guo, Kristine Wang, Heather Burrows, Sarah Hartley, Michael Lukela, Amy Cohn

M-Safety P1: Improving Awareness of Catheters and Skin Wounds to Reduce Hospital-Acquired Infection
Lauren Hirth, Tina Lin, Malcolm Maturen, Sheridan Tobin, Kristine Wang, Jessica Ameling, Amy Cohn, Jennifer Meddings

Optimal Strategies For Active Surveillance Of Men With Prostate Cancer
William Yang, Zheng Zhang, Weiyu Li, Brian Denton

Simulating a Pharmaceutical Supply Chain to Prevent Drug Shortages
Yizhou Cao, Emily Tucker, Mark Daskin

State Innovation Model: Towards a Learning Health System to Reduce Emergency Department Visits in Livingston and Washtenaw County
The State Innovation Model Workgroup in the Center for Healthcare Research and Transformation

Using Nationally Representative Dataset to Understand Trends & Risk Factors for Non Alcoholic Fatty Liver Disease in the US
Hanan Al-Awadhi, Paawan Singh, Luke Bruski, Wesley Marrero Colon, Seungho Woo, Mariel Lavieri, Neehar Parikh, David Hutton

World's Hardest Sudoku: Scheduling Residents in the C.S. Mott Pediatric Emergency Department
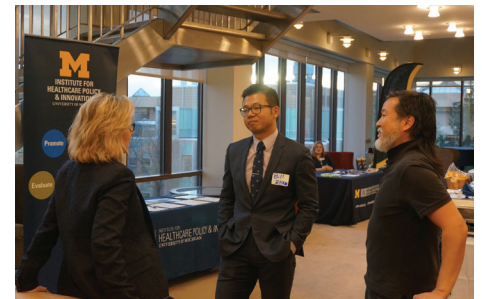Riley McKeown, Kristine Wang, Alexander Mize, William Pozehl, Amy Cohn, Marie Pfarr
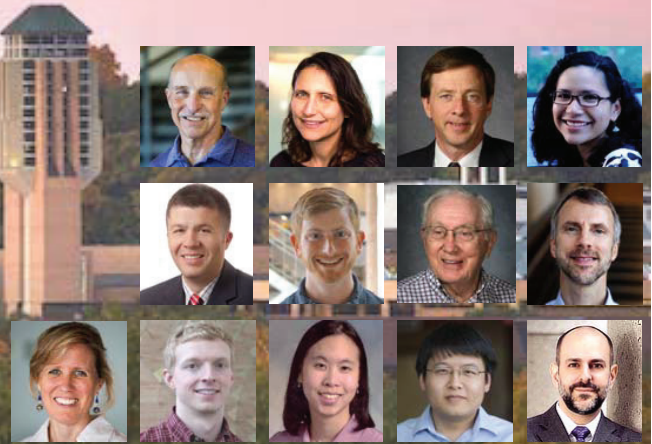
Poster Voting & Raffle

Turn in your ballot at the registration table before 7:00 p.m. to vote for the People's Choice Best Poster Award!

Tweet with hashtag #cheps2018 for a chance to win a raffle prize.

Providing Better Healthcare through Systems Engineering:
Seminars and Discussions
Mondays
Fall 2018
4:30PM 1123 LBME

September 10	Patient Safety Challenges and Ways to Overcome Them with a Systems Approach	Jim Bagian, MD, U-M IOE/CHEPS
September 17	6th Annual Symposium on Healthcare Engineering and Patient Safety, 5-7:30PM *time change!	3rd/4th flrs Lurie Engin. Center 1221 Beal Ave *location change!
September 24	A Simulation Model to Assess the Impact of Insurance Expansion on Colorectal Cancer Screening at the Population Level	Maria Mayorga, PhD, NC State
October 1	"Consumer Reports" for Hip and Knee Replacement Implants Based on a State-wide Registry	Richard E. Hughes, PhD, U-M IOE, MARCQI
October 8	Reducing Dose in X-ray CT by Fast Optimization Algorithms and Machine Learning	Jeff Fessler, PhD, EECS
There will be no seminar on Monday October 15 due to Fall Break.		
October 22	Systems Engineering and Ophthalmologic Telemedicine: Preventing Blindness	April Maa, MD, Assoc Prof, Emory Eye Ctr & Atlanta VAMC Adam VanDeusen, MPH, U-M IOE
October 29	Advances in: Inpatient Admissions, O.R., Outpatient and Nurse Scheduling Systems	Walt Hancock, PhD, Prof. Emeritus U-M IOE & HSMP
There will be no seminar on Monday November 5 due to the INFORMS.		
November 12	Human Factors and Cognitive Engineering: A Pharmacist's Perspective of Medication Safety	Corey Lester, PhD, PharmD, U-M
November 19	A Data-Driven Distributionally Robust Optimization Approach for Appointment Scheduling	Ruiwei Jiang, PhD, U-M IOE
November 26	The Intelligent Glaucoma Clinic: A passive RFID Time Study System to Optimize Patient Wait Times	Paula Anne Newman-Casey, MD, MS, Asst. Prof. Ophthalmology U-M
December 3	Does Surgical Training Need to be Re-engineered?	Brian George, MD MAEd, U-M Surgery
December 10	Scheduling for Home Healthcare	Mehmet Begen, PhD, CAP, Ivey

Please note on location: 1123 LBME is room 1123 in the Ann & Robert H. Lurie Biomedical Engineering Building (LBME). Street address is 1101 Beal Ave., map and directions: http://www.bme.umich.edu/about/directions.php.

This seminar series is presented by the U-M Center for Healthcare Engineering and Patient Safety (CHEPS): Our mission is to improve the safety and quality of healthcare delivery through a multi-disciplinary, systems-engineering approach.
For additional information and to be added to the weekly e-mail for the series, please contact genehkim@umich.edu.

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