

# REMEDI 2018

## INFUSION PUMP COLLABORATIVE ANNUAL CONFERENCE





### **About REMEDI**

The Regenstrief National Center for Medical Device Informatics (REMEDI) is an evidence-based community of practice for medical device informatics. REMEDI is a collaborative community of pharmacists, nurses, researchers, vendors and others working to improve patient safety and quality through the development and exchange of infusion pump medication administration knowledge and best practices. REMEDI currently includes a pump vendor-neutral analytics and reporting package, allowing hospitals to perform self-analysis and comparison of Dose Error Reduction Software (DERS) programming alerts, smart pump compliance, and drug limit libraries.

For more information: <https://catalyzecare.org/remedi>

*“REMEDI: Where technology, practice, and interdisciplinary teams meet”*

### **About RCHE**

The Regenstrief Center for Healthcare Engineering (RCHE) is an interdisciplinary research center located at Purdue University in West Lafayette, Indiana. RCHE’s mission is to transform healthcare delivery systems by conducting impactful research guided by national priorities and leveraging collaborative partnerships.

For more information: <http://www.purdue.edu/discoverypark/rche/>

# REMEDI Pump Collaborative 2018 Conference



*The Regenstrief Center for Healthcare Engineering (RCHE) is pleased to welcome you to the REMEDI Pump Collaborative Annual Conference.*

**REMEDI**

# SCHEDULE AT A GLANCE

*All events are casual business attire*

## Wednesday, April 18

8:00 A.M.	Registration & Gathering
9:00	<b>Welcome and Introductions</b> Rich Zink, Regenstrief Center for Healthcare Engineering
9:15	<b>"When the Fear Fades"</b> Kristy Fitzgerald, Kaweah Delta Health
9:45	<b>"Review of Current Activities at ASHP"</b> Deb Pasko, American Society of Health-System Pharmacists
10:45	Break
11:15	<b>"Leveraging smart infusion pumps to mitigate IV fluid shortages"</b> Carin Bouchard and Courtney Olson, UW Health
11:45	<b>"Protecting Titrations of High Alert Medications"</b> Tim Hoh, Baxter Corporation
12:15 P.M.	Lunch (Provided)
1:30	<b>"Safety, Life and a Just Culture"</b> Natasha Nichol, Cardinal Health
2:30	<b>"New interoperability technology is not a miracle - The journey begins by taking a systems approach to medication safety"</b> Rhonda Liberto, Ochsner Health System
3:00	Break
3:30	<b>"Going Beyond DERS: Redefining Infusion Administration Safety with Smart Pump - EMR Interoperability"</b> Nicole Wilson, Becton, Dickinson and Company
4:30	<b>"Update on Joint Commission Patient Safety Initiatives"</b> Ed Pollak and Gerry Castro, The Joint Commission
5:00	Reception
6:30	Adjourn

## Thursday, April 19

7:30 A.M.	Breakfast (Provided)
8:30	<b>"Summary of Day 1 – Get Pumped Up!"</b> Dan Degnan, Purdue University College of Pharmacy
8:45	<b>"Smart Pump Technology: Recognizing the Gains and Addressing the Gaps "</b> Michelle Mandrack, Institute for Safe Medication Practices
9:15	<b>"Ordering to Administration: Parameters for a Successful Titratable Infusion Rebuild"</b> Casey Olsen, Aurora Health Care
9:45	<b>"Rethinking Drug Library Management to Advance Patient Safety "</b> Ivy Andreica, Ivenix, Inc.
10:05	Break
10:30	<b>"BCMA Workarounds: A 2018 ECRI Top 10 Hazard"</b> Brad Bonnette, ECRI Institute

11:00	<b><i>“Enhancing the Safety of IV Medications: Standardizing Concentrations, Reducing Clinically Insignificant Alerts, and Integrating with Electronic Health Records”</i></b> Andrew Fritschle and Todd Walroth, Eskenazi Health Dan Degnan, Purdue University College of Pharmacy
12:00 P.M	Lunch (Provided)
1:30	<b><i>“Development Team Update: What’s New &amp; Cool in REMEDI”</i></b> Alissa Nedossekina and Mike Zentner, Information Technology at Purdue
2:00	<b><i>“Pump alarm perceptions and data - Where do we go from here?”</i></b> Rachel Vitoux and Catherine Schuster, B.Braun Medical
2:50	<b><i>“Michigan Pediatric Safety Collaborative: State-wide Initiative to Standardize the Compounding of Oral Liquids in Pediatrics”</i></b> Scott Ciarkowski, University of Michigan Health
3:20	<b><i>“Medication Safety and the Role of Smart Pumps in Anesthesiology “</i></b> JW Beard, ICU Medical, Inc.
3:50	Break
4:20	<b><i>“Information Overload: Auditing the Clinical Utility of Smart Pump Reporting Tools to Develop Key Performance Indicators”</i></b> Elizabeth Rodman, Froedtert & the Medical College of Wisconsin
4:30	<b><i>“Maximizing Syringe Pump Safety, Minimizing Risk”</i></b> Debbi Child, Smiths Medical
5:00	Breakout session for Smiths Medical Users
6:00	Adjourn

## Friday, April 20

7:30 A.M.	Breakfast (Provided)
8:30	<b><i>“Summary of Day 2 – Get Even More Pumped Up!”</i></b> Dan Degnan, Purdue University College of Pharmacy
8:45	<b><i>“Secure administration of Controlled Substance (CS) Infusions”</i></b> Scott Ciarkowski, University of Michigan Health
9:15	<b><i>“Small Buttons, Large Consequences: Programming Considerations for Smart Pump Interoperability Implementation”</i></b> Megan Holsopple, Froedtert & the Medical College of Wisconsin
9:45	<b><i>“Are You Ready to Integrate--- OR--- Are You Already There and Now What??? Smart Pump and EHR Integration----BD Alaris and Epic”</i></b> Bev Vermace and Tammy Balk, University of Iowa Hospitals & Clinics
10:15	Break
10:45	<b><i>“Going beyond the pump: Infusion interoperability and analytics”</i></b> Niles Desai, Hackensack Meridian Health
11:45	Breakout sessions for Baxter, B.Braun, BD, and ICU Medical Users
1:15 P.M.	Adjourn

# REMEDI STEERING COMMITTEE



Andy Aldred



Scott Ciarkowski



Dan Degnan



Kristy Fitzgerald

*Thank you to the  
Steering Committee for  
providing leadership for  
the REMEDI  
Collaborative.*



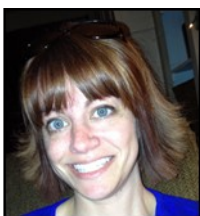
Andrew Fritschle



Karen Giuliano



Scott Hirschy



Julie Kindsfater



Margaret Schmidt



Alana Washington

*All events are casual business attire*

<u>Time</u>	<u>Event &amp; Location</u>
	Big Ten Conference Center (2 <sup>nd</sup> Floor)
8:00 A.M.	Registration & Gathering
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	Big Ten Conference Center Main Dining Area
5:00	Reception
6:30	Adjourn

*Dinner on your own (See options in "Nearby Dining and Activities" section)*



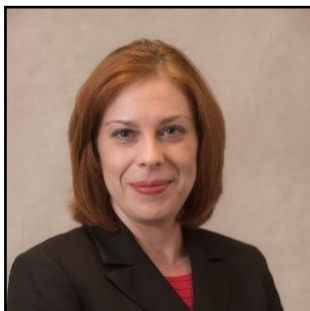


## ***“When the Fear Fades”***

**Kristy Fitzgerald, PharmD, MBA**  
**Kaweah Delta Health**

In the world of health care, we spend a great deal of time availing the fears of patients and families. But what about the fears of those providing care? We will spend this time discussing a variety of medication errors while reflecting on the role that fear plays in patient safety.

**Kristy Fitzgerald** is a pharmacist currently practicing in a community hospital in Central California. Although she has worked in Washington (state), Virginia and California, most of her career has been in the Houston Medical Center. She has worked extensively with smart infusion pumps for the last 10 years from building an initial drug library through inheriting libraries not touched for 3 years. If it can happen with an IV pump, she has probably seen it. Kristy obtained her Pharm D. from University of Florida and her MBA from University of Texas. She has her Six Sigma Black Belt, and she completed a Medical Informatics Fellowship with the National Library of Medicine. According to one of her 8 year old twins, the best food she cooks is Hamburger Helper.



## ***“Review of Current Activities at ASHP”***

**Deb Pasko, PharmD, MHA**  
**Director , Medication Safety and Quality**  
**American Society of Health-System Pharmacists (ASHP)**

The presentation will review the major safety initiatives at ASHP within the last 12 months. In addition, an overview of recent and future drug shortages and their implications will be reviewed.

**Dr. Deborah Pasko** has been a pharmacist since 1996. She is currently the Director of Medication Safety and Quality at ASHP. Her professional interests are IV and oral liquid standardization, antimicrobial and opioid stewardship, safety technology solutions and population health initiatives.

Dr. Pasko has had education, training, and experience in various pharmacy practices including pediatrics, critical care, medication safety, hospital administration and process improvement. Dr. Pasko’s expertise includes leading large clinical, operational, and technology initiatives. She oversaw several large initiatives at the University of Michigan including project construction of a new children’s hospital, smart infusion pump and Epic EHR build and implementation. Dr. Pasko is LEAN certified and is the lead coach at ASHP. She currently works with the FDA, NIH, branches of HHS and the White House on national medication safety initiatives. She also serves as an advisor to ISMP, The Joint Commission, USP NCC-MERP safety committee, and NQF.

She received her Bachelor of Pharmacy from Ohio Northern University, Doctor of Pharmacy from Idaho State University and Masters of Health Administration from Walden University.





## *“Leveraging smart infusion pumps to mitigate IV fluid shortages”*



**Carin Bouchard, PharmD, BCPS**  
**Drug Policy Analyst**  
**UW Health**



**Courtney Olson, MSN, RN**  
**Nursing Informatics Specialist**  
**UW Health**

This presentation details how UW Health used smart infusion pumps to manage the ongoing IV fluid shortage. Pharmacy and nursing collaborated to successfully implement infusion pump related conservation strategies to lessen the impact on patient care. We will describe our experiences including planning, implementation and follow up.

**Carin Bouchard**, PharmD, BCPS is a Drug Policy Analyst at UW Health. She manages all infusion pump libraries at UW Health and co-chairs the Smart Pump Oversight Committee at UW Health.

**Courtney Olson** MSN, RN is a Nursing Informatics Specialist at UW Health in Madison, Wisconsin. Her work focuses on infusion therapies and technologies. Courtney enjoys investigating, researching, and problem solving to increase patient safety and quality of care. Courtney received her Master of Science in Nursing with an emphasis in Nursing Education from Benedictine University and Bachelor of Science in Nursing from the University of Wisconsin-Madison.





## ***“Protecting Titrations of High Alert Medications”***

**Tim Hoh, RPh**  
**Senior Manager of Global Medical Affairs**  
**Baxter Corporation**

High-alert medications are intended to be titrated during an infusion to achieve a targeted response. Each titration creates an opportunity for a programming error. Understanding the frequency of titrations and common incremental dose changes can guide more effective infusion safety protocols and innovations in safety systems.

**Timothy Hoh**, RPh, is a Senior Manager of Global Medical Affairs at Baxter Corporation and has been in that role since 2009 and with the company since 1990. In his current role, Hoh is responsible for research and development to enhance Baxter’s infusion systems. He also has expertise in best practices for continuous quality reporting; drug library development for infusion devices in support of hospitals’ patient safety initiatives; expertise in aseptic compounding and pharmacy cleanroom designs for hospitals across Canada.

# ***Baxter***



## ***“Safety, Life and a Just Culture”***

**Natasha C. Nicol, Pharm D, FASHP**  
**Director of Global Patient Safety Affairs**  
**Cardinal Health, Inc.**

This interactive session explores the tenets of a just culture and human behavioral choices. In every system, there are inherent faults and vulnerabilities that may lead to error. If we work to understand and learn where inherent faults lie and why humans make the behavioral choices they do, we are able to build safer systems.

**Natasha Nicol** is Director of Global Patient Safety Affairs for Cardinal Health, Inc.

She received her doctorate of pharmacy degree from the University of Maryland School of Pharmacy. She is faculty for the Institute for Healthcare Communication, a certified Just Culture trainer, and invited professor for the South Carolina and Presbyterian Colleges of Pharmacy.

She is past-President of the South Carolina Society of Health-System Pharmacists. She is a Fellow of the American Society of Health-System Pharmacists and served on the Council on Education and Workforce Development, as well as the House of Delegates. She is Program Chair for the ASHP Medication Safety Collaborative. She was recognized for her work with the ASHP Award for Excellence in Medication-Use Safety and was named Pharmacist and Mentor of the Year by SCSHP.

She is a frequent presenter to professional groups, primarily focusing on safety as it relates to culture, use of technology and development of processes.





***“New interoperability technology is not a miracle - The journey begins by taking a systems approach to medication safety”***

**Rhonda Liberto**  
**System Medication Safety Officer**  
**Ochsner Health System**

As momentum continues to build toward smart pump interoperability, we have the opportunity to integrate medication safety practices into drug libraries, EMRs and clinical practice; aligning ourselves to follow the path of a highly reliable infusion safety journey. Preparing now to set ourselves up for success of interoperability seems and should be the natural thing to do. Reap the rewards now, don't wait for interop.

**Dr. Rhonda Liberto**, BS Pharm, PharmD, CPPS is currently the System Medication Safety Officer at Ochsner Health System in New Orleans, LA. In addition to her responsibilities coordinating medication related safety initiatives, she coordinates medication infusion safety initiatives around infusion devices & medication libraries, locally and nationally. She participates on the National Infusion Therapy Safety Coalition and ASHP Standards 4 Safety Initiative. She is a board-certified professional in patient safety through the Certification Board for Professionals in Patient Safety.

Rhonda attended Creighton University; received her Bachelor of Science in Pharmacy at University of Colorado Health Sciences Center (UCHSC); completed an ASHP (American Society of Health-System Pharmacists) accredited Hospital Pharmacy Practice Residency at University Hospital in Denver, and remained as faculty, Instructor, Drug Information Center, UCHSC. Rhonda completed her Doctor of Pharmacy at UNC, Chapel Hill in 1993, followed by an ASCP Foundation/Merck Geriatric Long Term Care Clinical Research Fellowship at the Center for Long Term Care Research & Education in Chesapeake, VA in 1995. Prior to her current position, Rhonda practiced at Sentara Healthcare as the Cardiac Clinical Pharmacy Specialist & the Medication Safety Clinical Pharmacy Specialist.



NOTES

[illegible]



## ***"Going Beyond DERS: Redefining Infusion Administration Safety with Smart Pump - EMR Interoperability"***

**Nicole Wilson, MSN, RN, CPHIMS**  
**Senior Manager of Clinical Strategy**  
**Becton, Dickinson and Company (BD)**

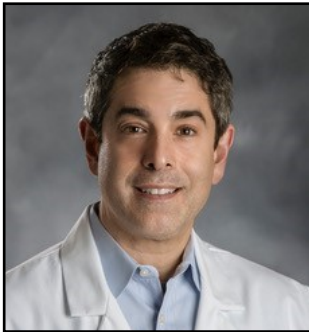
Dose error reduction software (DERS) is designed to catch errors in infusion pump programming based on drug library limits set by the hospital, yet errors continue to occur. How do we address medication errors that occur as a result of using DERS *incorrectly* while programming an infusion? When DERS is used *correctly*, how do we protect patients and clinicians from errors that unknowingly occur due to using a device that isn't fully integrated into the larger medication management ecosystem? This session will provide some early insights into the rates of programming errors and explore how smart pump – EMR interoperability, used together with DERS, can truly close the safety gaps and lead to a meaningful reduction in medication errors.

**Nicole Wilson**, MSN, RN, CPHIMS, works as a senior manager of clinical strategy at BD with a focus on infusion device / EMR interoperability for the past 4 years. She brings 10 years of clinical nursing experience, and 6 years of healthcare informatics experience. Nicole is a Certified Professional in Health Information Management Systems (CPHIMS), and has a Master's degree in Nursing from the University of San Diego where she currently serves on the curriculum advisory board and as adjunct faculty.





## ***“Update on Joint Commission Patient Safety Initiatives”***



**Dr. Ed Pollak, MD**  
**Medical Director and Patient Safety Officer**  
**Division of Healthcare Improvement**  
**The Joint Commission**



**Gerard Castro, PhD, MPH**  
**Project Director for**  
**Patient Safety Initiatives**  
**The Joint Commission**

Drs. Ed Pollak and Gerry Castro will provide an update on infusion pump and medication related patient safety initiatives at the Joint Commission.

**Edward Pollak, M.D.**, is the medical director and patient safety officer in the Division of Healthcare Improvement at The Joint Commission. In this role, he is responsible for promoting The Joint Commission’s performance improvement and patient safety initiatives. Dr. Pollak provides oversight and medical expertise to the Office of Quality and Patient Safety, which reviews and responds to reports of patient safety events at accredited and certified health care organizations. He also provides oversight for the interpretation of clinical accreditation standards and leads the Patient Safety Advisory Group, a panel of external health care industry experts, to identify emerging patient safety issues and advise on the development of National Patient Safety Goals, Sentinel Event Alerts and accreditation standards.

Most recently, Dr. Pollak served as vice chief of Anesthesiology and Perioperative Medicine at William Beaumont Hospital Royal Oak, and associate professor at Oakland University William Beaumont School of Medicine, Royal Oak, Michigan. A practicing board-certified anesthesiologist, he has achieved advanced certification in perioperative echocardiography, and also published and presented nationally on perioperative quality, safety and service. His postgraduate work includes patient safety officer training at the Institute for Healthcare Improvement (IHI), and root cause analysis training at ECRI Institute. While he was patient safety officer at William Beaumont Hospital Royal Oak, Dr. Pollak helped lead the hospital to consistent top performance in patient safety and quality improvement by championing a robust safety culture.



**Gerard M. Castro, PhD, MPH** is the Project Director for Patient Safety Initiatives in the Office of Patient Safety at The Joint Commission. In this role, he has primary responsibility for the Joint Commission sentinel event database, and manages the coordination, reporting and tracking of sentinel events, complaints, and other patient-safety initiatives in the Division of Healthcare Improvement. Dr. Castro was the Principal Investigator for the Office of the National Coordinator for Health IT project “Investigations of Health IT-related Deaths, Serious Injuries or Unsafe Conditions.” He administers the Patient Safety Advisory Group (PSAG) which advises The Joint Commission on high priority and emerging patient safety issues. He is also a member of the NQF Common Formats and HIT Patient Safety and Expert Panels as well as the HTSI Coalition of Organizations for Reporting Adverse Events (CORE) Committee.

# AGENDA

Thursday, April 19<sup>th</sup>

*All events are casual business attire*

<u>Time</u>	<u>Event &amp; Location</u>
	Big Ten Conference Center Main Dining Area (2 <sup>nd</sup> Floor)
7:30 A.M.	Breakfast (Provided)
	Big Ten Conference Center Rooms 202/203/205 (2 <sup>nd</sup> Floor)
8:30	<b><i>“Summary of Day 1 – Get Pumped Up!”</i></b> Dan Degnan, Purdue University College of Pharmacy
8:45	<b><i>“Smart Pump Technology: Recognizing the Gains and Addressing the Gaps “</i></b> Michelle Mandrack, Institute for Safe Medication Practices
9:15	<b><i>“Ordering to Administration: Parameters for a Successful Titratable Infusion Rebuild”</i></b> Casey Olsen, Aurora Health Care
9:45	<b><i>“Rethinking Drug Library Management to Advance Patient Safety “</i></b> Ivy Andreica, Ivenix, Inc.
10:05	Break
10:30	<b><i>“BCMA Workarounds: A 2018 ECRI Top 10 Hazard”</i></b> Brad Bonnette, ECRI Institute
11:00	<b><i>“Enhancing the Safety of IV Medications: Standardizing Concentrations, Reducing Clinically Insignificant Alerts, and Integrating with Electronic Health Records”</i></b> Andrew Fritschle and Todd Walroth, Eskenazi Health Dan Degnan, Purdue University College of Pharmacy
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2:00	<b><i>“Pump alarm perceptions and data - Where do we go from here?”</i></b> Rachel Vitoux and Catherine Schuster, B.Braun Medical
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<u>Time</u>	<u>Event &amp; Location</u>
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4:20	<b><i>“Information Overload: Auditing the Clinical Utility of Smart Pump Reporting Tools to Develop Key Performance Indicators”</i></b>
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	Elizabeth Rodman, Froedtert & the Medical College of Wisconsin
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4:30	<b><i>“Maximizing Syringe Pump Safety, Minimizing Risk”</i></b>
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	Debbi Child, Smiths Medical
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Big Ten Conference Center Rooms 202/203/205

5:00	Breakout session for Smiths Medical Users
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6:00*	Adjourn
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\*For those not involved with Smiths Medical Breakout Session,  
**Adjourn at 5:00 P.M.**

*Dinner on your own (See options in “Nearby Dining and Activities” section)*

DAY 2





## ***“Summary of Day 1—Get Pumped Up!”***

**Dan Degnan, PharmD, MS, CPPS, FASHP**  
**Associate Director of Professional Program Laboratory**  
**Purdue University College of Pharmacy**

To start the day, Dan will kick off a discussion on Wednesday’s presentations and:

1. Informally poll participants about previous day learning
2. Review his top 3 takeaways
3. Provide complementary resources for the previous day

Come prepared to discuss:

1. What is something important you learned the day before?
2. Who is someone you would like to meet and learn more about?
3. Are there any takeaways for REMEDI and the future?

**Dan Degnan** , PharmD, MS, CPPS, FASHP is the Associate Director of the Professional Program lab at the Purdue University College of Pharmacy and a Clinical Assistant Professor of Pharmacy Practice. He also works with the Regenstrief Center for Healthcare Engineering (RCHE) at Purdue as a Clinical Research Associate with expertise and research interests in the area of medication safety technology, safety culture, pharmacy operations and high reliability.





## ***“Smart Pump Technology: Recognizing the Gains and Addressing the Gaps “***

**Michelle Mandrack, MSN, RN**  
**Director of Consulting Services**  
**Institute for Safe Medication Practices (ISMP)**

During this session, Michelle will discuss the important safety benefits provided by smart pumps as well as current risks observed with the underutilization of this technology. A description of infusion workflows will be provided to highlight present complexities and vulnerabilities in IV medication administration. In addition, examples of errors that can occur despite the use of smart infusion pumps will be presented, including IV line and drug mix-ups, incorrect library selections, and programming or dosing errors caused by a failure to engage the dose error reduction software (DERS).

**Michelle Mandrack** is the Director of Consulting Services at the Institute for Safe Medication Practices. Prior to joining ISMP, Michelle spent over 20 years in acute care settings in a variety of clinical and administrative roles. She was the Director of Maternal Child Health and subsequently, the Director of Nursing in the Mercy Health System in the Philadelphia area. In her present position, Michelle manages ISMP's consulting services as well as performs onsite medication risk-assessments and root-cause analyses for healthcare facilities throughout the US. She frequently participates in the analysis of medication safety issues specific to pediatric and neonatal populations. Michelle has participated in several state-wide medication safety collaboratives and performs medication-related technology assessments including smart pump technology and barcode medication administration systems. Michelle leads ISMP's Practitioner in Residence and International Mentorship programs and serves as part-time faculty at Temple University School of Pharmacy. She received her BSN from Thomas Jefferson University and her MSN from Drexel University and is a member of Sigma Theta Tau International Honor Society of Nursing.





## ***“Ordering to Administration: Parameters for a Successful Titratable Infusion Rebuild”***

**Casey Olsen, PharmD**  
**PGY-2 Pharmacy Informatics Resident**  
**Aurora Health Care**

Follow an organization’s journey to meet Joint Commission’s requirements for titratable infusion medication orders. Learn about the use of discrete questions to ensure all order requirements are being met, workflows to mitigate risk of estimated weights, and bolus from bag barriers.

**Casey Olsen**, PharmD is currently a PGY-2 pharmacy informatics resident at Aurora Health Care in Milwaukee, WI. His interests reside within the realm of computer-driven prescribing of medications using artificial intelligence, neural networking, and modeling. As such, advances in clinical decision support tools are an area of intrigue. In pursuing these areas of interest and a desire to be a part of the national conversation, Casey is a part of the ASHP Section of Pharmacy Informatics and Technology Section Advisory Group. He additionally has involvement at a state level through the Pharmacy Society of Wisconsin. Through this involvement, Casey hopes to help usher in change through adoption of new technologies and practices that improve patient safety and drive efficiency of care.





## ***“Rethinking Drug Library Management to Advance Patient Safety”***

**Ivyruth Andreica, PharmD, BSN, FISMP**  
**Clinical & Medication Safety Pharmacist**  
**Ivenix, Inc.**

The smart pump drug library serves as the foundation to support improved patient safety. Efficient management and updating of the drug library is integral to ensuring that the majority of infusions are safely supported on a continual basis.

This presentation will explore how the innovative use of technology can support improvement to the drug library management process, directly impacting efficient and timely availability, interoperability, and response to dynamic situations such as drug shortages.

**Ivyruth Andreica**, PharmD, BSN, FISMP is a pharmacist with both critical care nursing and pharmacy experience. As a nurse, she worked with different kinds of infusion devices at the user level. As a pharmacist, she has worked with infusion devices from both clinical pharmacy and medication safety perspective. She is specialized in medication safety and is a fellow of the Institute for Safe Medication Practices. In addition to serving as Clinical & Medication Safety Pharmacist at Ivenix, Ivyruth practices as a clinical pharmacist at the Massachusetts General Hospital.



## NOTES

[illegible]



## ***“BCMA Workarounds: A 2018 ECRI Top 10 Hazard”***

**Brad Bonnette**  
**Senior Project Officer**  
**ECRI Institute**

Workarounds can negate the safety advantages of bar-coded medication administration systems (BCMAs). For our 2018 Top 10 Hazard list, ECRI Institute identified dangerous workarounds, including some examples mined from reports we have received from member hospitals. We also provide recommendations related to BCMA implementation, staff knowledge and training, and ongoing support and analysis.

**Bradley Bonnette** is a Senior Project Officer in ECRI Institute’s Health Devices group, which conducts comparative evaluations of medical devices for the benefit of ECRI Institute member hospitals. He worked in the medical device industry before joining ECRI Institute, and has developed expertise on a wide variety of medical devices in the more than 10 years he has been with ECRI. Mr. Bonnette has conducted numerous comparative evaluations of medical devices for ECRI Institute publications. Technologies he has evaluated include intensive care ventilators, portable ventilators, anesthesia units, infusion pumps, video laryngoscopes, diagnostic electrocardiograms, and home care devices that communicate with smartphones.



# PRESENTATION

## ***“Enhancing the Safety of IV Medications: Standardizing Concentrations, Reducing Clinically Insignificant Alerts, and Integrating with Electronic Health Records”***



**Dan Degnan, PharmD,  
MS, CPPS, FASHP  
Purdue University  
College of Pharmacy**



**Andrew C. Fritschle,  
PharmD, BCPS, BCCCP  
Clinical Pharmacy  
Specialist, Eskenazi Health**



**Todd A. Walroth, PharmD,  
BCPS, BCCCP  
Pharmacy Manager,  
Clinical Services,  
Eskenazi Health**

Intravenous (IV) infusion medications have the greatest potential for causing significant patient harm and are frequently associated with errors due to confusion created by the variety of available drug concentrations and dosage units, abundance of alerts for the end user, and variability in the administration process. To address these concerns, the Indianapolis Coalition for Patient Safety, Inc. (ICPS) developed a task force to define a list of adult IV standard concentrations and formed a workgroup to identify best practices to decrease clinically insignificant smart infusion pump alerts. This presentation will cover the work of these ICPS groups as well as highlight key steps necessary for the integration of an electronic health record with smart infusion pumps.

**Dan Degnan** , PharmD, MS, CPPS, FASHP is the Associate Director of the Professional Program lab at the Purdue University College of Pharmacy and a Clinical Assistant Professor of Pharmacy Practice. He also works with the Regenstrief Center for Healthcare Engineering (RCHE) at Purdue as a Clinical Research Associate with expertise and research interests in the area of medication safety technology, safety culture, pharmacy operations and high reliability.



**Andrew C. Fritschle**, PharmD, BCPS, BCCCP is the Clinical Pharmacy Specialist for the Adult Critical Care at Eskenazi Health in Indianapolis, Indiana. A graduate of Purdue University, he completed a PGY1 residency with IU Health and a PGY2 residency in Critical Care with Eskenazi Health (formerly Wishard Health Services). In addition to providing direct patient care, Andrew oversees the institution's smart infusion pumps and Chairs Patient and Medication Safety Committees.

**Todd A. Walroth**, PharmD, BCPS, BCCCP is the Pharmacy Manager for Clinical Services and is a Clinical Pharmacy Specialist for Burn/Critical Care at Eskenazi Health (formerly Wishard Health Services) in Indianapolis, Indiana. In addition, Todd serves as adjunct faculty for Purdue and Butler Universities. A graduate of Purdue University, he completed a PGY1 residency with Clarian Health (now IU Health) and a PGY2 residency in Critical Care with Clarian Health/Wishard Health Services. Clinical research interests include medication use and dosing in critically ill patient populations such as burn and trauma, medication safety, smart infusion pumps, nutrition, and developing clinical services and programs.

# REMEDI DEVELOPMENT TEAM

## ***“What’s New & Cool in REMEDI”***



**Alissa Nedossekina**  
**Senior Web Application Developer**  
**Information Technology at Purdue**  
**Purdue University**



**Mike Zentner**  
**Senior Research Scientist**  
**Information Technology at Purdue**  
**Purdue University**

The REMEDI Development team will review accomplishments since last year’s conference and fill us in on what new tools they are developing to help you improve patient safety.

**DAY 2**



## ***“Pump alarm perceptions and data- Where do we go from here?”***



**Rachel R. Vitoux, RN, MSN, MBA, CPHIMS**  
**Director of Clinical Consulting & Services**  
**B.Braun Medical**



**Catherine Schuster PhD, RN**  
**Manager of Nursing Research**  
**B.Braun Medical**

Results from a survey on critical care nurse perceptions of infusion pump alarms will be explored along with benchmark data on pump alarms across 29 hospitals. An interactive discussion on questions to ponder and where we go from here will ensue.

**Rachel** is the Director of Clinical Consulting & Services for B.Braun Medical, where she has extensive experience in creating and delivering educational programs and services to promote medication safety and infusion therapy best practices. Rachel holds a BSN and MSN from Indiana University School of Nursing, an MBA from Marylhurst University and a certification in electronic health record. Throughout her career, Rachel has impacted nursing care and patient safety as a critical care practitioner, clinical nurse specialist, nursing instructor, clinical researcher and member of professional associations encompassing nursing, pharmacy, clinical engineering and healthcare informatics. Rachel currently leads the B.Braun team in delivering infusion therapy analytic services to improve medication safety and achieve outcomes.

**Catherine** is the Manager of Nursing Research for B.Braun Medical where she works across all B.Braun product lines to support the collection of evidence to drive best practice, patient safety, clinical training, and optimal patient outcomes. She earned her BS in Applied Behavioral Science from University of California, Davis; MA and Ph.D in Health Promotion, Research and Statistics from The Ohio State University; and BSN from University of Oklahoma. For the past three years, Catherine has been leading the development of research methodology for the handling and assembling of pump alarm data. Catherine resides in San Diego, CA.





## ***"Michigan Pediatric Safety Collaborative: State-wide Initiative to Standardize the Compounding of Oral Liquids in Pediatrics"***

**Scott Ciarkowski, PharmD, MBA**  
**Medication Safety Officer**  
**University of Michigan Health**

Process and criteria used to establish standard concentrations for compounded oral liquids in pediatric patients in the state of Michigan and work occurring on a national level with Standardize 4 Safety

**Scott Ciarkowski**, PharmD, MBA, is the Medication Safety Officer at the University of Michigan Health System and adjunct Clinical Instructor in University of Michigan College of Pharmacy, focuses on proactive strategies to improve safe medication use processes. Scott chairs the Medication Safety Committee, reporting to the Pharmacy and Therapeutics Committee and serves on various committees related to the medication use process. Special interest on smart infusion pump libraries, compounded oral liquids, and pediatrics.





## ***"Medication Safety and the Role of Smart Pumps in Anesthesiology"***

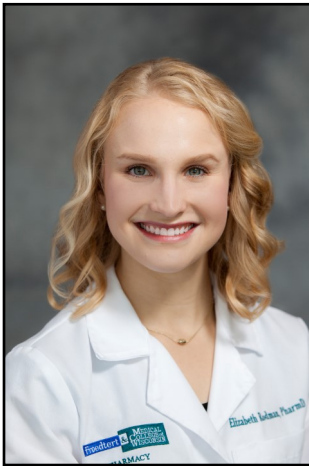
**JW Beard, MD, MBA**  
**Medical Director**  
**ICU Medical, Inc.**

Medication administration techniques and the utilization of smart pumps have been effectively adapted for the unique requirements of anesthesia and procedural care but may present opportunities for improvement. In this presentation, current anesthesia infusion therapy practices will be discussed along with suggestions for a future state that continues to drive improvements in patient safety and procedural outcomes.

**Dr. JW Beard**, MD is an anesthesiologist with twelve years of practice in pre-admission clinics, operating rooms, pain management services and labor and delivery units. Dr. Beard has led quality improvement initiatives including management of patients with implantable cardioverter defibrillators, prophylaxis for perioperative venous thromboembolism and treatment of patients with local anesthetic systemic toxicity. He has incorporated new technologies into practice including ultrasound for regional anesthesia and transesophageal Doppler for intraoperative fluid management. Dr. Beard has held practice leadership positions including Chairman and Medical Director of the Department of Anesthesia.

Currently, Dr. Beard is the Medical Director for ICU Medical where he leads the Medical Affairs division.





## ***"Information Overload: Auditing the Clinical Utility of Smart Pump Reporting Tools to Develop Key Performance Indicators"***

**Elizabeth Rodman, PharmD**  
**PGY1 Health-System Pharmacy Administration Resident**  
**Froedtert & the Medical College of Wisconsin**

Froedtert Hospital has four data analytics tools that provide detailed information about smart pump utilization and medication administration; however, there is not a standardized approach to when and how each tool is used. This presentation will highlight the differences in reporting tools and describe the process used for developing a continuous quality improvement process for reducing near miss events related to smart pump programming.

**Elizabeth Rodman**, PharmD is currently completing her first year of a combined PGY1/PGY2 Health-System Pharmacy Administration Residency at Froedtert & the Medical College of Wisconsin. She completed her undergraduate coursework and Doctor of Pharmacy at the University of Missouri-Kansas City. Elizabeth is currently working on her Master's in Healthcare Administration from the University of Wisconsin-Milwaukee.

Elizabeth is actively involved in several organizations, including the Pharmacy Society of Wisconsin and the Vizient Pharmacy Network. Her professional interests include drug use policy, medication safety, 340B, and specialty pharmacy. In her free time, she enjoys spending time outdoors, exploring Milwaukee's coffee shops, and traveling.





## ***"Maximizing Syringe Pump Safety, Minimizing Risk"***

**Debbi Child, PharmD, BCPS**  
**Clinical Manager, Pharmacy Services**  
**Smiths Medical**

Medication administration techniques and the utilization of smart pumps have been effectively adapted for the unique requirements of anesthesia and procedural care but may present opportunities for improvement. In this presentation, current anesthesia infusion therapy practices will be discussed along with suggestions for a future state that continues to drive improvements in patient safety and procedural outcomes.

Syringe infusion pumps are frequently used in pediatric environments to accurately infuse medications and fluids. Recent notification by the FDA overviews potential issues that affect flow continuity when infusing at rates less than 5mL per hour. ( <https://wayback.archive-it.org/7993/20171102225331/https://www.fda.gov/MedicalDevices/Safety/AlertsandNotices/ucm518049.htm>) During this session we will review tips for syringe infusion pump use that can help achieve consistent flow.

**Debbi Child**, PharmD BCPS is a board certified Doctor of Pharmacy with over 15 years of clinical experience in US Children's Hospitals responsible for all inpatient areas and aspects of care including physician rounds, order entry, IV prep, tech supervision, pharmacist scheduling and student preceptorship. She has developed, presented, and published clinical research in key areas including optimization of medical technology to improve patient safety and prevention of fluid overload in at risk patients. Debbi is currently employed by Smiths Medical as Clinical Manager, Pharmacy Services responsible for managing a team of pharmacists who specialize in the provision of medication safety software utilization and implementation for smart pump technology.



## NOTES

[illegible]

# VENDOR BREAKOUT SESSION—PART 1

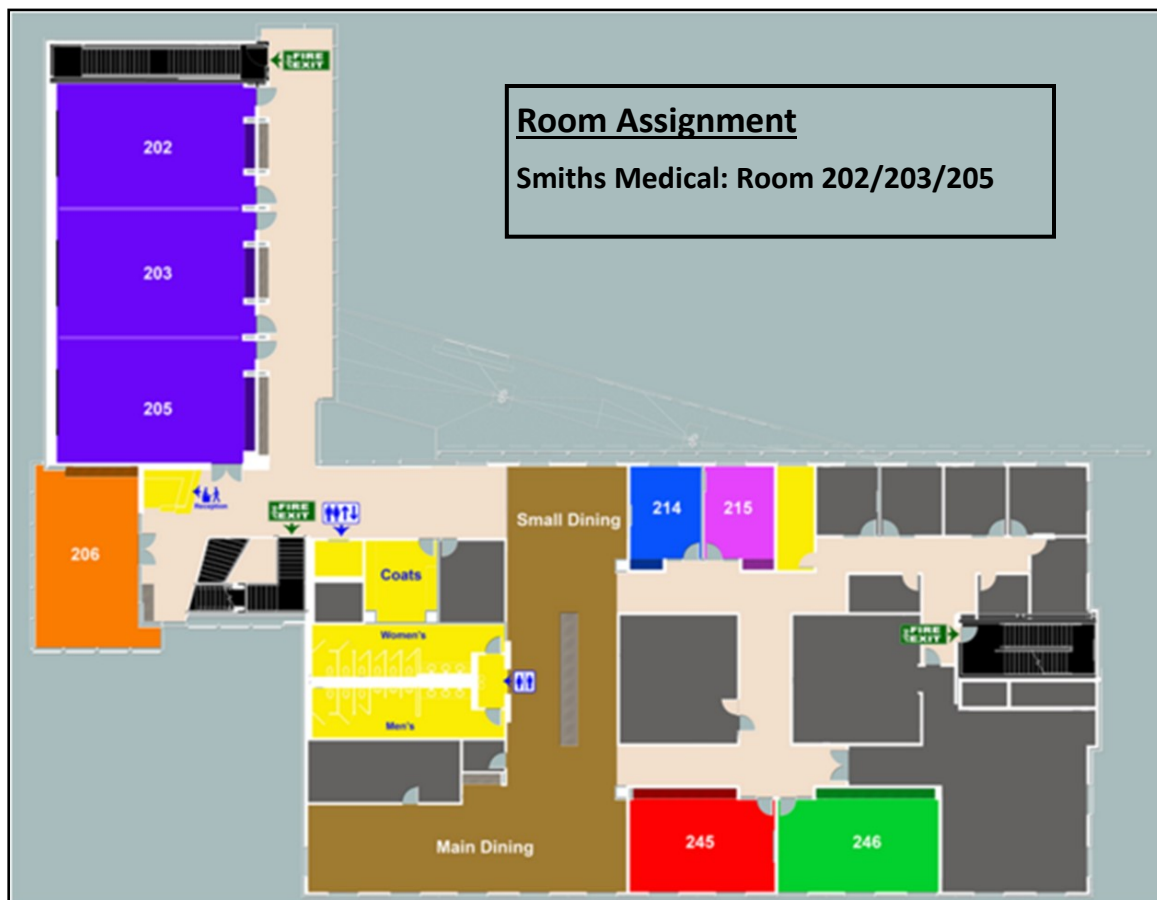
## Vendor Breakout Sessions

During this time, users with Smiths Medical technologies will meet with Smiths Medical representatives. The objective of this sessions is for the **users and vendor to work together** to identify solutions and opportunities that address the commonly held goal of improving patient safety and quality.

**In order to maximize the value of this session, please provide any questions for Smiths Medical to Rich ([zinkr@purdue.edu](mailto:zinkr@purdue.edu)) by Friday, April 6<sup>th</sup>.** This gives Smiths Medical time to research your questions and be prepared to answer it during your session.

*Thank you to Smiths Medical for hosting this breakout session and participating in the remainder*

**smiths medical**  
bringing technology to life



## NOTES

[illegible]

*All events are casual business attire*

<u>Time</u>	<u>Event &amp; Location</u>
	Big Ten Conference Center Main Dining Area (2 <sup>nd</sup> Floor)
7:30 A.M.	Breakfast (Provided)
	Big Ten Conference Center Rooms 202/203/205 (2 <sup>nd</sup> Floor)
8:30	<b><i>"Summary of Day 2 – Get Even More Pumped Up!"</i></b> Dan Degnan, Purdue University College of Pharmacy
8:45	<b><i>"Secure administration of Controlled Substance (CS) Infusions"</i></b> Scott Ciarkowski, University of Michigan Health
9:15	<b><i>"Small Buttons, Large Consequences: Programming Considerations for Smart Pump Interoperability Implementation"</i></b> Megan Holsopple, Froedtert & the Medical College of Wisconsin
9:45	<b><i>"Are You Ready to Integrate--- OR--- Are You Already There and Now What???"</i></b> <b><i>Smart Pump and EHR Integration----BD Alaris and Epic"</i></b> Bev Vermace and Tammy Balk, University of Iowa Hospitals & Clinics
10:15	Break
10:45	<b><i>"Going beyond the pump: Infusion interoperability and analytics"</i></b> Nilesh Desai, Hackensack Meridian Health
	Big Ten Conference Center Rooms 202/203/205/214/215/245 (2 <sup>nd</sup> Floor)
11:45	Breakout session for Baxter, B.Braun, BD, and ICU Medical Users
1:15 P.M.*	Adjourn
	*For those not involved with Vendor Breakout Sessions, <b>Adjourn at 11:45 A.M.</b>





## ***“Summary of Day 2—Get Even More Pumped Up!”***

**Dan Degnan, PharmD, MS, CPPS, FASHP**  
**Associate Director of Professional Program Laboratory**  
**Purdue University College of Pharmacy**

To start the day, Dan will kick off a discussion on Thursday’s presentations and:

1. Informally poll participants about previous day learning
2. Review his top 3 takeaways
3. Provide complementary resources for the previous day

Come prepared to discuss:

1. What is something important you learned the day before?
2. Who is someone you would like to meet and learn more about?
3. Are there any takeaways for REMEDI and the future?

**Dan Degnan** , PharmD, MS, CPPS, FASHP is the Associate Director of the Professional Program lab at the Purdue University College of Pharmacy and a Clinical Assistant Professor of Pharmacy Practice. He also works with the Regenstrief Center for Healthcare Engineering (RCHE) at Purdue as a Clinical Research Associate with expertise and research interests in the area of medication safety technology, safety culture, pharmacy operations and high reliability.





## ***"Secure administration of Controlled Substance (CS) Infusions"***

**Scott Ciarkowski, PharmD, MBA**  
**Medication Safety Officer**  
**University of Michigan Health**

Sharing our experience with securing CS infusions (successes and challenges) and where we need to be.

**Scott Ciarkowski**, PharmD, MBA, is the Medication Safety Officer at the University of Michigan Health System and adjunct Clinical Instructor in University of Michigan College of Pharmacy, focuses on proactive strategies to improve safe medication use processes. Scott chairs the Medication Safety Committee, reporting to the Pharmacy and Therapeutics Committee and serves on various committees related to the medication use process. Special interest on smart infusion pump libraries, compounded orals liquids, and pediatrics.



## NOTES

[illegible]



## ***“Small Buttons, Large Consequences: Programming Considerations for Smart Pump Interoperability Implementation”***

**Megan Holsopple, PharmD, BCPS**  
**Coordinator, Center for Medication Utilization**  
**Director, PGY2 Drug Information Pharmacy Residency Program**  
**Froedtert & the Medical College of Wisconsin**

Smart pump interoperability was implemented at Froedtert Hospital and select infusion clinics in November 2016. In preparing for this implementation, all aspects of smart pump processes were evaluated ranging from end-user workflows to technical programming. This presentation will highlight key considerations of the interoperability implementation process such as library consolidation and also review considerations for post-interoperability assessment metrics.

**Megan Holsopple**, PharmD, BCPS is a Pharmacy Coordinator at the Center for Medication Utilization at Froedtert & the Medical College of Wisconsin. In this role, Megan is involved with medication management across a 5 hospital network and manages smart pump technology at Froedtert Hospital and infusion clinics with an emphasis on implementing evidence-based practice at the point-of-care.

Prior to joining Froedtert & the Medical College of Wisconsin in 2013, Megan completed her PGY1 pharmacy residency training at SCL Health and a specialized PGY2 residency in drug information at University of Utah Health. Megan completed her Bachelor's Degree in Health Sciences and her Doctor of Pharmacy at Creighton University.

Megan is an active member in various pharmacy organizations. She has served as a Drug Policy Development and Pharmacoeconomics network facilitator and a committee member on the New Practitioners Forum Residency Advancement Advisory Group through ASHP. She is also involved with ACCP through the Drug Information Education Committee and has served as the Drug Information Membership Committee Chair. In addition to drug information practice, her professional interests include health information technology and medication safety. In her free time, Megan enjoys spending time with her family and traveling.



# PRESENTATION

## ***“Are You Ready to Integrate--- OR--- Are You Already There and Now What??? Smart Pump and EHR Integration----BD Alaris and Epic”***



**Bev Vermace, RN, MSN**  
**University of Iowa Hospitals & Clinics**



**Tammy Balk**  
**University of Iowa Hospitals & Clinics**

We will provide a high level overview of the path that was taken to complete the integration process at UIHC for facilities that are in various stages of the process. We will also share our lessons learned during that process and where are we now.

**Bev Vermace** is a Registered Nurse at the University of Iowa Hospitals and Clinics (UIHC) in Iowa City, Iowa. I have 40 years of clinical nursing experience with a focus on the Pediatric and Neonatal patient population. I have my Master in Nursing with an emphasis in Nursing Education. My role at UIHC is the Parental Infusion Device Coordinator and Clinical Coordinator within the Division of the Chief Medical Information Officer. I support both the nursing and medical staff on technology. During the Integration implementation process I worked closely with our Nursing Informatics team in testing of the process, education for the nursing staff and supporting during the go-lives.

I became a member of the REMEDI community in 2010 and was one of the first of four hospital to join. I served on REMEDI steering committee from 2012 – 2015. I was the first to introduce the then IPI members to the Auto-ID barcoding scanning at the IV pump level. UIHC was one of a very small number of hospitals to use the Auto-ID module on the Alaris IV pumps in which we scanned the patient, medication and the clinician into the IV pump. Additionally, UIHC was the first hospital in the world to integrate between Epic and Alaris in 2014.

**Tammy Balk** has been a clinical pharmacist for 27 years, primarily in the health-system setting. Tammy has been a part of the University of Iowa Health Care Department of Pharmaceutical Care since 2011. In her current role as a Pharmacy Practice Specialist, Tammy is responsible for Epic and Alaris system maintenance. During the implementation of Epic-Alaris integration, Tammy was primarily responsible for medication build, testing, and pharmacist education.

Beyond assisting in the Alaris Integration project, Tammy maintains Epic certifications in Willow Inpatient, Willow Ambulatory, and SmartForms. She takes part in medication shortage management, clinical and operational improvement projects, and pediatric medication build. Her clinical interests include cardiology and internal medicine.





## ***“Going beyond the pump: Infusion interoperability and analytics”***

**Nilesh Desai, BS, RPh, MBA**  
**Administrator, Pharmacy and Clinical Operations**  
**Hackensack Meridian Health**

Nilesh will share how he and his team led Hackensack University Medical Center through a successful project to create interoperability between their smart pumps and their EMR. The presentation will detail the strategy behind the project, benefits achieved, lessons learned from implementation, and the challenges associated with changing technology and people. This will be an opportunity to hear first-hand from a customer about how they have been able to leverage these capabilities to make significant improvements in their hospital.

**Nilesh Deai**, joined Hackensack University Medical Center in 1998 and has served as the director of Pharmacy for five years. Overseeing inpatient, outpatient and retail pharmacies, Mr. Desai also serves as a program preceptor for the post-graduate year 1 (PGY-1) pharmacy residency, and as a clinical adjunct professor at the Ernest Mario School of Pharmacy and the Massachusetts School of Pharmacy.

Mr. Desai has led the successful implementation of a number of projects, including the transition to EPIC (electronic health records), Bar Code Medication Administration (BCMA), National Drug Code (NDC) billing, interoperability between EPIC and Omnicell, Beacon Oncology, BD Cato, Talyst carousels, Omnicell technologies, e-prescribing, transitions of care pharmacist-led medication reconciliation, and decentralized pharmacist teams. He also led the expansion of the clinical pharmacist team with additional specialties such as Emergency Medicine, Organ Transplant, and Oncology, PGY-1 pharmacy residency program expansion and the addition of a post-graduate year 2 (PGY-2) Emergency Medicine program.

Mr. Desai received his Bachelor of Science degree in Pharmacy from Madras University and earned his master’s degree in Business Administration in Healthcare from the University of Phoenix. He is a member of the HealthTrust Pharmacy Advisory Board, American Society of Health-System Pharmacists, New Jersey Pharmacy Leadership Group, New Jersey Health System Pharmacists, and the American Society of Professionals in Patient Safety.



# VENDOR BREAKOUT SESSION—PART 2

## Vendor Breakout Sessions

During this time, users will split into groups and meet with representatives from their pump manufacturer. The objective of these sessions are for **users and vendors to work together** to identify solutions and opportunities that address the commonly held goal of improving patient safety and quality.

**In order to maximize the value of this session, please provide any questions for your vendor to Rich ([zinkr@purdue.edu](mailto:zinkr@purdue.edu)) by Friday, April 6<sup>th</sup>.** This gives your vendor time to research your questions and be prepared to answer it during your session.

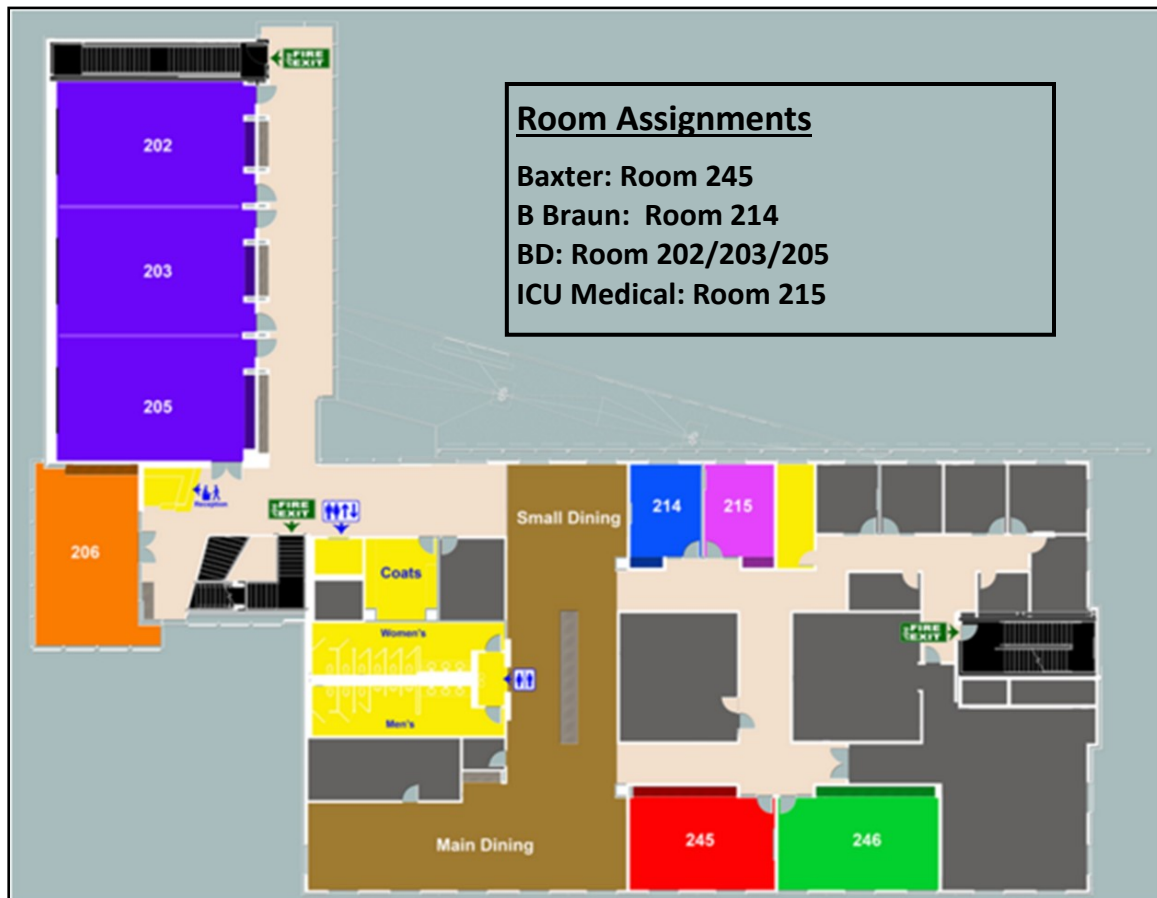
*Thank you to the vendors for leading these breakout sessions and participating in the remainder of the conference.*

**Baxter**

**B | BRAUN**  
SHARING EXPERTISE



**icu**medical  
human connections



DAY 3



# BIG Big Ten Conference Center

(Second Floor)



# mb financial park AT ROSEMONT

Click here for additional dining options:

<http://www.rosemont.com/mbfinancialpark/>

## mb financial park AT ROSEMONT

5501 PARK PLACE, ROSEMONT, IL 60018 • WWW.MBPARKATROSEMONT.COM



# CONFERENCE LOCATION AND DIRECTIONS

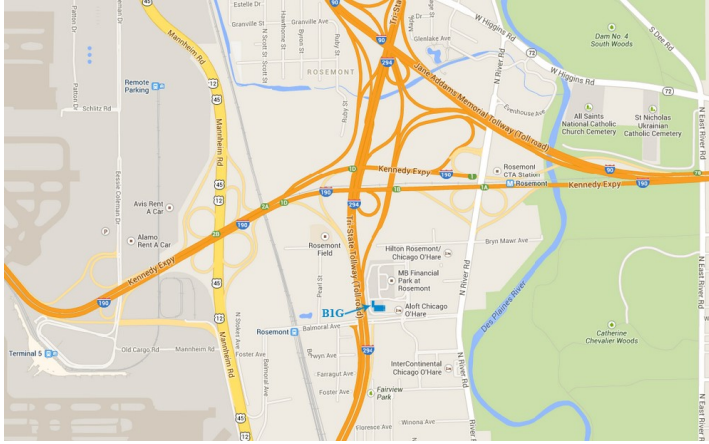
## Big Ten Conference Center

5440 Park Place  
Rosemont, IL 60018

(847) 696-1010/Wi-Fi B1Gguest Passcode: rosemontwireless

*(click here for directions)*

<http://office.bigten.org/cc/address.php>



### From O'Hare Airport:

Exit the terminal, following signs for Interstate I-190 East.  
Continue for about 2 miles  
Take the River Road-South exit, Exit 1B  
Merge onto River Road  
Turn right on Balmoral Avenue (West)  
Proceed approx. one-half mile to the next street/traffic light,  
(Park Place), and turn right (North)  
See Directions above for garage, short-term or drop-off instructions.

### From the East:

Take I-90W/I-94 W/Kennedy Expressway W  
Keep left to take I-90 W/Kennedy Expy W via Exit 43B toward  
O'Hare-Rockford  
Merge onto I-190 W via Exit 78 toward I-294 S/Indiana/O'Hare  
Take the River Road South exit. Exit 1B  
Keep right to take the River Road-South ramp  
Merge onto River Road South  
Turn right on Balmoral Avenue (West)  
Proceed approx. one-half mile to the next street/traffic light  
(Park Place), and turn right (North).  
See Directions above for garage, short-term or drop-off instructions.

### From the West:

Take I-90 Eastbound (Northwest Tollway/Kennedy Express-way).  
Please Note: this is a "Loop" to I-90 East.  
Exit at O'Hare (I-190 West).  
Pay the toll  
Exit on Mannheim Road South  
Proceed in the right lane, and Re-Enter eastbound towards  
Chicago/Interstate I-90 East.  
Proceed one mile.  
Merge onto River Road South  
Turn right on Balmoral Avenue (West)  
Proceed approx. one-half mile to the next street/traffic light, (Park  
Place), and turn right (North)  
See Directions above for garage, short-term or drop-off instructions.

The Big Ten Conference Headquarters and Conference Center is a three-story terracotta brick building located directly off I-294 at the Balmoral Avenue exit.

### Parking:

**When you enter the parking garage, either side, you will go up the ramp. Pull a ticket from the machine when you enter. Follow the signs to the LEFT to aloft (Big Ten) parking. Park anywhere in the garage and head towards the left side (SW) of the garage towards the elevators. You need to go to the first floor and cross the street. You have successfully arrived at the Big Ten.**

Drop-off: Follow the signs to Aloft drop-off. Big Ten is located immediately west of Aloft.

Short-term parking: (2hr. limit—4 a.m. – 4 p.m.) is available in the lot just north of Big Ten.

Parking validation available at the Big Ten Conference Center for \$7.50 per day with no in/out privileges

Parking validation available the Aloft Hotel for \$15.00 per day with in/out privileges

### From the South:

Take I-294 North toward Wisconsin.  
IF YOU HAVE AN I-PASS  
Take the Balmoral Avenue Exit  
Turn right at the end of the ramp and immediately merge to the left lane  
Take a left at the very next street/traffic light (Park Place) and turn left (North)  
IF YOU DO NOT HAVE AN I-PASS  
Proceed to the O'Hare/River Road Exit.  
Pay toll and proceed to River Road South, Exit 1B  
Merge onto River Road  
Turn right on Balmoral Avenue (West)  
Proceed approx. one-half mile to the next street/traffic light,  
(Park Place), and turn right (North)  
See Directions above for garage, short-term or drop-off instructions.

### From the North:

Follow I-294 South towards Indiana/O'Hare.  
Exit at Irving Park East – stay in right lanes – no exit to Irving Park through "open toll"  
Go East on Irving Park to River Road.  
Turn left onto River Road heading north  
Turn left on Balmoral Avenue (West)  
Proceed approx. one-half mile to the next street/traffic light, (Park Place), and turn right (North)  
See Directions above for garage, short-term or drop-off instructions.

## ALOFT CHICAGO O'HARE

9700 Balmoral Avenue

Rosemont, IL 60018

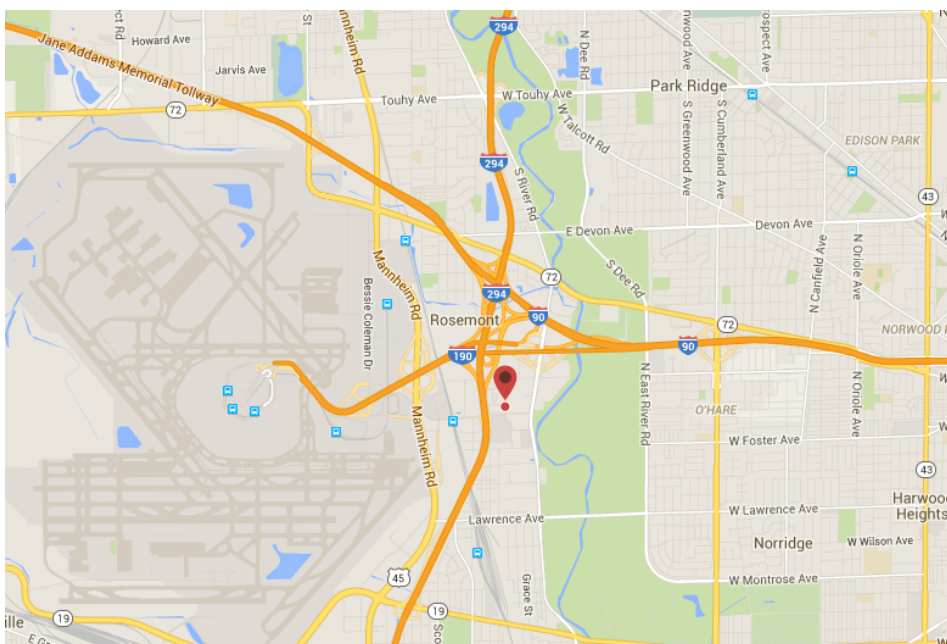
Phone: (847) 671-4444

**REMEDI Conference Room Rate of \$151 Block Reservation Link , available until Tuesday, April 3rd.**  
**Attendees are responsible to book your own hotel.**

<https://www.starwoodmeeting.com/Book/PurdueRCHEApril2018>

### **Directions to Hotel:**

Conveniently located off of the Balmoral exit from I294 head towards Milwaukee.



### **Hotel shuttle to/from O'Hare Airport available (see below):**

#### **AIRPORT ARRIVAL**

Upon exiting your plane follow the overhead signs to the Bus/Shuttle Center. This will direct you through baggage claim. The Bus/Shuttle Center can be reached by foot, is centrally located between all 3 Terminals right across from the Airport Hilton Hotel (see map below). Once you reach the Bus/Shuttle center keep an eye out for the large white van or bus with a blue aloft logo outside Door #3. To check on the status of the shuttle call 847-671-4444 and press ZERO for the front desk.

#### **HOTEL DEPARTURE**

The complimentary aloft airport shuttle automatically departs the hotel on the hour and half-hour between the hours of 5:00AM- 12:00 midnight to the Domestic Terminals. For complimentary transportation outside of this time frame and for international arrivals, please call (847) 671-4444 ext. 0.

#### **SELF PARKING (surcharge):**

Parking validation available at the Big Ten Conference Center for \$7.50 per day with **no in/out privileges**

Parking validation available the Aloft Hotel for \$15.00 per day **with in/out privileges**

# ACKNOWLEDGEMENTS

*Our sincere gratitude to the following organizations for your valuable contributions to our 2018 REMEDI Pump Collaborative Conference*

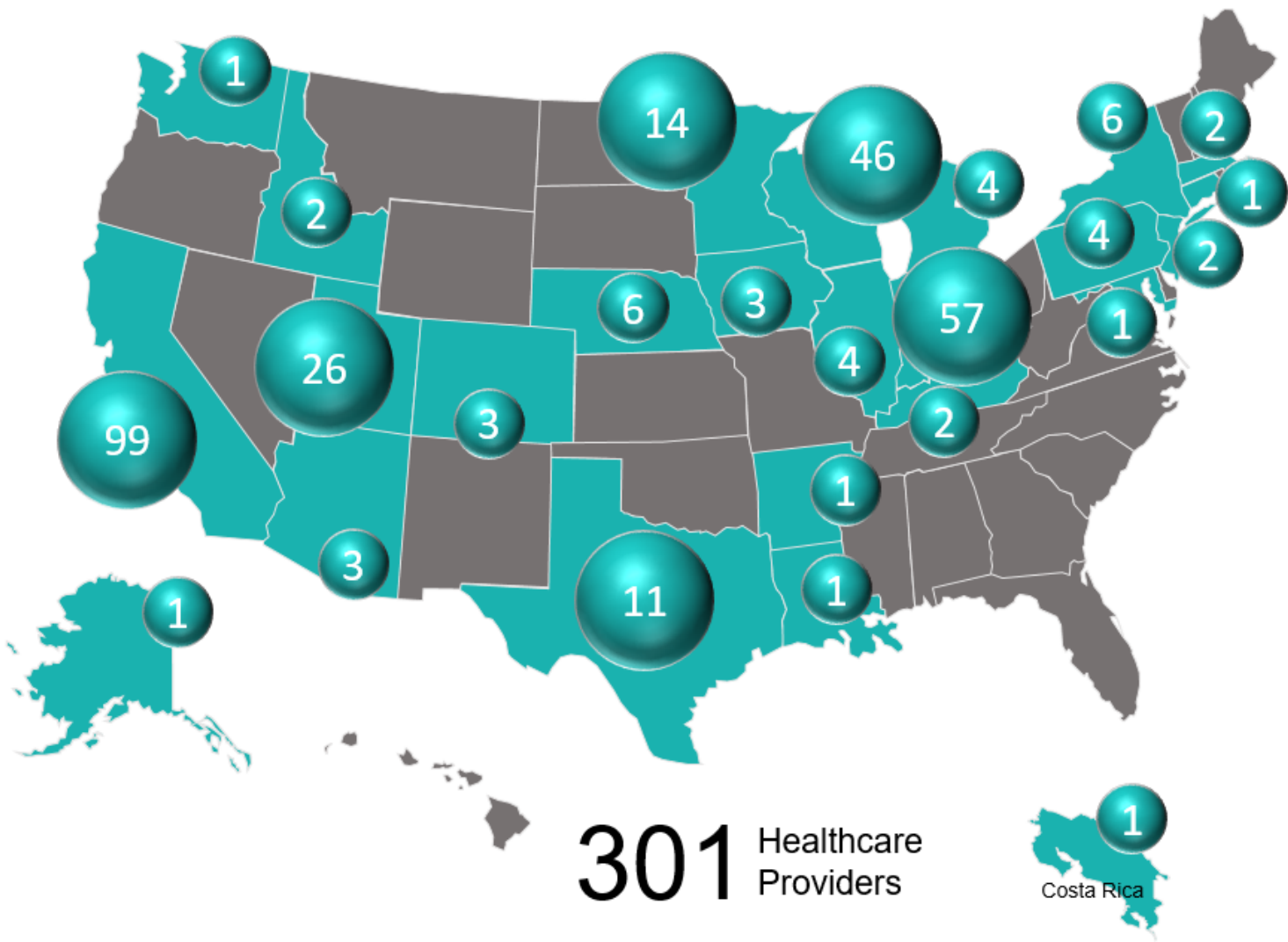
## Guest Speakers



## REMEDI Hospital Speakers



REMEDI Member Hospitals



# ACKNOWLEDGEMENTS

## Vendors



## Steering Committee



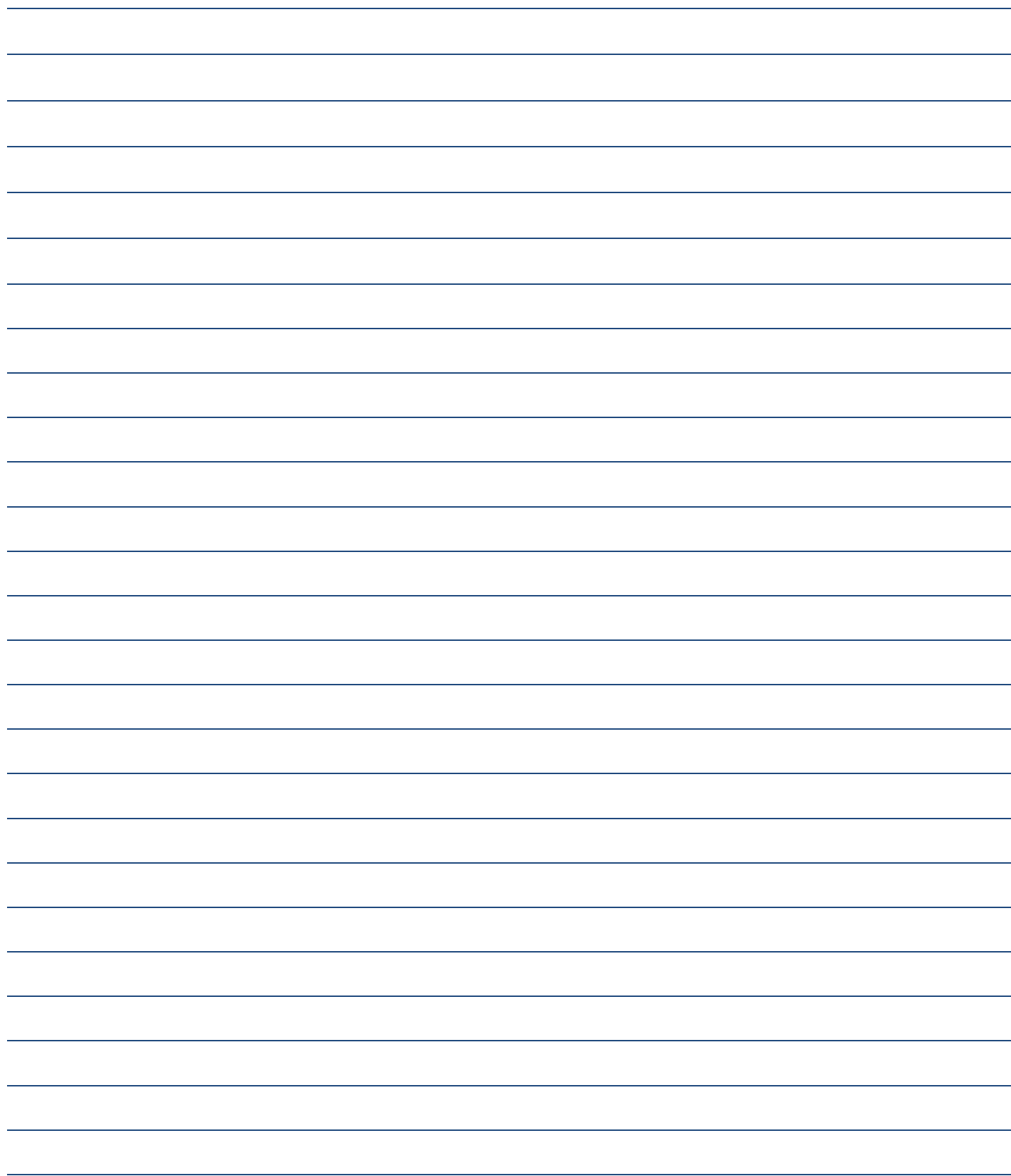
## Purdue and the Big Ten Conference Center



**Regenstrief Center**  
for **Healthcare Engineering**

## NOTES

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*Thank you for attending the 2018 REMEDI Pump Collaborative Conference*



REMED*i*

