Surgery Research Conference

2018-2019 Research Residents
&
Introduction to RED Cap

September 12th, 2018

ACCME Accreditation Statement: The Medical College of Wisconsin is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. AMA Credit Designation Statement: The Medical College of Wisconsin designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit™. Physicians should claim only the credit commensurate with the extent of their participation in the activity. Hours of Participation for Allied Health Care Professionals: The Medical College of Wisconsin designates this activity for up to 1.0 hours of participation for continuing education for allied health professionals.
Research Highlights
Congratulations, Dr. Pritchard!

Kirkwood A. Pritchard, PhD
Pediatric Surgery

NIH Neurological Disorders and Stroke R21

*Trifunctional Peptides for Targeting the Ischemic Cascade*
Congratulations 2018 We Care Fund Grant Recipients!

David L. Joyce, MD
Cardiothoracic Surgery
Percutaneous Distal Embolic Protection (PDEP) for LVAD Thrombolysis

Tammy Lyn Kindel MD, PhD
General Surgery
The effect of bariatric surgery and antibiotics on the gut microbiome and hypertension

Tina W. F. Yen, MD, MS
Surgical Oncology
A Multimodal Scanning Microscope for Intraoperative Assessment of Tumor Margins During Breast Conserving Surgery
SAVE THE DATE!

2018 Fall Research Symposium

The Fall Research Symposium will consist of research presentations, done in quick shot format, with special emphasis on projects completed during the summer in preparation for regional or national presentations.

Date: THIS Friday, September 14th
Time: 12:00-4:00pm
Location: Helfaer Auditorium
# 2018 Fall Research Symposium

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
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</thead>
<tbody>
<tr>
<td>12:30-1:30 PM</td>
<td>Quick Shot Presentations (MIGS/Pediatrics)</td>
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<tr>
<td><strong>Session 1</strong></td>
<td>• Sarah Suh</td>
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<td></td>
<td>• Daniel Roadman</td>
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<tr>
<td></td>
<td>• Brexton Turner</td>
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<td></td>
<td>• Emily Horecki</td>
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<td>• Joshua Jackson</td>
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<td>• Bridget Mais</td>
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<td>• Tyler Dalton</td>
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<td>• Hailey Hayes</td>
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<tr>
<td>1:30-1:45 PM</td>
<td><strong>Break</strong></td>
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<tr>
<td>1:45-2:45 PM</td>
<td>Quick Shot Presentations (Trauma/Surgical Oncology)</td>
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<tr>
<td><strong>Session 2</strong></td>
<td>• Savo Bou Zein Eddine</td>
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<td>• Ryan DeAngelis</td>
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<td>• Timothy Geier</td>
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<td>• Ronald Schocke</td>
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<td>• Christopher Coon</td>
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<td>• Julia Frebault</td>
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<td>• Kayla O'Sullivan</td>
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<td>• Andrew Stein</td>
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<tr>
<td>2:45-3:00 PM</td>
<td><strong>Break</strong></td>
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<tr>
<td>3:00-4:00 PM</td>
<td>Quick Shot Presentations (Colorectal/Cardiothoracic)</td>
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<tr>
<td><strong>Session 3</strong></td>
<td>• Kat Hu, MD</td>
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<td>• Derek Kent</td>
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<td></td>
<td>• Matt Simpson</td>
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<td></td>
<td>• Bernice Badu</td>
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<td>• Michael Cain, MD</td>
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<td>• Courtney Goulet</td>
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<td>• Bryan Miles</td>
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<td>• Nathan Smith</td>
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MCW Office of Research presents:

SAVE THE DATE!
Research Day

Date: Monday, September 24th
Keynote Address: 12:00-1:00pm, MCW Alumni Center
Poster Session: 1:00-3:00pm, HUB Gallery, 1st Floor

Joseph Takahashi, PhD
Investigator
Howard Hughes Medical Institute
Loyd B. Sands Distinguished Chair in Neuroscience
The University of Texas Southwestern Medical Center
Surgical Oncology
“A Phase II Clinical Trial of Molecular Profiled Neoadjuvant Therapy for Localized Pancreatic Ductal Adenocarcinoma.”
*Annals of Vascular Surgery*
(Tsai S, Christians KK, George B, Ritch PS, Dua K, Khan A, Mackinnon AC, Tolat P, Ahmad SA, Hall WA, Erickson BA, Evans DB)

Trauma and Acute Critical Care
“Analysis of Academic Medical Center Graduate Medical Education Websites for Policies Regarding Restrictive Covenants in Non-ACGME Fellowships.”
*Journal of Surgical Education*
(Juern JS, Stahl DM, Weigelt JA)

Cardiothoracic Surgery
“Cow neck veins and endocarditis: A mooo...ving mystery.”
*Journal of Thoracic & Cardiovascular Surgery*
(RK Woods)

“Lysophosphatidic acid acts on LPA1 receptor to increase H2 O2 during flow-induced dilation in human adipose arterioles.”
*British Journal of Pharmacology*
(Chabowski DS, Kadlec AO, Ait-Aissa K, Hockenberry JC, Pearson PJ, Beyer AM, Guterman DD)

Research
“Co-occurrence of a maternally inherited DNMT3A duplication and a paternally inherited pathogenic variant in EZH2 in a child with growth retardation and severe short stature: atypical Weaver syndrome or evidence of a DNMT3A dosage effect?”
*Cold Spring Harbor Molecular Case Studies*

“Plasma Proteolytic Cascade Activation during Neonatal Cardiopulmonary Bypass Surgery.”
*Thrombosis & Haemostasis*
(Maroney SA, Peterson JA, Zwifelhofer W, Martinez ND, Yan K, Bercovitz RS, Woods RK, Mast AE)
“The Word on Medicine: where Knowledge is changing life”

Inflammatory Bowel Disease

September 22nd at 4:00pm

A discussion with medical experts and patients on the diagnosis and treatment of Crohn’s Disease and Ulcerative Colitis
Next Month:

Research Residents and Dr. Gamblin’s We Care Award

2018-2019 Research Residents

Ashley Krepline, MD
Surgical Oncology

Katherine Hu, MD
Colorectal Surgery

We Care Award
Pre-clinical Efficacy Of Combined Therapy With Novel Mitochondrial Targeted And Glycolysis Inhibitor In Hepatocellular Carcinoma

T. Clark Gamblin, MD
Surgical Oncology

October 10th, 2018
Conference Room M
5:00-6:00pm
Research Residents and Intro to REDCap

2018-2019 Research Resident Introductions
Erin Strong, MD (Surgical Oncology) &
Christina Bence, MD (Pediatric Surgery)

September 12th, 2018
Conference Room M
5:00-6:00pm

Presenting:

Mark Oium
REDCap Systems Manager
CHRISTINA (NINA) BENCE

Research Resident, Division of Pediatric Surgery (2018-2020)

PI: Amy Wagner, MD
Amy Wagner, MD

- Associate Professor of Pediatric Surgery
- Former co-director of the CHW Fetal Concerns Center

Training
- Medical School at MCW
- Residency at Virginia Mason Medical Center (Seattle, WA)
- Research Fellowship at UCSF
- Pediatric Surgery Fellowship at MCW

Research interests: fetal and neonatal outcomes (specifically MMC, abdominal wall defects, malrotation)
My Research Interests

- Outcomes in pediatric surgery and trauma – guiding practice patterns
- Fetal diagnoses and surgical management
- Involvement in the Midwest Pediatric Surgery Consortium
- Public health – gun violence prevention
Projects in Process

- “Parental stress and resilience in prenatal diagnosis of fetal anomalies”
  
  (PIs: Amy Wagner, MD and Terri deRoon-Cassini, PhD)
  
  - Study Design: pilot, survey-based, prospective longitudinal cohort study

- “A tiered approach to optimize outcomes associated with pediatric appendectomy”
  
  (PI: John Densmore, MD)
  
  - Study Design: retrospective chart review, cost modeling

- Multi-institutional retrospective reviews of outcomes associated with gastroschisis

- Retrospective review of outcomes after gross total resection in high-risk neuroblastoma
knowledge changing life

RESIDENT RESEARCH REVIEW
Career Advancement & Leadership Development in Academic Surgery

Surgery Research Conference
Presenter: Erin A. Strong, MD, MBA, MPH
Primary Mentor: Dr. T. Clark Gamblin, Division of Surgical Oncology
September 12, 2018
Qualitative Research in Surgery

Figure 1.3 The Research Process and Degree of Structure

Broad and General Questioning
- Improves inquiry validity

Focused Systematic Questioning
- Facilitates data comparison and portability

Methods
- Unstructured
  - interviews
  - participant
  - observation
- Semi-structured
  - interviews
  - focus groups
  - participant
  - observation
- Systematic elicitation (qualitative)

Structured
- surveys
- observation

Fig 3. Qualitative surgical research publishing trends of most common surgical specialties vs all other specialties (N = 876). (Color version of figure is available online.)

Surgery 2016;160(6):1447-1455
SBAS URM Faculty Project

Background
- URM may encounter unique barriers and challenges in academic career advancement.

Objective
- “To explore experience of career advancement for URM academic surgeons and alternative career paths”

Design
- Grounded theory approach, semi-structured interviews, purposive sampling
- CV Analysis

Participants
- N=~30, ACS-defined general surgeons. Academics (AAS, SUS, ASA members) and Non-Academics.

Approach
- SBAS Position Statement
Leadership Development in Academic Surgery

Success in Academic Surgery
Series Editors: Lillian Kao - Herbert Chen

Leadership in Surgery

Learn. Lead. Succeed.
Register today at ASTS.org/UDP

AAS Aspiring Leaders Development Program
Nationwide program to engage high-potential academic surgeons

Requirements:
- 3 to 8 years of first surgical faculty appointment
- Commitment to academic surgery
- Emerging leadership roles

Apply at www.aaas.org/asciders/program/

Women in Surgery Leadership Development Conference
“Leading From Your Best Self”

Graduate Hotel
Ann Arbor, Michigan
November 30 – December 1, 2018
Hosted by the Michigan Women’s Surgical Collaborative (MWSC)

Follow Us on Twitter @MichiganWSC
Evaluating LDPs in Academic Surgery

**Problem or Issue**
How do we effectively train academic surgeons for leadership positions?

**Community Needs/Assets**
What specific training elements are currently available and needed in the field?

**Desired Results (outputs, outcomes, and impact)**
What are the best metrics for leadership development?
- Knowledge
- Skills
- Confidence
- Inspiration
- Network
- Influence

**Influential Factors**
What elements are effective?
- Lectures
- Projects
- Coaching
- Mentoring
- 360 Evals
- Guided Reflection

**Strategies**
Timing & Continuum
Internal v. External
Program Follow-Up

**Assumptions**
Lectures are sufficient for knowledge/skills?
LDPs translate into ROI

**Timing & Continuum**
Internal v. External
Program Follow-Up
QUESTIONS?
A Brief Overview of Functionality and Benefits

Mark Oium
CTSI of Southeast Wisconsin
What is REDCap?

REDCap is a secure web application for building and managing online surveys and databases. While REDCap can be used to collect virtually any type of data, it is specifically geared to support online or offline data capture for research studies and operations. The REDCap Consortium, a vast support network of collaborators, is composed of thousands of active institutional partners in over 100 countries who utilize and support REDCap in various ways.
### REDCap Numbers

**Globally**
- Institutions: 3,055
- Countries: 127
- Projects: 581,000 +
- Users: 785,000 +
- Articles: 5,785

**Locally (CTSI instance of REDCap)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
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<tbody>
<tr>
<td>Total Projects</td>
<td>880</td>
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<tr>
<td>Research</td>
<td>545</td>
</tr>
<tr>
<td>Operational Support</td>
<td>265</td>
</tr>
<tr>
<td>Quality Improvement</td>
<td>56</td>
</tr>
<tr>
<td>Other</td>
<td>13</td>
</tr>
<tr>
<td>Projects w/ Surveys</td>
<td>445</td>
</tr>
<tr>
<td>Total User Accounts</td>
<td>2,465</td>
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<tr>
<td>Active Users</td>
<td>1,779</td>
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</tbody>
</table>
Benefits of Using REDCap

Secure and Web-based
- Secure authentication
- Can be accessed locally
- Or from Perth, Australia

Autonomous Utilization
- PIs and project leads have complete autonomy and control over who can access and type of access

Complete Audit Trails
- For tracking data manipulation and user activity
Project Types in REDCap

- Research projects
  - Cross-sectional
  - Longitudinal
  - Multi-arm
- Research and Clinical Registries
- Administrative
  - Seed Grant Management
  - Service Requests
  - Time Off Requests
  - Invoicing System

<table>
<thead>
<tr>
<th>Data Collection Instrument</th>
<th>Intake (1)</th>
<th>Baseline (2)</th>
<th>Week 1 (3)</th>
<th>Week 2 (4)</th>
</tr>
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<tbody>
<tr>
<td>Consent (survey)</td>
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<tr>
<td>Intake Form (survey)</td>
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<tr>
<td>PCL5, VIA, SAS, DRR12 (survey)</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
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<tr>
<td>Weekly (survey)</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
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<tr>
<td>Heroism Exposure Inventory (survey)</td>
<td>✓</td>
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<tr>
<td>Audit (survey)</td>
<td>✓</td>
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<td></td>
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<tr>
<td>Smoking Cessation Survey (survey)</td>
<td>✓</td>
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Functionalities of REDCap

Oh, where to start?

• Fully customizable projects
• Online or offline project design
  • Online Designer
  • Data Dictionary (Excel)
• Multi-site access
• Complete data logging
• Data export (Excel, SAS, SPSS, Stata, R)
• Data import (import existing data from Excel, MS Access, other sources)
Functionalities of REDCap

- Ad hoc reporting (create/download custom reports)
- Scheduling (organize appts. In longitudinal projects)
- Data Access Groups (data shielded between groups)
- Data Validation (integer, dates, email, phone, etc.)
- Branching logic (show fields if criteria met)
- Calculated fields (avg’s, means, BMI, form scoring, etc.)
- Language support (Spanish, French, Japanese, and more)
- File uploads (either project or record-related)
Functionalities of REDCap

- REDCap Shared Library (PROMIS, QOL, many more)
- Double data entry
- File repository
- Record locking
- Field comment log
- Text-to-speech in surveys
- Automated Survey Invitations
- Save and return to survey
Functionalities of REDCap

Advanced Features

- **API** (application programming interface)
- **Plugins** (custom code to access any REDCap data)
- **Hooks** (custom code to customize or enhance an existing page in REDCap)
- **DDP** (Dynamic Data Pull from CRDW based on MRN)
- **Twilio** (survey data via voice or SMS text messages)
- **REDCap Mobile App** (collect data with no cell or internet service)
- **Piping data** (inject previously collected data into text on a data collection form or survey)
Upcoming Features

- EHR interoperability and integration
- External Modules functionality
- "Calculations" from "calc" fields resulting in text or dates
How to get started with REDCap

1. Become a CTSI member (ctsi.mcw.edu/about/join-ctsi/)
2. Fill out REDCap Request form https://is.gd/ctsiiredcaprequest
3. Meet w/ me to discuss project details, cost-sharing structure

Fees

One-time $300 startup fee
Hourly development rates: $60/hr research, $100/hr non-research
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