

**Peter S. Pang, MD MS
FAHA FACC FACEP**

Personal Information

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Education

2018 – 2019 Indiana University Kelley School of Business
Physician Leadership Course in Business Acumen

2013 Northwestern University Graduate School
Masters of Science in Clinical Investigation

2009 – 2010 Kellogg Graduate School of Management, Northwestern University
*Certificate course
Management Skills for Innovative University Leaders*

2000 University of Texas – San Antonio
Doctorate of Medicine

1996 Harvard Extension School
Post-Baccalaureate Classes

1995 Brown University
Bachelor of Arts, Biology

Graduate Medical Education

2000 – 2004 *Harvard Affiliated Emergency Medicine Residency*
Brigham & Women's / Massachusetts General Hospital

2003 – 2004 *Chief Resident*
Harvard Affiliated Emergency Medicine Residency

Academic Appointments

2019 - *Professor of Emergency Medicine (tenure granted 2020)*
Professor of Medicine - Cardiology
Department of Emergency Medicine
Department of Medicine
Indiana University School of Medicine

2018 - 2019 *Associate Professor of Cardiology (tenure track)*
Secondary Appointment
Indiana University School of Medicine

2015 – *Affiliated Implementation Scientist*
Center for Health Innovation and Implementation Science
Indiana CTSI

2015 – *Affiliated Research Scientist*
Regenstrief Institute
Indiana University School of Medicine

2014 – 2019 *Associate Professor of Emergency Medicine (tenure track)*
Department of Emergency Medicine
Indiana University School of Medicine

2014 – 2017 *Indiana University Translational Sciences Fellow*
Clinical Translational Sciences Institute
Indiana University School of Medicine

2012 – 2014 *Member*
Institute for Public Health and Medicine
Center for Healthcare Studies
Center for Patient Centered Outcomes

2010 – 2014 *Associate Professor of Emergency Medicine*
Department of Emergency Medicine
Northwestern University Feinberg School of Medicine

2010 – 2014 *Associate Professor of Medicine | Cardiology*
Department of Medicine
Northwestern University Feinberg School of Medicine

2010 – *Assistant Professor of Medicine*
Division of Clinical Pharmacology
Department of Medicine
Duke University School of Medicine

2009 – 2014 *Faculty*
Center for Cardiovascular Innovation
Northwestern University Feinberg School of Medicine

2009 – 2010 *Assistant Professor of Medicine (secondary appointment)*
Northwestern University Feinberg School of Medicine

Division of Cardiology
Department of Medicine

2004 – 2010

Assistant Professor of Emergency Medicine
Northwestern University Feinberg School of Medicine
Department of Emergency Medicine

Hospital Appointments

July 2014 –	<i>Staff Physician</i> Methodist Hospital	Indianapolis, IN
July 2014 –	<i>Staff Physician</i> Eskenazi Hospital	Indianapolis, IN
2004 – 2014	<i>Staff Physician</i> Northwestern Memorial Hospital	Chicago, IL

Professional Appointments

Oct 2020 -	<i>Rolly McGrath Professor & Chair</i> Department of Emergency Medicine Indiana University School of Medicine	
Oct 2019 – Oct 2020	<i>Chair (Interim)</i> Department of Emergency Medicine Indiana University School of Medicine	
July 2019 – Oct 2019	<i>Vice Chair Operations & Clinical Strategy</i> Department of Emergency Medicine Indiana University School of Medicine	
Aug 2018 – Dec 2018	<i>Medical Director</i> Care Integration Eskenazi Health	
July 2018 – July 2019	<i>Vice Chair of Strategic Innovation</i> Department of Emergency Medicine Indiana University School of Medicine	
Aug 2016 – Aug 2018	<i>Chief Science Officer</i> Indianapolis EMS	
Sept 2016 – Feb 2018	<i>Director Clinical Research</i> Department of Emergency Medicine Indiana University School of Medicine	
July 2014 – 2016	<i>Associate Director of Clinical Research</i>	

Department of Emergency Medicine
Indiana University School of Medicine

2010 – 2014	<i>Associate Director – Experimental Therapeutics</i> Center for Cardiovascular Innovation Northwestern University Feinberg School of Medicine	Chicago, IL
2008 – 2014	<i>Associate Chief, Clinical Affairs</i> Department of Emergency Medicine Northwestern Memorial Hospital	Chicago, IL
2006 – 2008	<i>Associate Medical Director</i> Department of Emergency Medicine Northwestern Memorial Hospital	Chicago, IL
2006	<i>Interim Medical Director – Clinical Operations</i> Department of Emergency Medicine Northwestern Memorial Hospital	Chicago, IL
2006	<i>Assistant Director – Clinical Operations</i> Department of Emergency Medicine Northwestern Memorial Hospital	Chicago, IL

Board Certification and Medical Licensure

2013 –	Fellow, American Heart Association
2012 –	Fellow, American College of Cardiology
2008 - 2014	Fellow, American Academy of Emergency Medicine
2007 -	Fellow, American College of Emergency Physicians
2005 2015	Board Certified, Emergency Medicine Recertified, Emergency Medicine
2014 -	Indiana State Medical License
2004 – 2014	Illinois State Medical License (voluntary expiration)
2003 - 2005	Massachusetts State Medical License (voluntary expiration)

Professional Organizations

2014 –	European Society of Cardiology – Heart Failure Association <i>Member</i>
2013 –	American Heart Association

Fellow
Member (since 2009)

2012 – American College of Cardiology
Fellow

2010 – 2014 American Academy of Emergency Medicine
Fellow

2008 – Heart Failure Society of America
Member

2007 – 2008 American College of Physician Executives
Member

2003 – Society of Academic Emergency Medicine
Member

2001 – American College of Emergency Physicians
Fellow

Honors and Awards

Oct 2020 Women in Medicine
#HeforShe Award

Sept 2017 American Heart Association Research Leaders Academy
Invited Member

March 2017 2017 Trustees Teaching Award for the School of Medicine
Awarded by the IU Board of Trustees
Recognition of Outstanding Teaching

Sept 2016 *Honorary Member*
Romanian Society of Cardiology

Sept 2016 *'American Idol Award'*
American College of Cardiology: JACC | Heart Failure

- Awarded to the Associate Editor with the highest citation per refereed paper

June 2013 *Best Teaching Module – Cardiology*
Northwestern Emergency Medicine Residency

2013 *Top 50 Peer Reviewer for Annals of Emergency Medicine 2012*

2004 - 2005 *Best Teacher Award*
Northwestern Emergency Medicine Residency

Professional Development

- 2015 Academic Writing Workshop, George Gopen PhD
IUSM
- 2014 – 2015 EM JAMS
- Departmental faculty development course

TEACHING

Local

- 2017, 2018 R1 Year Directed on Early Career Planning Workshop
Indiana University Emergency Medicine Residency
- 2017 *Panel Member*
LAMP session on how to give a scientific presentation
Leadership in Academic Medicine Program
- 2016 - *Core Faculty Member*
IUSM
- 2015 *Faculty Member*
PGY-2 Year Directed Academic Track
- 2014 - Clinical Teaching
IUSM
- Bedside teaching to Residents, Medical Students, and Physician Assistants
- 2014 - Ad Hoc Lecturer & Faculty Member
IUSM Emergency Medicine Residency
- Lecture topics include Acute Heart Failure and Research
 - Participation in Journal Club, Year Directed Programs
 - Simulation Faculty
- 2015 - Lecturer, IUSM Emergency Medicine MS4 Student Clerkship (#93ZE690)
- Approach to chest pain (single time)
- 2008 *Instructor*
Communication Skills Course – Patient, Physician, & Society
Northwestern University Feinberg School of Medicine
Emergency Medicine Clerkship MS-I
- 2005 – 2014 *Core Faculty Member – EM Residency*
NUFSM
- 2006 – 2007 *Physical Diagnosis Co-Instructor*
Northwestern University MS-II Physical Diagnosis

2004 – 2014	<p>Clinical Teaching Northwestern University Feinberg School of Medicine</p> <ul style="list-style-type: none"> • Resident lecturer • Student lecturer – 2005 to 2008, was Core Lecturer for student clerkship
2006	<p><i>Lecturer</i> Northwestern Emergency Medicine Residency Off Service Rotator Lecture Series</p>
<i>National</i>	
2019	<p>Steering Committee Member <i>Clinical Biomarkers</i> Medscape CME</p>
Sept 2017	<p>Invited Faculty <i>AHF: Strategies to Reduce Readmissions</i> VuMedi Webinar</p>
August 2017	<p>Co-Faculty Director Joint ACEP/SHM National CME Program on Heart Failure</p>
2017	<p>Invited Faculty <i>Clinical Strategies to Reduce Interferences in Lab Testing</i> Medscape CME Program</p>
2016 -	<p>Invited & Lead Faculty <i>Utility of Biomarker Guided Therapy in Heart Failure (CME Course)</i> Medscape http://www.medscape.org/viewarticle/859203 By Dec 2016, over 30,000 learners, 17,129 test takers</p>
2013 -	<p><i>Course Director</i> The Heart Course Las Vegas, NV National CME Course teaching Cardiovascular Emergencies</p> <ul style="list-style-type: none"> • The course teaches approximately 100 participants every year, involving 5-7 faculty in Las Vegas, NV. Participants are primarily US based, though a handful of international attendees every year. The course lasts 3 days with pre and post-course workshops. In addition to Course Director responsibilities, I lecture on Acute Heart Failure, Device Emergencies, and Cardiogenic Shock

TEACHING ADMINISTRATION AND CURRICULUM DEVELOPMENT

Local

2010 - 2014	<p><i>Module Leader, Cardiovascular</i> Northwestern Emergency Medicine Residency</p>
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2009 *Module Leader, Communication*
Northwestern Emergency Medicine Residency

2007 *Module Leader, Administration*
Northwestern Emergency Medicine Residency

2006 - 2007 *Faculty Head & Course Developer, Patient Safety and High Risk Error Management*
Seminars in Professional Development
Northwestern Emergency Medicine Residency

2006 – 2008 *Faculty Advisor, Morbidity and Mortality Conference*
Northwestern Emergency Medicine Residency

2006 *Module Leader, Endocrine*
Northwestern Emergency Medicine Residency

2005 – 2007 *Faculty Advisor – Students*
Northwestern Feinberg School of Medicine
Core Emergency Medicine Clerkship

2005 *Co-Module Leader, Anesthesia*
Northwestern Emergency Medicine Residency

2005 *Co-Module Leader, Pediatrics*
Northwestern Emergency Medicine Residency

2004 – 2007 *Faculty Head, Core Administrative Rotation*
Northwestern Emergency Medicine Residency

2004 – 2006 *Faculty Head, Administrative College*
Northwestern Emergency Medicine Residency

2004 – 2006 *Conference Director, Morbidity and Mortality Conference*
Northwestern Emergency Medicine Residency

2003 – 2004 *Co-Chair, Co-Founder, Harvard EM Research Interest Group*
Harvard Affiliated Emergency Medicine Residency

National

2017 *Abstract Session Builder*
American Heart Association Scientific Sessions – Anaheim, CA
Build an abstract session around a consistent scientific theme
Clinical Trial Design and Research Methodology

2017-2018 *Steering Committee Member*
2020-2021 Clinical Advances in Biomarkers and Testing
Medscape Cardiology

RESEARCH

ACTIVE GRANTS

R01 (Pang) 1R01HS025411 9/1/17 – 11/30/21
 Agency for Healthcare Research and Quality Directs: \$1,134,614
 Using Short Stay Units (SSU) Instead of Routine Admission to Improve Patient Centered Health Outcomes for Acute Heart Failure (AHF) Patients.
 Major Goals: The majority of the over one million annual AHF hospitalizations originate from the emergency department. Admitting and re-admitting lower risk AHF patients who don't need prolonged hospitalization may increase their risk for poor outcomes and decrease their quality of life: Safe alternatives to hospitalization from the ED are needed. We propose a strategy-of-care, short stay unit management of AHF (i.e. less than 24 hours), will lead to improved outcomes for lower risk AHF patients.
 Role: PI (1.8 cal mo)

COMPLETED GRANTS

R34 (PI: Pang) 1R34HL136986-01 04/17/2017 – 04/01/19
 NHLBI Directs: \$450,000
 B-lines Lung Ultrasound Guided ED Management of Acute Heart Failure (BLUSHED-AHF)
 Congestion is the primary reason why over one million Americans are hospitalized for acute heart failure (AHF) every year: Within 30 days, over 25% are dead or are re-hospitalized. These patients initially present to emergency departments (ED), yet they are treated with essentially the same medications as 40 years ago. We propose a new approach to ED AHF management: a strategy-of-care – lung ultrasound guided, protocol driven care – will lead to improved outcomes.
 Role: PI (1.2 cal mo)

Innovation Grant (PI: Pang) 01/01/17 – 12/31/19
 American Heart Association 17IRG33411129 Directs: \$147,542
 Lung Ultrasound Driven Strategy-of-Care to Treat Pulmonary Congestion in Patients with AHF
 1: To determine whether a nitrate intense strategy safely reduces congestion, defined by LUS B-lines, better than a diuretic intense strategy.
 2. To demonstrate feasibility of recruitment and compliance with study protocol to inform future study design and enrollment projections, an external site will also test our study protocol.
 Role: PI (0.12 cal mo)

STANDUP Trial EMROC 05/01/17 – 04/30/19
 Investigator initiated support for ongoing trial network. \$ (total project period)
 Bristol Myers Squibb
 HFSA/EMF Grant (PI: Greene) 9/1/17 – 8/31/18
 Dr. Greene's proposal aims to better understand the symptom of dyspnea in AHF.
 Role: Senior Mentor

HFSA/EMF Grant (PI: Pare) 9/1/16 – 8/31/17

Dr. Pare's proposal aims to determine the value of US in measuring congestion in AHF. Specifically, he will explore corrected flow time to detect changes in cardiac preload and pulmonary artery occlusion pressure.

Role: Senior Mentor

REPORT-HF (Pang) 6/11/15 – 7/31/21 0.12 calendar
\$615,968 (total project period)

Major Goals: This registry is a global, multinational, prospective, non-interventional, disease registry with longitudinal data collection. The registry is planning to include a large sample of HF patients with broad geographical inclusion to provide a comprehensive assessment of the therapy patterns and related outcomes, as well as the use of healthcare resources. Recruitment is expected to last for three years, and the last patient recruited will be follow-up for three years.

Role: Site PI

GWTG-ED (Collins) FC14-1409-21656 10/1/15 – 9/30/16 1.2 calendar
Vanderbilt University/PCORI \$42,387 (Subaward Only)

GWTG Interventions to Reduce Disparities in AHF Patients Discharged from the ED (GWTG:ED)

Major Goals: Test whether a novel transitional program for discharged ED AHF patients results in better outcomes. Specifically, lead trial operations at Eskenazi and Methodist Hospitals participating in study. Will actively screen and enroll AHF patients.

Role: Site PI

Wayne State University/Edwards Lifesciences Llc. \$78,740 (Subaward Only)

Acute Heart Failure. Non-Invasive Hemodynamics of Acute Heart Failure in the Emergency Department Utilizing ClearSight System

Collecting ED data Collecting ED data about patients with AHF supports the development of new diagnostic, therapeutic and disposition decision making pathways. Further, hemodynamic exploration may lead to safe, innovative, and effective new diagnostics to address healthcare needs, improve medical care, and promote and improve public health. The objective of this study is to establish a prospective hemodynamic registry of patients who present with signs and symptoms of AHF and are diagnosed as such in the Emergency Department.

Role: Site PI (Phil Levy MD – PI)

K12 (Kline) 7/1/16 – 6/30/21 0.0 Calendar
National Institutes of Health \$45,430

The Indiana EMergency Care REsearch (Indiana EMCARE) training program at Indiana University School of Medicine (IUSM)

Major Goals: To address the critical need for researchers who can design and execute investigator-initiated clinical trials in the emergency care setting, the Indiana EMCARE interdisciplinary program will recruit and train scholars to have the basis to become independent, R01-funded clinical trials. Four scholars will be selected to create knowledge in the cardiovascular, psychiatry and nursing sciences, and to represent the demographic of the United States. At minimum, these scholars will produce one research paper, obtain a Master of Science in Clinical Research, and write a draft of a research training grant.

Role: Mentor

Christine Haedtke – TransK12 NINR – EM Mentor

Investigator Initiated Study - TACIT 9/24/15 – 1/31/17 0.12 calendar
Roche Diagnostics \$491,711 (total project period)

High Sensitivity cTnT Rules Out Acute Cardiac Insufficiency Trial

Major Goals: To test the hypothesis that serial (baseline and 3 hours) hsTroponinT levels below the 99%ile, when combined with low, age specific NT-proBNP levels, will identify patients at low risk for adverse outcomes. In addition, we will test the validity of the STRATIFY decision rule, a risk score developed from a colleague's K23 award.

Role: PI

Pipeline to Proposal Award (Nault-Connors PI) 10/1/2017 – 9/30/2018

PCORI

This contract will develop the necessary framework for a future research proposal aimed to ensure patient centered outcomes in community paramedicine research.

Role: Mentor

SRI (Wilkes) 7/1/14 – 6/30/17 7.53 calendar

IU Health

\$180,000

Strategic Research Initiative (SRI) IUH and Indiana University School of Medicine

Major Goals: As an Indiana University Translational Science Fellow, Dr. Pang will focus his research on any “clinical enterprise-relevant translational project” approved by the CTSI Advisory Board.

Role: Translational Fellow

James Januzzi MD (PI) 12/1/15 – 5/31/18 0.12 Calendar

Roche Diagnostics Operations

\$52,284

The ICON-RELOADED Study: International Collaborative of NT-proBNP Re-evaluation of Acute Diagnostic Cut-Offs in the Emergency Department

Major Goals: The primary objective for this study is to externally validate the use of Elecsys proBNP II concentrations to aid in the diagnosis of ADHF in patients presenting emergently with acute dyspnea, through use of the International Collaborative of NT pro-BNP (ICON) cut-point strategy.

Role: Site PI

RLX030A2301/Task Order 1 EMROC (Pang) 7/1/14 – 6/30/17 0.12 calendar

Investigator Initiated - Novartis Pharmaceuticals Corporation

\$921,996 (total project period)

A multicenter, randomized, double-blind, placebo-controlled phase III study to evaluate the efficacy, safety and tolerability of Serelaxin when added to standard therapy in acute heart failure patients.

Major Goals: The Hub Managers, under the direction of Dr. Pang, will manage and oversee enrollment at a total of ten independent clinical trial sites, which will participate in the clinical study.

Role: PI

Clinical Study – Cardioxyl, Inc 2014-2015

Novel utilization of 6-minute walk test in acute heart failure, an observational study.

\$8,918 (total project period)

Investigator Initiated Grant

2012-2014

PI: David Cella PhD

\$~200,000

Development of Patient Reported Outcomes in AHF

Role: Co-Investigator

KL2 TR000107-05

LLOYD-JONES, DONALD M (PI)

05/19/08-04/30/14

Multidisciplinary Clinical and Translational Science (MCTS) Program (KL2)

Investigator Initiated Study – Abbott Laboratories <i>Hypoperfusion in Acute Heart Failure Syndromes: A Pilot Study</i> \$23,920 total project period	2010-2013
Clinical Trial – Bayer HealthCare Pharmaceuticals A Placebo Controlled, Randomized, Double-Blind, Fixed-dose, Multicenter, Phase IIb Study to Investigate the Efficacy and Tolerability of BAY 58-2667 (50 ug/h, 100ug/h, 150 ug/h) Given Intravenously to Subjects with Acute Decompensated Chronic Congestive Heart Failure (ADHF) within 12 hours after hospital admission (Pulmonary Artery Catheter eg, Swan-Ganz not required) \$160,212 (total project period)	05/21/2010 – 05/21/2013
Clinical Trial – Corthera Inc A Phase II/III, Multicenter, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy and Safety of Relaxin in Subjects with Acute Heart Failure \$161,778 (total project period)	10/12/09 – 10/11/12
Philanthropic Grant for AHF Role: PI	2011-2013 \$16,000
Investigator Initiated Study – Merck <i>Early Injury in Acute Heart Failure: A Biomarker Study</i> Role: PI	2009-2011 \$54,726 total project period
Clinical Trial – Nile Therapeutics A MultiCenter, Single-Blind, Placebo Controlled Phase 2 Study Assessing the Safety and Efficacy of Intravenous CD-NP in the Treatment of Patients with Acute Decompensated Heart Failure \$82,272 (total project period)	07/23/2009 – 07/23/2012
Philanthropic Grant Advancing Emergency Care Delivery <ul style="list-style-type: none"> • \$1,000,000 for novel applications of information technology, development of highly reliable systems, and creation of innovative methods for rapid uptake of evidence-based therapies James G Adams, MD – PI Role: Co-Investigator	2009 -2010
Philanthropic Grant for AHF Research Role: PI	2008-2009 \$15,000
Philanthropic Grant for ED Communication and Built Environment Davee Innovations Role: Administrative Director	2006-2009 \$1,000,000
Clinical Study – PDLBioPharma Inc URGENT-Survey: A Prospective, Observational, Non-Interventional Study of Patients who Present with Acute Heart Failure Syndromes \$27,000 (total project period)	11/08/2006 – 01/01/2008
Eleanor Wood-Prince Grants Initiative A Project of the Women's Board of Northwestern Memorial Hospital Designing an Emergency Care Process for the Older Patient	2006-2007 \$25,000

Role: PI

Augusta Webster Fellowship in Education 2005-2008
\$75,000 over 3 years
Curriculum Re-Design Focused on Systems Based Practice to Improve Patient Safety and Quality
Role: PI

Philanthropic Grant: Improving ED Operations 2004-2006
Davee Foundation \$1,000,000
Role: Project Member

PENDING

1U54 (Anantha Shekhar MD) 5/1/18 – 4/30/23
National Institutes of Health \$5,734,083
Indiana Clinical and Translational Sciences Institute
Major Goals: The Indiana CTSI 3.0 will not only expand translational research across the state, but also address some of the major community health issues faced by Indiana, and the nation. We will find novel approaches to integrating ‘precision medicine’ and ‘population health’, embrace the vision to train a new breed of research workforce skilled in team science and community engagement, and both deepen and expand the integration of research in our health systems.
Role: Other Significant Contributor

SUBMITTED, Not Funded

R01 (Pang) 06/2018 – 05/2022
AHRQ
Mobile Integrated Health to Improve Outcomes After Hospitalization for Acute Heart Failure (MIH-AHF)
Hospitalization and re-hospitalization for HF predominantly affects patients of lower socioeconomic status (SES). These patients suffer not only from unequal health outcomes, but also from disparities in guideline adherence. We propose a novel strategy of health care delivery – Community Paramedicine or Mobile Integrated Health – where visiting lower SES HF patients in their homes after discharge will lead to more days alive and out of the hospital and improved quality of life resulting in lower costs to the healthcare system

R01 (Pang) 09/01/2017 – 02/28/2022
NHLBI Directs: \$1,548,729
Community Paramedicine to Improve Heart Failure Guideline Adherence
Score: Not discussed

R01 (PI: Smithline) 04/01/17- 3/31/22 0.3 cal
Does Change in Dyspnea Severity Predict Clinically Important Outcomes in Patients Presenting to the Emergency Department with Acute Heart Failure?
Role: Co-I and Steering Committee Member

HFSA/EMF Grant 9/1/16 – 8/31/17 0.2 cal
“Route of Hospital Admission for Heart Failure and the Association with Worsening Heart Failure and Outcomes”
Major Goal: to determine whether the route of admission – ED vs. direct admission – is associated with 30 day outcomes.
Lauren Cooper MD at Duke University is the PI. I will serve as the senior EM mentor

R01-A1 (Storrow) 4/1/16 – 3/31/20 1.2 Cal

Vanderbilt/NIH-NHLBI \$68,514 (Subaward only)
 The CHEST PAIN Trial: Comparative Health Effectiveness of Strategic Testing Pain Assessment of Ischemia Noninvasively
 Major Goals: Our study has the potential to drive a paradigm shift in the current ED management of low-risk chest pain patients from one of the most expensive health care settings (in-hospital) to a markedly less expensive setting (outpatient), resulting in potentially significant cost savings. A safe shift to outpatient evaluation may also yield improvements in patient satisfaction stemming from shorter ED length of stay for patients with low-risk chest pain. The CHEST PAIN trial will help focus ED resources on the acutely ill and will represent a step towards overcoming the larger public health challenge of ED and inpatient crowding.
 Role: Site PI

R01 (Pang)	7/1/16 – 12/31/19	2.4 Cal
National Institutes of Health	\$624,152	

Use of Lung Ultrasound to Assess Pulmonary Congestion in Patients Hospitalized for Acute Heart Failure: The BLUSH Study (B-lines Lung Ultrasound in Acute Heart Failure)
 Major Goals: In this proposal, we will test whether a safe, easily learned method to assess pulmonary congestion, lung ultrasound B-lines, are associated with 30-day re-hospitalization and mortality.
 Role: PI

(Pang)	9/1/16 – 8/31/19	2.4 Cal
PCORI	\$587,415	

Using Goal-Directed Observation Units Instead of Routine Admission to Improve Health Outcomes for Acute Heart Failure Patients
 Major Goals: Test the clinical effectiveness of a goal directed observation unit strategy for acute heart failure versus usual care.
 Role: PI
 Score: 40, Quartile 3

R34	04/01/2015 – 03/31/2018
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NHLBI
 Early Aldosterone Blockade in Acute Heart Failure: An Exploratory Safety Study
 Score: 19, administratively withdrawn due to competing study run through HF Network

Research – Clinical Trials

2020	<i>Site PI</i> Beckman Coulter – hsTnT diagnostic threshold trial
2018	<i>Site Co-I</i> Momentum Trial (Partnership with Pathology)
2018	<i>Site Co-I</i> Abbott Alinity Troponin I (Partnership with Pathology)
2018	<i>Site PI</i> OrthoDiagnostics NTproBNP Diagnostic Study in AHF
2018	<i>Sub-Investigator</i>

MEMOIR-HF Trial
Cognitive Intervention to Improve Memory in Heart Failure Patients

- 2017 - *Member, Data Safety Monitoring Board*
STRONG-HF
STRatifying therapies based On NT-proBNP and GDF-15 in Heart Failure
Investigator Initiated Award – Europe
PI: Alex Mebazaa
- 2016 - *Member, Publication Committee*
ICON-RELOADED National Trial
Phase III Biomarker Study of NTproBNP
Sponsor: Roche Diagnostics
- 2016 - *Site PI*
STANDUP AHF Trial
- 2016 – *US National Leader & Steering Committee Member*
STANDUP AHF Trial
Phase IIB study of a Novel Nitroxyl Donor
Sponsor: Bristol Myers Squibb
- 2015 – 2017 *Site - PI*
ICON-RELOADED
Phase IIIB study of NT-proBNP in AHF
Sponsor: Roche Diagnostics
- 2015 – 2017 *Sub-Investigator*
RELAX-AHF 2 Trial
Site PI: Mitchell
Phase III study of Serelaxin in AHF
Sponsor: Novartis
- 2015 –2016 *Sub-Investigator*
TACTICS-AHF Trial
Site PI: Finet
Multinational Investigator Initiated Trial at DCRI investigating Tolvaptan in AHF
Sponsor: Otsuka
- 2015 – 2016 *Sub Investigator*
Specimen Collection in the Emergency Department for The Assessment of
Clinical Performance of Troponin Assays
Site PI: Kovacs
Sponsor: Siemens
- 2014 – *Site PI*
EMROC – AHF Registry
- 2014 – 2016 *Co-Chair –Steering Cmte*

Cardioxyl Phase II (ED focused) study

2014 – 2015	<i>Chair – DSMB (study halted)</i> Insys Medical
2014 – 2015	<i>Adjudication Committee Member (study halted)</i> FLOOD Study Intersection Medical
2013 – 2018	<i>Executive Committee Member</i> RELAX-AHF-2 Program Novartis
2013 – 2015	<i>Steering Committee Member</i> IMPACT-AHF Trial (study on hold, started in Europe) ThermoFisher
2012 –	<i>Steering Committee and Advisory Board Member</i> scPharmaceuticals (pivotal trial on hold)
2012 – 2013	<i>Co-PI</i> REGAL-3 (study terminated prior to launch) PI: Alan Maisel MD
2011 –	<i>Chair – International PI</i> Novel Therapeutic Development Phase IIb Study Trevena
2011 - 2012	<i>Site PI</i> COMMIT Study Cheetah Medical
2010 – 2013	<i>Co-PI</i> ACTIVATE Study: Tolvaptan in Patient with Elevated Copeptin Levels PI: Alan Maisel, MD
2010 – 2011	<i>Co-PI</i> <i>IMPROVE-HF Bridge - Pilot Study</i> Medtronic
2010 – 2011	<i>Member, Data Safety Monitoring Board</i> Stresscopin Phase IIa Johnson and Johnson
2009 – 2012	<i>Site Principal Investigator</i> RELAX-AHF-1 Phase III Global RCT
2009 – 2011	<i>Site Principal Investigator</i>

Use of Novel Chimeric Natriuretic Peptide in AHF – CONDITION-HF
Trial
Nile Therapeutics

- 2008 – 2012 *Steering Committee*
RELAX-AHF – International, Multi-Center, Randomized, Placebo
Controlled Trial
Corthera
- 2008 – 2009 *Co-Chair and Co-Primary Investigator*
Early use of IV vasopressin antagonist in Acute Heart Failure Syndromes
– International, Multi-center, randomized, placebo controlled trial
Astellas Pharmaceuticals
- 2008 – 2009 *Member*
Executive Steering Committee
Novel use of an adenosine antagonist in AHFS – an International, Multi-
Center, Randomized, Placebo Controlled Trial
Solvay Pharmaceuticals
- 2008 *Sub-Investigator*
RIGHT Trial – Early use of Rivaroxaban in Heart Failure
- 2007 – 2008 *Site Principal Investigator*
Pre-RELAX AHF – International, multi-center, randomized, placebo
controlled trial
- 2006 – 2007 *Director, URGENT Registry, US*
Director of study coordination for US portion of 50 center international
observational registry evaluating dyspnea in AHFS
- 2006 *Sub-Investigator*
MINDSET – Multi-marker Index for the Diagnosis of Sepsis in the
Emergency Department
Multi Center prospective specimen procurement study for testing of future
novel biomarkers in sepsis.

Research – Clinical Studies

- 2011 *PI*
Characterization of the ER Dyspneic Patient Using Lung Ultrasound
- 2011 – 2013 *PI*
Factors Affecting Patient Satisfaction in the Emergency Department
- 2011 - 2012 *Site Co-PI*
Rule Ot Myocardial Ischemia/Infarction Using Computer Assisted Tomography:
A Randomized, Controlled, Multicenter, Diagnostic Trial
NHLBI
PI: Udo Hoffmann MD – Massachusetts General Hospital

2010 – 2013	<i>PI</i> Early Use of KCCQ – From ED presentation through Discharge: A Pilot Study
2009 – 2014	<i>Co-I</i> Can an Integrated EHR Tell Us About Heart Failure Quality of Care?
2009 – 2010	<i>PI</i> Retrospective Analysis of Acute Heart Failure Syndromes Patients

SERVICE

Interim Chair – Service

2020 -	Member, Cardiovascular Institute Research Advisory Group Indiana University School of Medicine
2019 -	Member, School Executive Committee
2019 -	Member, Council of Clinical Chairs
2020	Member, Executive Leadership Team Improving Patient Experience Steering Committee IU Health

Professional Service – Local

2019 -	IUPUI Elite 50 Judge
2014 -	Patient Care <ul style="list-style-type: none"> Approximately 50% of my time is spent in direct patient care. I work at two large hospital Emergency Departments, each sees over 100,000 ED visits/year.
2003 – 2006	ACLS Instructor

Professional Service - National

April 2019	<i>Member</i> Publication Committee – GUIDED-HF study (PCORI)
Aug 2018	<i>Member</i> American College of Cardiology Accreditation Services
April 2018 -	<i>International Mentor</i> American Heart Association
Feb 2018 -	<i>Member</i> Society of Academic Emergency Medicine Grants Committee

June 2017 - *Member*
Society of Academic Emergency Medicine Research Committee

Aug 2016 – Aug 2018 *Chair - National Heart Failure Accreditation Program*
American College of Cardiology / American Heart Association

July 2016 *American College of Emergency Physicians (ACEP) Representative*
Emerging Strategies for Heart Failure Roundtable
American College of Cardiology
The Heart House, Washington DC

Feb 2016 – *Member*
Transitional Care – Evidence to Action Network (TC-E2AN)
PCORI

Aug 2015 *Member*
Center for Medicare Services
Episode Grouper – Led by Brandeis University

2014 - 2016 *Member*
2015-2017 Program Committee
Heart Failure Society of America

Jan 2014 *Member*
Center for Medicare Services – Clinical Working Group
Cardiac III Episode of Care Grouper

2012 - *Co-Leader and Founder*
EMROC – Emergency Medicine Research and Outcomes Consortium

- Created a national research network, negotiating with industry sponsor to create a hybrid funding model for AHF clinical trials
- Our network comprised 8% of all US sites, but enrolled 16% of US patients in a global 6800 patient randomized controlled trial

2012 *Chairman – Committee – Early Stabilization of AHF*
Society of Chest Pain Centers – Accreditation Committee

2011 – 2014 *Advisory Board*
Chicago Cardiac Arrest Resuscitation Education Service (CCARES)

2011 - 2016 *External Consultant*
RED - ROSE: Reliable Evaluation of Dyspnea and Outcomes With Acute Heart Failure in the Heart Failure Network ROSE Study
NIH Heart Failure Research Network
Ancillary Studies Chair: Margaret Redfield MD

2011 - 2013 *Member*
External Affairs Committee
Society of Academic Emergency Medicine

- 2010 *Member: Measures and Evaluation Subgroup*
H2H: Hospital to Home National Quality Improvement Initiative
- 2010 *Program Director*
Acute Heart Failure Endpoints Meeting
Hosted by the FDA
Silver Springs, MD, USA
- 2009 - 2010 *Committee Member*
Accreditation Review Committee – Heart Failure
Society of Chest Pain Centers
- 2009 *Member*
AHA Scientific Statement Writing Group
Acute Heart Failure Syndromes: Emergency Department Presentation, Treatment, and Disposition
- 2009 *Program Director*
Phase II Clinical Trials Meeting
Hosted by the FDA
Silver Springs, MD, USA
- 2008 *Committee Member, NMH-NMFF-AMA Working Group*
Proposals for NMH as Feasibility Center for PCPI
- 2008 *Physician Leader*
Robert Wood Johnson/Joint Commission Communication and Safety Initiative
- 2008 *Program Director*
Phase III Endpoints in AHFS Meeting
Hosted by the FDA
Silver Springs, MD, USA
- 2007 – 2012 *Steering Committee Member*
ED Acute Heart Failure Working Group – EMERG-HF
- 2007 *Committee Member*
Guidelines for Risk Stratification of Patient with AHFS
Society of Chest Pain Centers
- 2007 *Committee Member*
Guidelines for Treatment of Acute Heart Failure Syndromes
Society of Chest Pain Centers

Professional Service - International

- 2016 - *Member*
International School of Heart Failure
Romanian Society of Cardiology

2010	<i>Program Director</i> Acute Heart Failure Syndromes and Low Blood Pressure Working Group <i>Sponsored by Industry Educational Grant</i>	Rome, Italy
2008	<i>Program Director</i> 5 th International Acute Heart Failure Syndromes Meeting	Stresa, Italy
2008 –2009	<i>Program Director</i> 6 th International Acute Heart Failure Syndromes Meeting Co-organized with the European Society of Cardiology / Cardiovascular Round Table in association with the Heart Failure Association	Nice, France

Professional Service – Grant Reviewer

2019 – 2022	Health Safety and Quality Improvement Research (HSQR) Study Section Agency for Healthcare Research and Quality (AHRQ)
2015	Reviewer IU Health Values Fund
2014	Committee Member <i>2015 Eleanor Wood-Prince Grants Initiative Review Committee</i> , sponsored by The Woman's Board of Northwestern Memorial Hospital
2013	Committee Member <i>2014 Eleanor Wood-Prince Grants Initiative Review Committee</i> , sponsored by The Woman's Board of Northwestern Memorial Hospital
2012	Reviewer <i>Medical Student Summer Research Program</i> Northwestern University Feinberg School of Medicine
2009	Ad Hoc Reviewer <i>Switzerland National Science Foundation</i>
2009	Ad Hoc Reviewer “Limited Competition for the Continuation of the Resuscitation Outcomes Consortium” (Limited Competition) (U01) <i>NHLBI</i>

Professional Service – Editorial Boards

2015 –	<i>Member – Editorial Committee</i> EMERGENCIAS The Official Journal of the Spanish Society of Emergency Medicine
2013 –	<i>Editorial Board</i> Journal of Cardiac Failure

2012 – Associate Editor
Journal of the American College of Cardiology | Heart Failure

- 2016 highest impact factor of any heart failure journal worldwide
- One of only 5 Associate Editors

2008 – 2014 Section Editor
Therapeutic Case Presentations
American Journal of Therapeutics

Professional Service – Journal and Abstract Reviewer

2016 - Abstract Reviewer
2016 – 2019 American Heart Association Scientific Sessions

2016 Ad Hoc Reviewer
Internal and Emergency Medicine Journal

2014 - Abstract Reviewer
2014 - 2019 Heart Failure Society of America Annual Scientific Meeting

2014 Ad Hoc Reviewer
Journal of Intensive Care Medicine

2014 – Abstract Reviewer
European Society of Cardiology Heart Failure Association
2014 Scientific Congress Athens, Greece
2015 Scientific Congress, Seville, Spain
2016 Scientific Congress, Florence, Italy
2017 Scientific Congress, Paris, France
2018 Scientific Congress, Vienna, Austria

2013 – Abstract Reviewer
European Society of Cardiology Abstract Review Committee Graders Pool
2014 Barcelona
2015 London
2016 Rome

2013 Ad Hoc Reviewer
European Journal of Internal Medicine

2013 - Ad Hoc Reviewer
European Heart Journal

2013 - 2016 Ad Hoc Reviewer
Congestive Heart Failure

2012 Ad Hoc Reviewer

Trends in Cardiovascular Medicine

2012	Ad Hoc Reviewer <i>JAMA</i>
2012	Ad Hoc Reviewer <i>Cochrane Heart Group</i>
2012	Ad Hoc Reviewer <i>BioMed Central Health Services Review</i>
2011	Ad Hoc Reviewer <i>Biomarkers</i>
2011	Ad Hoc Reviewer <i>Heart</i>
2011	Reviewer <i>SAEM Scientific Meeting 2012– Abstract Reviewer</i>
2010 –	Ad Hoc Reviewer <i>Circulation</i>
2010 –	Reviewer <i>Journal of Emergency Medicine</i>
2010 -	Ad Hoc Reviewer <i>European Journal of Heart Failure</i>
2010	Ad Hoc Reviewer <i>Drugs</i>
2009 –	Ad Hoc Reviewer <i>Journal of the American College of Cardiology</i>
2009 –	Ad Hoc Reviewer <i>Circulation: Heart Failure</i>
2009 –	Reviewer <i>Annals of Emergency Medicine</i>
2009	Ad Hoc Reviewer <i>Cardiovascular Drugs and Therapy</i>
2009 -	Ad Hoc Reviewer <i>American Journal of Emergency Medicine</i>
2008 –	Ad Hoc Reviewer <i>Heart Failure Reviews</i>

2008 – Ad Hoc Reviewer
Journal of Cardiac Failure

2008 – Ad Hoc Reviewer
American Heart Journal

2008 Ad Hoc Reviewer
Emergency Medicine Magazine

2007 – Ad Hoc Reviewer
International Journal of Cardiology

2007 Ad Hoc Reviewer
Journal - Teaching and Learning in Communication

University Service – Departmental

2016, 2017, 2019 *Intern Advisor*
Indiana University Emergency Medicine Residency
Advisees: Rachel Courtney, David Crowe, 2019?

2018 *Member*
Faculty Development Committee (EM)

2016 *Ad Hoc Interviewer for EM Residency Candidates*
IUSM Emergency Medicine Residency Program

2016 - *Ad Hoc Quality Review*
Departmental Peer Review of IUH ED Cases

June 2015 - *Chair*
Faculty Recruitment Committee
Department of Emergency Medicine

2015 – *Member*
Task Force for Academic Productivity
Department of Emergency Medicine

2016 *Lead*
Research Committee
Department of Emergency Medicine

2014 - 2016 *Member*
Research Committee
Department of Emergency Medicine

2013 - 2014 *Co-Chair*
Clinical Competency Committee
Northwestern Emergency Medicine Residency

2010 – 2013 *Member*
ED Budget, Finance, Operations Group
NUFSM – Northwestern University Feinberg School of Medicine

2004 – 2013 *Member*
Emergency Department Quality Management Committee
NUFSM

2004 – 2011 *Member*
Emergency Department Executive Leadership Committee
NUFSM

2004 – 2013 *Ad Hoc Interviewer for EM Residency Candidates*
NUFSM Emergency Medicine Residency Program

University Service – Hospital or Practice Plan

2016 *Volunteer Faculty*
CLER Visit: Clinical Learning Environment Review

2015 *CDU HF Pathway*
Worked with CDU Director, Hospitalists to develop HF OU pathway at EZ

2014 – *Member*
Heart Failure Performance Improvement Committee
Hospital and Science Domains
Methodist Hospital

2013 *Member*
2013 Clinical Excellence Awards Committee
NMFF (Northwestern Memorial Faculty Foundation)

2012-2013 *Physician Lead*
 • Successfully negotiated with BC/BS to change their medical policy regarding the use of CT-CA for emergent use in the ED setting for lower risk CP patients
NMFF

2012 *Member*
2012 Clinical Excellence Awards Committee
NMFF

2012 - 2013 *Member*
Critical Care / Emergency Department Technology and Device Subcommittee

2011 - 2013 *Member – ER Physician Lead*
Galter 10 Cardiology Committee

2011 *Member*

2011 Clinical Excellence Awards Committee
NMFF: Northwestern Memorial Faculty Foundation

2010 – 2014	<i>Member</i> Pharmacy and Therapeutic Committee Northwestern Memorial Hospital (NMH) Cardiovascular
2010	<i>Member</i> Care Coordination Team, Cardiac Care GAMC (Great Academic Medical Center Initiative)
2010	<i>Lever Owner</i> Patient Satisfaction NMH/ED Strategic Goals
2010	<i>Member</i> Rapid Cycle Improvement Team <i>Mezzanine ER Throughput – In-process and Discharge Group</i> NMH
2009 – 2013	<i>Emergency Department Physician Lead</i> Heart Failure - DMAIC Committee Northwestern Memorial Hospital
2009 – 2010	<i>Member</i> Space Committee Northwestern Memorial Faculty Foundation
2009 – 2010	<i>Emergency Department Physician Lead</i> Telemetry - DMAIC (Define Measure Analyze Inform Control) Committee Northwestern Memorial Hospital <ul style="list-style-type: none">• NMH used a Six-Sigma approach to quality improvement with DMAIC as one of the framework acronyms
2009	<i>Member</i> Compassionate Care - DMAIC Committee Northwestern Memorial Hospital
2008 – 2010	<i>Member</i> Northwestern Memorial Hospital Medical Staff Peer Review Committee Northwestern Memorial Hospital
2008	<i>Ad Hoc Member</i> Telemetry Committee Northwestern Memorial Hospital
2007 – 2008	<i>Emergency Department Physician Lead</i> Critical Care Leadership Committee Northwestern Memorial Hospital

2007 – 2008 *Member*
Heart Failure - DMAIC Committee
Northwestern Memorial Hospital

2007 *Emergency Department Physician Lead*
Central Line Steering Committee
Northwestern Memorial Hospital

2007 *Member*
Sepsis Steering Committee
Northwestern Memorial Hospital

2006 – 2012 *Member*
Emergency Department Operations Committee
Northwestern Memorial Hospital

2006 – 2009 *Member*
Human Capital Committee
Northwestern Memorial Faculty Foundation

2006 – 2008 *Member*
Trauma Quality Management (QM) Committee
Northwestern Memorial Hospital

2006 – 2008 *Member*
Medical Staff QM Committee
Northwestern Memorial Hospital

2006 – 2007 *Member, ED Workgroup*
Northwestern Memorial Hospital Diversion and External Transfer
Workgroup

2006 – 2007 *Member, ED Working Group*
Procedure Time Out – DMAIC Committee
Northwestern Memorial Hospital

2006 – 2007 *Member, ED Working Group*
Medication Reconciliation, DMAIC Committee
Northwestern Memorial Hospital

2006 -2007 *Member, ED Working Group*
Ready to Move (ED Throughput) – DMAIC Committee
Northwestern Memorial Hospital

2006 *Member*
Women's Cardiovascular Health Planning Committee
Northwestern Memorial Hospital

2004 – 2006 *Member*

Patient Care Committee
Northwestern Memorial Hospital

2004 – 2006

Project Co-Leader, ED Workgroup
Early Goal Directed Therapy

- Part of Hospital Wide DMAIC Project that initiated Surviving Sepsis Campaign in the ER

2004 – 2005

Liaison
ED-Spinal Cord Injury Working Group
Northwestern Memorial Hospital

University Service – Campus

2019, 2020,

Coach
Leadership in Academic Medicine Program
Career Development Consultation

2017

Member
IUSM Strategic Planning Steering Committee

2017, 2018

Ad Hoc Interviewer
School of Nursing Faculty Candidate

2016

Member
Clinical Trial Organization – Extended Lead Meeting

2016 - 2017

Scientific Reviewer
Tufts Scientific Review Committee Pilot with IU CTSI

2008 - 2009

Chair
Sub Committee, Effective Communication and Interpersonal Skills
Competency
Northwestern University Feinberg School of Medicine

2007 –2008

Member
Effective Communication and Interpersonal Skills Competency
Feinberg School of Medicine

University Service – Regional and National

Regional

2007

Chair, Organizing Committee
First Chicago Wide Patient Safety Day – targeting physicians in training

- Over 100 residents attended from throughout Chicago area programs

University Service – Mentoring

2018, 2019 T35 Short Term Research Training Program Summer Medical Student
Mentor
 Student: Kaleb Alan Kramer
 Student: Kaleb Ware

2017 - Christine Haedtke PhD – TransK12 NINR scholar
 EM Research Mentor

2017 - Frances Russell MD
 Research mentor. She is Co-I on NHLBI funded R34. She has also taught nationally for CME.

2017 - 2018 Benton Hunter MD
 Research mentor. Written multiple publications together. He is site PI for TACIT.

2017 – Summer IMPRS Program (Indiana Medical Student Program for Research and Scholarship)
 Melissa Egert MS-2

2014 – 2016 Brian Patterson MD
 Research Mentor during Residency and long-distance mentor after graduation

- Received NOGA for K08 9-22-16
- Currently on faculty at University of Wisconsin - Madison

Oct 2016 PGY2 Year Directed Mentoring Session
 IUEM Residency Program

2015 Samuel Locho-Donou
 Senior Grand Rounds Mentor
 IUEM Residency

2015 Geoffrey Hayes
 Senior Grand Rounds Mentor
 IUEM Residency

2013 Rocky Samuel
Academy for Quality and Safety Improvement
Project: Safe and Efficacious Use of Procedural Sedation in the ED
 NUEM Residency

2013 Charles Pearce
Academy for Quality and Safety Improvement
Project: Safe and Efficacious Use of Procedural Sedation in the ED
 NUEM Residency

2010 – 2012 Kori Sauser MD
 Resident mentor

- After residency, she became an RWJ fellow at U Michigan and is now seeking a K award at MGH (2014)

2014 – 2015	Richard Holden PhD K01 Recipient <ul style="list-style-type: none"> IUPUI Faculty at Center for Bioinformatics
2013 – 2014	Various High School Students Physician Shadowing Program NUFSM
2012 – 2014	Dan Reschke MD (candidate) Northwestern University Feinberg School of Medicine Area of Scholarly Concentration as MS1 and 2
2007 & 2009	Campus Wide Graduate Students Advisory Board Member NUVentions – Campus wide program involving Medicine, Law, Business, Engineering to spur creative and innovative solutions
2004 – 2014	Both formal and informal role mentoring EM Residents NUFSM

OTHER PROFESSIONAL ACTIVITIES

Invited Presentations - Local

Oct 2020	Invited Faculty <i>Chair Panel: What I Look for in Faculty</i> Mid-west Regional SAEM (virtual)
Feb 2018	Invited Lecturer <i>Acute Heart Failure & Mobile Integrated Health</i> Center for Enhancing Quality of Life in Chronic Illness IU School of Nursing Grand Rounds
Dec 2017	Invited Lecturer <i>Acute Heart Failure</i> Krannert Cardiology Grand Rounds IUSM
Oct 2017	Invited Lecturer to represent HFSA Directed towards patients and caregivers <i>Medications in Heart Failure</i> <ul style="list-style-type: none"> <i>"Dr. Pang is a hoot. He was so full of energy and laughter. Everyone loved listening to him talk. He was full of information that was helpful." - Mended Hearts local contact</i>
Jan 2016	Invited Lecturer <i>Acute Heart Failure – A View from the ER</i> Pulmonary Research Conference Indiana University School of Medicine <ul style="list-style-type: none"> ~40 people

2015	Invited Faculty <i>Acute Heart Failure</i> 4 th Annual Hoosiers CME Event IUSM	
	<ul style="list-style-type: none"> • Approximately 40-50 people 	
Nov 2014	Eskenazi Observation Unit Advanced Practice Nurses Lecture <i>Heart Failure in the Observation Unit</i>	
	<ul style="list-style-type: none"> • ~20 people 	
Oct 2006	Invited Lecturer <i>NMH Educational Forum – Current Topics in Health Care</i> Insider's Guide to the ED	
<i>Invited Presentations – National</i>		
May 2019	Invited Faculty <i>How to Become an AHRQ Funded Researcher</i> Society of Academic Emergency Medicine Congress	Las Vegas, NV
Aug 2018	Invited Faculty <i>An n of 1: Tradition, Trials, and Tribulations of Getting Funded</i> Department of Emergency Medicine Wake Forest School of Medicine	
July 2018	Invited Faculty Hospital Wide Grand Rounds <i>Acute Heart Failure: Quo Vadis</i> Broward County Health System Fort Lauderdale, FL	
March 2018	Invited Faculty Cardiac Conundrums Conference <i>Loop Diuretics in Acute Heart Failure</i> Department of Emergency Medicine University of Maryland	
2018	Invited Faculty Society of Academic Emergency Medicine Congress <i>Can We Improve Outcomes in Acute Heart Failure? 2018 Update</i>	Indianapolis, IN
2017	Invited Faculty American Heart Association Scientific Sessions <i>Acute HF in the ER: Early Management, Risk Stratification and Patient Triage</i>	Anaheim, CA
2017	Invited Faculty proCardio International symposium on biomarkers in CV disease	Reston, VA
	<ul style="list-style-type: none"> • ~200 people 	

2016	<p>Invited Faculty <i>Year in Review: Acute Heart Failure</i> INOVA Heart and Vascular Institute Advanced Heart Failure Symposium (CME Accredited)</p> <ul style="list-style-type: none"> • ~ 200 people 	Fairfax, VA
2016	<p>Invited Faculty <i>Why We Should Avoid the ER for Our Patients</i> Moderator <i>FDA Special Session: Off Label Drug Use</i> Heart Failure Society of America</p> <ul style="list-style-type: none"> • ~100 people 	Orlando, FL
2016	<p>Invited Faculty – Emergencies in Medicine Conference <i>Diuretics in AHF: Are They Evil?</i></p>	Park City, UT
2014	<p><i>Positive Troponin: What does it mean?</i></p>	
2013	<p><i>Acute Heart Failure – Does that patient need a tele bed?</i> Emergencies in Medicine Conference (CME Accredited)</p> <ul style="list-style-type: none"> • ~75 people annually 	
2016	<p>Invited Faculty: Heart Failure Symposium <i>The Heart Failure Paradigm: From the ED to the Hospital</i> NJ Regional ACEP Chapter Meeting (CME Accredited) Texas Regional ACEP Chapter Meeting (CME Accredited)</p> <ul style="list-style-type: none"> • ~ 200 people 	Princeton, NJ Galveston, TX
Aug 2016	<p>Invited Faculty <i>Acute Heart Failure: Quo Vadis?</i> Emergency Medicine Grand Rounds University of Wisconsin - Madison</p>	Madison, WI
2016	<p>Invited Lecturer <i>Acute Heart Failure in the Observation Unit</i> Memphis Methodist Hospital</p> <ul style="list-style-type: none"> • ~ 50 people 	Memphis, TN
2016	<p>Invited Faculty <i>Tailoring Therapy for Acute Heart Failure</i> Society of Critical Care Medicine</p> <ul style="list-style-type: none"> • ~100 people 	Orlando, FL
April 2015	<p>Invited Faculty <i>Preventing Hospitalizations: Patient Management in the ER and Observation Unit</i> American Association of Heart Failure Nurses HF Readmission Symposium</p>	Chicago, IL
May 2015	<p>Invited Faculty</p>	San Diego, CA

Acute Heart Failure Care - What do Patient's Want? The NIH and Researcher's Perspective
 Society of Academic Emergency Medicine – Didactic Session

2015	Invited Faculty <i>Acute Heart Failure</i> 2015 Summit to Sound Northwest Emergency Medicine Assembly Washington ACEP • ~200 people	Seattle, WA
2015	Invited Faculty <i>Door to Diuretic: ED Treatment of AHF</i> American Heart Association	Orlando, FL
Jan 2015	Invited Faculty Cardiology Grand Rounds <i>Heart Failure in the Emergency Department</i> Montefiore Medical Center	NY, NY
2015	Invited Faculty – Heart Failure Society of America <i>ED vs Hospital Discharge – Should Endpoints be the Same</i>	Chicago, IL
2014	<i>Acute Management in the Emergency Department</i>	Las Vegas, NV
2013	Session Chair - Invited Faculty <i>Acute Heart Failure: Role of EMS through the ED</i>	Orlando, FL
2012	<i>Role of the ED regarding AHF Admission</i>	Seattle, WA
2011	<i>Improving Outcomes in AHFS: View from the ER</i>	Boston, MA
2010	<i>Dyspnea: Perspectives from the ER</i>	San Diego, CA
2009	<i>Role of the ED in the Continuum of Care of HF</i> Heart Failure Society of America	Boston, MA
2014	Faculty & Course Director <i>Mastering Clinical Challenges in the Multidisciplinary Management of AHF</i> Johns Hopkins CME medIQ (organizer) www.med-iq.com/a818 Over 2100 viewers by 11-11-2015	
May 2014	Moderator, Invited Faculty, & Didactic Creator <i>Can We Improve Outcomes in Acute Heart Failure? 2014 Update on Acute Heart Failure Research (State of the Art Session)</i> Society of Academic Emergency Medicine 2014	Dallas, TX
April 2014	Invited Faculty 10 th Annual Biomarkers Meeting	San Diego, CA
2013	9 th Annual Biomarkers Meeting <i>Heart Failure Therapy and What Biomarkers Have Told Us</i> University of California – San Diego	
Oct 2014	Invited Lecturer <i>hsTroponin and AHF in the Emergency Department</i> Co-Chair	NY, NY

Demonstrating the Medical Value of Cardiac Biomarkers and the Synergy to Patient Outcomes
 proCardio – International Biomarker Meeting
 Roche Diagnostics

Nov 2013	Invited Faculty <i>Care in the Emergency Department vs. Short Stay Units</i> American Heart Association Scientific Sessions 2013	Dallas, TX
2013	Invited Faculty <i>AHF: Decision to Admit or Discharge to Early Follow Up</i> 24 th Annual Trends in Cardiovascular Medicine Conference (CME)	Squaw Valley, NV
Oct 2013	Invited Faculty <i>Acute Heart Failure: Beyond Lasix</i> Emergency Medicine Grand Rounds Duke University School of Medicine	Durham, NC
Oct 2013	Invited Faculty <i>Acute Heart Failure: View from the ED</i> Cardiology Grand Rounds Duke University School of Medicine	Durham, NC
April 2013	Invited Faculty <i>Acute Heart Failure</i> Cardiology Grand Rounds Henry Ford Hospital Health System	Detroit, MI
Feb 2013	Invited Faculty <i>Acute Heart Failure</i> Cardiology Grand Rounds University of California – San Diego	San Diego, CA
2012	Invited Faculty – Didactic Session <i>The Nadir of Clinical Operations Innovation: Implications for Future Growth</i> Society of Academic Emergency Medicine	Chicago, IL
2011	Invited Faculty & Instructor The Heart Course (CME Accredited) • Spring and Fall Course, each about 100 participants	Boston, MA Las Vegas, NV
2010	The Heart Course	Boston, MA
2009	The Heart Course	Atlanta, GA
2009	The Heart Course	Las Vegas, NV
2008	The Heart Course	Las Vegas, NV
2007	The Heart Course	Las Vegas, NV
Mar 2011	Invited Faculty <i>Acute Heart Failure Syndromes</i> Emergency Medicine Grand Rounds University of Wisconsin – Madison	Madison, WI

Feb 2010	Visiting Professor <i>Acute Heart Failure</i> Emergency Medicine Grand Rounds Brigham & Woman's Hospital	Boston, MA
2010	Invited Faculty - SCPC <i>Heterogeneity in Acute Heart Failure</i>	Las Vegas, NV
2009	<i>Common Ground in AHF</i>	Memphis, TN
2008	<i>Rationale behind an Early Enrollment Strategy from the ED</i>	Orlando, FL
2007	<i>Role of the ED in AHF</i> Society of Chest Pain Centers Congresses	
2009	Invited Faculty & Didactic Session Creator <i>State-of-the-Art in Acute Heart Failure Syndromes: Evolving Role of the ED – Current State and a Framework for Future Research</i> 13 th Annual Society of Academic Emergency Medicine	New Orleans, LA
2009	Moderator <i>Emergency Department Management of Acute Heart Failure: Research Challenges and Opportunities</i> National Heart, Lung, Blood Institute Working Group	Bethesda, MD
Aug 2007	Invited Faculty <i>Acute Heart Failure Syndromes: Challenges and Opportunities</i> Emergency Medicine Grand Rounds University of Wisconsin – Madison	Madison, WI
<i>Invited Presentation - International</i>		
2019	Invited Faculty European Society of Cardiology – Heart Failure Association Lecture: <i>Utility of Ultrasound in Pulmonary Congestion</i>	Athens, GR
2017	Invited Faculty CVCT – Cardiovascular Clinical Trialists Forum French Embassy Lecture: <i>BLAST-AHF: The One Thing – Lessons Learned</i>	Washington, DC
Sept 2016	Invited Faculty & Moderator & Session Chair Session: <i>Multi-organ Injury in AHF</i> Lecture: <i>BLAST-AHF and the Angiotensin System</i> Romanian Society of Cardiology Meeting	Sinaia, Romania
2013 -	<i>Chair, Global Acute Heart Failure Academy</i> <ul style="list-style-type: none"> • This international educational initiative, supported by Novartis Pharmaceuticals, brought together international leaders (> 10 from the US, Germany, England, Cyprus, Italy, Finland, Spain, Brazil) in AHF to develop methods on how to best teach about AHF management. We have currently developed 2 modules, with open web based access listed at the below links 	

with the European Society of Emergency Medicine and the European Society of Cardiology / Acute Cardiovascular Care and the GREAT Network. Our cases have been promoted through their social media and web based news updates.

- <http://www.eusem.org/onlinecontent/>
- <http://view.info.escardio.org/?qs=48b45e6c797fc1b8c024577f26aac7f906f6cf7c10c094b4d934a8ea31e3db85765ff0e9162702be5a9a7ef07cb6dcb8c74a3cc95a608b49a96eed126b9a7847>
- <http://www.escardio.org/The-ESC/Communities/Acute-Cardiovascular-Care-Association-%28ACCA%29/Education-and-research/patients-cases>
- <http://www.greatnetwork.org/int/resources/item/214-managing-acute-heart-failure-in-the-ed-case-studies-from-the-acute-heart-failure-academy.html>

June 2016	Invited Faculty <i>Which Patient Can I Discharge Directly From the ED?</i> European Society of Cardiology - Heart Failure Congress	Florence, IT
May 2015	Invited Faculty <i>Cardiac and Pulmonary Ultrasound in the Emergency Department</i> European Society of Cardiology – Heart Failure Association	Seville, Spain
May 2014	Invited Faculty and Chair <i>1. Rapid Fire – Acute Heart Failure</i> <i>2. Point-of-care cardiopulmonary ultrasound: utility in assessing pulmonary congestion</i> <i>3. Biased ligand at the angiotensin I receptor: TRV027</i> European Society of Cardiology Heart Failure Association 2014	Athens, Greece
Sept 2013	Invited Faculty <i>AHF - Satellite Symposium</i> Mediterranean Emergency Medicine Congress	Marseilles, France
Sept 2013	Invited Faculty <i>Advances in Therapy</i> European Society of Cardiology	Amsterdam, Netherlands
2013	Session Co-Chair & Abstract Evaluation Committee <i>Acute Heart Failure</i> 3rd International GREAT Network	Rome, Italy
2012	Invited Faculty <i>Acute Heart Failure: Epidemiology, Outcomes & Pathophysiology</i> 4 th International Cardio Event Cardiology towards the future / Innovation in Cardiology	Florence, Italy
2011	Invited Faculty <i>ED Management of AHFS</i> 2 nd International GREAT Network	Rome, Italy

PUBLICATIONS (Total – 126 peer-reviewed publications) (Google Scholar metrics: 5476 citations, h-index = 33 last accessed June 4 2018)

* = in rank as Associate Professor (2010), ^ = learner also author on manuscript

Teaching – Data Driven Publications

1. Mercer LM, Tanabe P, **Pang PS**, Gisondi MA, Courtney DM, Engel KG, ^Donlan SM, Adams JG, Makoul G. Patient perspectives on communication with the medical team: Pilot study using the communication assessment tool-team (CAT-T). *Patient Educ Couns* 73: 220-223, 2008. PMID: 18703306.
2. Cameron, KA, Engel, KG, McCarthy, DM, Buckley, BA, Mercer Kollar, LM, ^Donlan, SM, ***Pang PS**, Makoul, G, Tanabe, P, Gisondi, MA, Adams, JG. Examining emergency department communication through a staff-based participatory research method: Identifying barriers and solutions to meaningful change. *Ann Emerg Med* 56:614-22, 2010. PMID: 20382446.
3. ^Goloback M, McCarthy DM, Schmidt M, Adams JG, ***Pang PS**. Emergency Department operational factors associated with patient satisfaction. *Am J Emer Med* 33:111-112, 2015. PMID: 25445872.
4. ^Reschke DJ, Seeskin ZH, Hahn EA, ***Pang PS**. Patient preferences regarding medical decision making in the emergency care setting: a pilot-study. *Am J Emerg Med* 33:719-721, 2015. PMID: 25687619.
5. Sauser K, ^Alkhawam L, Pierchala L, ***Pang PS**. Lactate levels as a marker of tissue hypoperfusion in acute heart failure patients seen in the emergency department: a pilot study. *Emergency Care Journal*. 2016; 12:5458

Research – Data Driven Publications

6. Thomas SH, Winsor GR, **Pang PS**, Driscoll KA, Parry BA. Use of a radial artery compression device for noninvasive, near-continuous blood pressure monitoring in the ED. *Am J Emer Med* 22:474-478, 2004. PMID: 15520942.
7. **Pang PS**, Konstam MA, Krasa HB, Swedberg K, Zannad F, Blair JE, Zimmer C, Teerlink JR, Maggioni AP, Burnett JC, Jr., Grinfeld L, Ouyang J, Udelson JE, Gheorghide M. Effects of tolvaptan on dyspnoea relief from the EVEREST trials. *Eur Heart J* 30:2233-2240, 2009. PMID: 19561338.
8. Mebazaa A, **Pang PS**, Tavares M, Collins SP, Storrow AB, Laribi S, Andre S, Courtney DM, Hasa J, Spinar J, Masip J, Peacock WF, Sliwa K, Gayat E, Filippatos G, Cleland JGF, Gheorghide M. The impact of early standard therapy on dyspnoea in patients with acute heart failure syndromes: the URGENT-Dyspnoea Study. *Eur Heart J* 31:832-41, 2009. PMID: 19906690.
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