

# 13<sup>th</sup> ANNUAL SAFAR SYMPOSIUM

## MAY 21<sup>ST</sup>-22<sup>ND</sup>, 2015

**"Cardiac Arrest, Temperature Management,  
and Return to a Good Life"**



Plenary Speaker:  
Hans Friberg, MD, PhD



**SAFAR CENTER FOR  
RESUSCITATION RESEARCH**  
UNIVERSITY OF PITTSBURGH

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# 13<sup>th</sup> Annual Safar Symposium

May 21, 2015

**Location: University Club, Ballroom B – 123 University Place**

8:00 – 8:30 Registration and Continental Breakfast

**8:30 – 11:45 CEREBRAL RESUSCITATION: HYPOTHERMIA AND BEYOND**

Moderators: **Ericka L. Fink, MD, MS**  
Associate Professor, Critical Care Medicine & Pediatrics  
Associate Professor, Clinical and Translational Science Institute

**Anthony E. Kline, PhD**  
Associate Professor, Physical Medicine & Rehabilitation,  
Critical Care Medicine, Psychology, and Center for  
Neuroscience, Co-Director, CNUP Summer  
Undergraduate Research Program

**8:30 – 8:45 Opening Comments**  
**Patrick M. Kochanek, MD, MCCM**  
Ake N. Grenvik Professor & Vice Chair, Dept. of Critical  
Care Medicine, Director, Safar Center for Resuscitation  
Research, University of Pittsburgh School of Medicine

**8:45 – 9:10 W. Dalton Dietrich, III, PhD**  
Scientific Director, The Miami Project to Cure Paralysis  
Senior Associate Dean for Discovery Science  
Professor, Neurological Surgery, Neurology & Cell Biology  
University of Miami, Leonard M. Miller School of Medicine  
***Mechanisms of Protection and Damage in Hypothermia  
and Hyperthermia after Brain Injury***

**9:10 – 9:15 Discussion**

**9:15 – 9:40 J. Javier Provencio, MD, FCCM, FAAN, FNCS**  
Associate Professor, Lerner College of Medicine at CWRU  
Faculty, Neuroinflammation Research Center  
President, Ohio Chapter of the Society of Critical Care  
Medicine  
***Temperature Management in Intracerebral Hemorrhage:  
Is Fighting Fever Worth It?***

**9:40 – 9:45 Discussion**

## The 35<sup>th</sup> Peter and Eva Safar Annual Lectureship in Medical Sciences and Humanities

- 9:45 – 10:10 **Travis C. Jackson, PhD**  
Research Assistant Professor, Critical Care Medicine  
Associate Director, Cell Signaling, Safar Center for  
Resuscitation Research  
University of Pittsburgh School of Medicine  
*Ultra Mild Hypothermia: Biochemical Epiphenomenon or  
a New Concept in Cerebral Resuscitation?*
- 10:10 – 10:15 Discussion
- 10:15 – 10:25 BREAK
- 10:25 – 11:35 **Post-Resuscitation Care 2015:  
Case Presentation and Panel Discussion**
- Moderators: Patrick M. Kochanek, MD, MCCM  
Cameron DeZfulian, MD**
- Case Presentation  
Prehospital and Emergency Department:  
**Clifton Callaway, MD, PhD**  
Neurocritical Care:  
**Lori Shutter, MD**  
Rehabilitation:  
**Amy Wagner, MD, Patricia Arenth, PhD,  
Gary Galang, MD, Cara Camiolo, MD,  
Hallie Zeleznik, MPT**
- Panel Discussion  
**Hans Friberg, MD, PhD  
W. Dalton Dietrich, III, PhD  
J. Javier Provencio, MD**
- 11:35 – 11:45 **Nancy Caroline Award Presentation and  
Closing Remarks  
Patrick M. Kochanek, MD, MCCM**
- 11:45 – 12:00 BREAK
- 12:00 – 1:00 35<sup>th</sup> Peter & Eva Safar Annual Lectureship in Medical  
Sciences and Humanities  
**Hans Friberg, MD, PhD**  
Associate Professor, Department of Anesthesiology  
Lund University, Sweden  
*Cardiac Arrest, Temperature Management and Return to a  
Good Life*
- 1:00 – 1:45 Reception – Ballroom A, 1<sup>st</sup> floor

Guest Speaker: **Hans Friberg, MD, PhD**  
Associate Professor, Department of Anesthesiology  
Lund University, Sweden

Topic: ***Cardiac Arrest, Temperature Management and  
Return to a Good Life***

Hans Friberg, MD, PhD is an associate professor of anesthesiology at the medical faculty of Lund University, Sweden. He is a high-school graduate of Grand Blanc Michigan.

Dr. Friberg did his PhD-work at the Laboratory for Experimental Brain Research at Lund University, where he studied brain ischemia in different rodent models. He defended his thesis in 1999, in which he investigated the role of the mitochondrial permeability transition pore in experimental brain ischemia.

Dr. Friberg is presently involved in several trials in the field of cardiac arrest and has published more than 100 peer-reviewed papers in resuscitation science. His main research focus has been temperature management and he was the senior author of the Targeted Temperature Management after Cardiac Arrest trial (TTM-trial). Another focus of his interests is the assessment of brain injury in comatose survivors after cardiac arrest using a multimodal strategy, including continuous EEG (aEEG), SSEP, biomarkers and neuroimaging in addition to clinical investigation. He is the senior author of the national Swedish recommendations on neurological prognostication after cardiac arrest and a co-author of the recently published joint advisory statement on prognostication after cardiac arrest from the ERC and the ESICM. He presently holds the chair of the postresuscitation care committee of the Swedish Resuscitation Council.

Dr. Friberg was one of the initiators of the Hypothermia Network which has now become the International Cardiac Arrest Registry (INTCAR), a transatlantic research collaboration with more than 5000 registered cardiac arrest patients in Europe and the US. He was an initiator of the Center for Resuscitation Science in the Öresund region, a joint Swedish-Danish EU-funded project. He is the founder of SWECRIT, a national Swedish biobank for critically ill patients. Dr. Friberg lives with his wife Elisabet in the medieval city of Lund, Sweden, and they have four children. Tennis is a common family business year round.

# Multi-Departmental Trainees' Research Day

May 21, 2015

**Location: University Club, Ballroom A – 123 University Place**

1:00 – 1:45	Registration and Poster Setup
2:00 – 2:10	<b>Opening Comments</b> <b>Patrick M. Kochanek, MD, MCCM</b> Ake N. Grenvik Professor & Vice Chair, Dept. of Critical Care Medicine, Director, Safar Center for Resuscitation Research, University of Pittsburgh School of Medicine
2:10 – 3:10	<b>Oral Presentations</b> <u>Department of Anesthesiology</u> <b>Gregory Rompala:</b> Paternal Alcohol Exposure Impacts Stress Hyporesponsiveness to Male Offspring  <u>Department of Critical Care Medicine</u> <b>Diana Pang, MD:</b> Using Plasma Neuron Specific Enolase Levels to Detect Brain Injury in Pediatric Sepsis – A Pilot Study  <u>Department of Emergency Medicine</u> <b>Allison C. Koller, BS:</b> Comparison of Three Cognitive Exams in Cardiac Arrest Survivors  <u>Physical Medicine &amp; Rehabilitation</u> <b>Steven Markos, BS:</b> Genetic Variation in the Vesicular Monoamine Transporter is Associated with Depression and Cognitive Outcomes after TBI
3:10 – 3:15	BREAK
3:15 – 4:45	<b>Poster Presentations</b>
4:45 – 5:15	Judges Meeting - Conference Room B, 2 <sup>nd</sup> floor
5:15 – 5:30	<b><u>Awards Presentation</u></b>

# 13<sup>th</sup> Annual Safar Symposium

May 22, 2015

**Location: WISER, 230 McKee Place, Suite 300**

8:00 – 8:30	Registration and Continental Breakfast
8:30 – 11:20	<b>SIMULATION NOW AND INTO THE FUTURE</b>
<b>Moderators:</b>	<b>Paul E. Phrampus, MD</b> Director, Winter Institute for Simulation, Education and Research (WISER), University of Pittsburgh, Associate Professor of Emergency Medicine and Anesthesiology, University of Pittsburgh School of Medicine  <b>William McIvor, MD</b> Professor of Anesthesiology Associate Director of WISER for Medical Student Education University of Pittsburgh
8:30 – 8:45	<b>Opening Comments</b> <b>Paul E. Phrampus, MD</b> Director, WISER, University of Pittsburgh, Associate Professor of Emergency Medicine and Anesthesiology, University of Pittsburgh School of Medicine
8:45 – 9:10	<b>Jeffrey M. Tackman, MD</b> Professor of Anesthesiology Assistant Dean for Educational Technology Director, Human Simulation and Patient Safety Center Duke University Medical Center <b><i>The Promise of Virtual Environments and Serious Games in Healthcare</i></b>
9:10 – 9:20	Discussion
9:20 – 9:45	<b>Eric B. Bauman, PhD, RN</b> Assistant Dean, DeVry Medical International's Institute for Research and Clinical Strategy Associate Director, Center for Excellence in Simulation Education, DeVry Education Group <b><i>Game Mechanics, Game-Based Learning, and Simulation: Developing Translational and Transformative Clinical Education</i></b>
9:45 – 9:55	Discussion

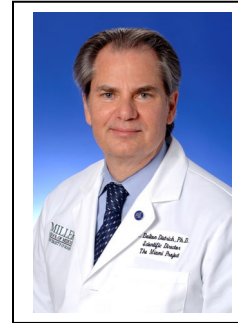


- 9:55 – 10:20 **Andrew Musits, MD**  
Simulation and Medical Education Fellow  
Peter M. Winter Institute for Simulation, Education and Research (WISER)  
Clinical Instructor of Emergency Medicine  
University of Pittsburgh and UPMC  
*In-situ Simulation and Resuscitation: Where Plastic Meets Practice*
- 10:20 – 10:30 Discussion
- 10:30 – 10:45 BREAK
- 10:45 – 11:10 **William McIvor, MD**  
Professor of Anesthesiology  
Associate Director of WISER for Medical Student Education  
University of Pittsburgh Medical Center and School of Medicine  
*Simulation in the Maintenance of Certification in Anesthesiology (MOCA) Process*
- 11:10 – 11:20 Discussion
- 11:20 – 11:45 **Neal Benedict, PharmD**  
Associate Professor, Pharmacy and Therapeutics  
University of Pittsburgh School of Pharmacy  
Critical Care Pharmacist  
UPMC Presbyterian Hospital  
*Integrated Progress Testing Through Blended Simulation to Assess Clinical Readiness in a PharmD Curriculum*
- 11:45 – 11:55 Discussion
- 11:55 – 12:05 Concluding Comments –  
**Paul E. Phrampus, MD**  
**Patrick M. Kochanek, MD, MCCM**

## 13th Annual Safar Symposium May 21, 2015

### CEREBRAL RESUSCITATION: HYPOTHERMIA AND BEYOND

**Location: University Club, Ballroom A – 123 University Place**



**Dr. W. Dalton Dietrich, III** is Scientific Director at The Miami Project to Cure Paralysis and the Kinetic Concepts Distinguished Chair in Neurosurgery at the University of Miami Miller School of Medicine. He received his Ph.D. in Anatomy from the Medical College of Virginia in 1979 and completed a postdoctoral fellowship in the Department of Pharmacology at Washington University, St. Louis, MO, 1981. In 1981, Dr. Dietrich joined the Department of Neurology at the University of Miami, with a joint appointment in Cell Biology and Anatomy, and in 1993 attained the rank of Professor. Dr. Dietrich served as Vice-Chairman for Basic Science in the Department of Neurology from 1995 to 1997, when he accepted the position of Scientific Director of The Miami Project to Cure Paralysis. Dr. Dietrich also serves as the Senior Associate Dean for Discovery Science at the University of Miami Miller School of Medicine. Research in Dr. Dietrich's laboratory is focused on clarifying the pathophysiology of brain and spinal cord injury with the ultimate goal of developing new therapies to protect and enhance recovery of function. Over the last 35 years, Dr. Dietrich and colleagues have studied the cellular and molecular injury mechanism underlying various neurological disorders including stroke, cardiac arrest, traumatic brain and spinal cord injury. In terms of neuroprotection, he and his colleagues provided the initial preclinical data indicating that small differences in the temperature of the brain and spinal cord critically determine whether neurons die or not following neurological injury. These preclinical studies of therapeutic hypothermia have now been successfully translated to the clinical arena, where patients are being cooled following out-of-hospital cardiac arrest, strokes, traumatic brain injury and more recently spinal cord injury. Most recently, Dr. Dietrich and colleagues have also investigated the importance of abnormal inflammasome activation in the brain and SCI. These studies have uncovered a new therapeutic target for modifying the early immune response to injury. In addition to these studies, Dr. Dietrich and colleagues are using novel cellular and drug treatments to promote reparative process and functional recovery after brain and SCI. He is currently the Sponsor of a

first-in-man FDA approved clinical trial testing the safety of human Schwann cell transplants in people with severe subacute and chronic SCI.

Dr. Dietrich has published over 300 refereed journal articles, 60 book chapters and 4 books. His published work has been cited over 20,000 times. He is listed by the Institute of Scientific Information as a “Highly Cited Researcher”, placing him in the top 0.5% of all scientists based on the impact his research has made on other scientists. Dr. Dietrich has been a thesis/dissertation advisor to 6 graduate students and has trained over 40 postdoctoral fellows and visiting scholars from all over the world. His research programs are supported by the NIH, Department of Defense, State of Florida and The Miami Project to Cure Paralysis. He serves on many study sections for NIH, Department of Defense, Veteran’s Administration, and several Editorial Boards. He is currently Editor-In-Chief of the Journal *Therapeutic Hypothermia & Temperature Management* and Deputy Editor of the *Journal of Neurotrauma*.



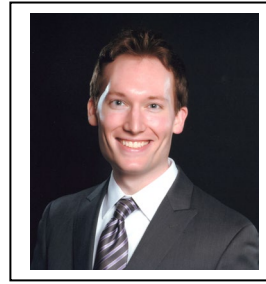
**Dr. J. Javier Provencio** is an intensive care doctor in the Neurological Intensive Care Unit and a translational researcher in the Neuroinflammation Research Center of the Lerner Research Institute at the Cleveland Clinic. Dr. Provencio received his medical degree in 1993 from the Pennsylvania State University College of Medicine in Hershey, PA. He completed residencies in neurology and internal medicine, and clinical fellowships in Medical and Neurological Critical care at the

University of Virginia in Charlottesville, Virginia. He also completed a post-doctoral fellowship in the Department of Biology at the University of Virginia under Dr. Anthony Frankfurter. He has board certifications in Neurology, Medical Intensive Care, and Neurocritical Care.

Dr. Provencio currently spends time caring for patients with neurological critical illnesses and heading a translational science laboratory. Dr. Provencio’s laboratory studies the inflammatory underpinnings of subarachnoid hemorrhage and intracerebral hemorrhage. He is currently funded by both the National Institutes of Health and Biomedical Industry.

Dr. Provencio is the chairman of the Cleveland Clinic Organ, Eye and Tissue Donation Committee. Nationally, Dr. Provencio is the Co-chair of the national writing group for the UCNS board certification exam in Neurocritical. He is the President of the Ohio Chapter of the Society of Critical Care Medicine. He is a fellow of the American College of Critical Care Medicine, the American Academy of Neurology, and the Neurocritical Care Society.

Dr. Provencio has been at the Cleveland Clinic since 2003. He is married with three children. He lives in Cleveland Heights, Ohio.



**Dr. Travis C. Jackson** is Research Assistant Professor in Department of Critical Care Medicine at University of Pittsburgh, and Associate Director, Cell Signaling, at Safar Center for Resuscitation Research (SCRR). He completed his undergraduate work in neuroscience at University of Pittsburgh in 2005. He then earned his doctorate in biomedical science in 2010 from Department of Neuroscience at University of Florida in Gainesville. Returning to

Pittsburgh, he completed his postdoctoral work at SCRR.

Dr. Jackson’s laboratory utilizes molecular as well as pharmacological tools to identify novel apoptotic signaling mechanisms in primary CNS cells – with goals to develop new therapies for treatment of brain injury. Promising protein targets are also explored *in vivo* using transgenic KO mice. A key focus of his research is to better understand the process of RNA splicing in injured or diseased brain, and to elucidate if altered protein expression of splice variants affects outcomes. He is currently funded by the American Heart Association to study the role of PHLPP1 splice variants in brain ischemia, and by the National Institutes of Health to study RNA splicing factors in TBI.

# 13<sup>th</sup> Annual Safar Symposium

## May 22, 2015

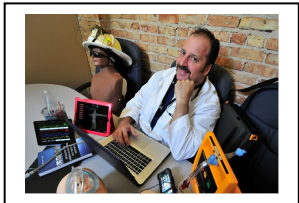
### Simulation Now and Into the Future

**Location: WISER, 230 McKee Place, Suite 300**



**Dr. Jeffrey M. Taekman** is a Professor of Anesthesiology, the Assistant Dean for Educational Technology, Faculty in the Center for Health Informatics, and the Director of the Human Simulation and Patient Safety Center (HSPSC) at Duke University. He has over 20 years of experience in learning technology, simulation and informatics. In the HSPSC, he oversees an interdisciplinary team of physicians, nurses, educators and engineers that focus on healthcare

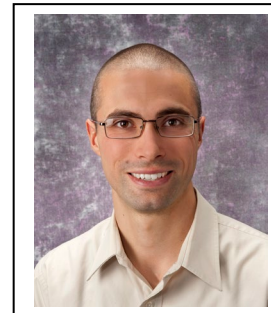
education, safety and quality. The HSPSC model, with clinicians and educators working side-by-side with human factors engineers, has been cited as a 21st Century model for improving patient safety. He is a founder of, an inaugural elected officer for, and served on the Board of the Society for Simulation in Healthcare during its inception. He helped launch the Society's journal, *Simulation in Healthcare* and sat on the inaugural Editorial Board. He started the Society's Special Interest Group on Virtual Environments and Games Based Learning. He was honored with the 2013 Teaching Recognition Award for Innovation in Education by the International Anesthesia Research Society.



**Dr. Eric B. Bauman** is Assistant Dean for DeVry Medical International's Institute for Research and Clinical Strategy. Dr. Bauman received his PhD from the University of Wisconsin-Madison School of Education, Department of Curriculum and Instruction in 2007. He was one of the early Games+Learning+Society (GLS) students and

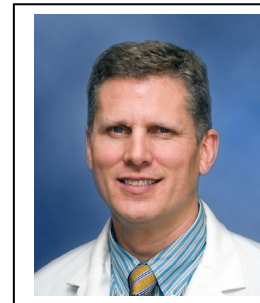
was advised by Professors Betty Hayes and Kurt Squire, both renowned scholars in the game-based learning movement. Dr. Bauman also holds the position of Associate Director for the Center for Excellence in Simulation Education within DeVry Medical International's Institute for Research and Clinical Strategy and is an affiliate and fellow at the GLS. Dr. Bauman is also a registered nurse, firefighter and paramedic with more than 20 years of clinical, research, teaching, and command experience.

Dr. Bauman's research and scholarship focuses on game and simulation-based research and development for clinical and patient education that is both translational and transformative. His teaching and clinical philosophies emphasize an interprofessional approach to clinical education and patient care. He maintains a rigorous and collaborative international teaching, research and publication agenda. He has authored and co-authored numerous articles and textbook chapters including his textbook *Game-Based Teaching and Simulation in Nursing and Healthcare*.



**Dr. Andrew Musits** is currently a Simulation and Medical Education Fellow at The Peter M. Winter Institute for Simulation, Education and Research (WISER). In this role, he is expanding his knowledge and experience with simulation center operations, research, and education. He is also enrolled in the Masters of Science in Medical Education program at The University of Pittsburgh with a thesis project involving simulation. Dr. Musits is emergency medicine trained, and served

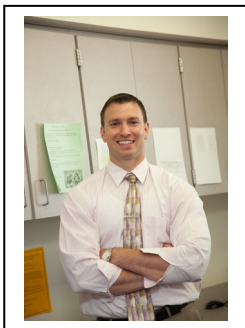
as Chief Resident for The Emergency Medicine Residency at Albany Medical Center in New York. He works clinically for the Department of Emergency Medicine at UPMC, and holds a Clinical Instructor appointment at the University of Pittsburgh School of Medicine.



**Dr. William (Bill) McIvor** is professor of anesthesiology at the University of Pittsburgh School of Medicine/Medical Center. His interest is in simulation for education and assessment. He has extensive experience using mannequin-based simulation to teach medical students, anesthesiology residents, and board-certified anesthesiologists. He also has participated in numerous workshops, lectures, and demonstrations of the uses of simulation and debriefing techniques

for various learners.

Currently, Dr. McIvor is working with a group of investigators to explore the opportunities and challenges in using simulation for the formative assessment of board-certified anesthesiologists. He is also pursuing opportunities in screen-based simulation and objective feedback during debriefing.



**Dr. Neal Benedict** is an Associate Professor within the Department of Pharmacy and Therapeutics at the University of Pittsburgh School of Pharmacy and a Critical Care Pharmacist at UPMC-Presbyterian Hospital. He received his doctorate of pharmacy degree from Duquesne University in 2002. He then completed a pharmacy practice residency through Buffalo's Kaleida Health System, followed by an advanced critical care specialty residency at UPMC. In 2005, Dr. Benedict joined the School of Pharmacy

faculty at Pitt. Dr. Benedict is the primary course coordinator for Advanced Pharmaceutical Care II, a two credit course required of students in their third professional year of the PharmD curriculum. He also serves as a preceptor for Introductory and Advanced Pharmacy Practice Experiences (IPPE/APPE) for the School. at UPMC Presbyterian hospital, Dr. Benedict's clinical practice sites include the Surgical/Trauma and Medical Intensive Care Units. Dr. Benedict's educational research focuses on the effective use of educational technologies, specifically the incorporation of virtual patients into PharmD curricula. His clinical research focus involves the management of resistant alcohol withdrawal syndromes. Dr. Benedict holds publications in Clinical Therapeutics, Journal of Critical Care, Annals of Pharmacotherapy, American Journal of Health-System Pharmacists and American Journal of Pharmaceutical Education. In 2009 and 2014, Dr. Benedict received the "Cohen Teacher of the Year Award" for exceptional dedication, knowledge, and teaching skills. In 2011, Dr. Benedict received the Rho Chi "Innovations in Teaching Award" recognizing professors implementing new and creative methods to teach. In 2012, Dr. Benedict received the University of Pittsburgh "Faculty Preceptor of the Year" for his work and dedication to training the next generation of clinical pharmacists, and in 2014, Dr. Benedict received the American Association of Colleges of Pharmacy (AACP) Innovations in Teaching Award.

## NOTES

# 13<sup>th</sup> ANNUAL SAFAR SYMPOSIUM

We gratefully acknowledge our sponsors:

Dr. Ake N. Grenvik Endowed Chair in Critical Care Medicine

The Laerdal Foundation

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