

7<sup>th</sup> Annual | **SAFAR Symposium**

7:30am | Biomedical Science Tower II | South-Room S100A

2:00pm | The Winter Institute for Simulation, Education & Research

5.6.2009



# 7th Annual Safar Symposium

May 6, 2009

## Morning Session

Location: Starzl Biomedical Science Tower  
200 Lothrop St. – South-Room S100

7:30 AM	Continental Breakfast
8:00 – 12:00	<b>Breakthroughs in Resuscitation</b> —“ <b>Resuscitation in the 21<sup>st</sup> Century from Cells to Systems</b> ”
<b>8:00 – 8:05</b>	<b>Patrick M. Kochanek, MD</b> Director, Safar Center for Resuscitation Research
<b>Moderators:</b>	<b>Hülya Bayır, MD and Edwin K. Jackson, PhD</b>
8:05 – 8:30	<b>Michael Whalen, MD</b> Associate Professor of Pediatric Critical Care Medicine, Massachusetts General Hospital and Harvard Medical School <b>Topic:</b> <i>“Plasmalemma permeability: A Therapeutic Target for Brain Trauma?”</i>
8:30 – 8:40	Discussion
8:40 – 9:05	<b>Robert W. Neumar, MD, PhD, FACEP</b> Associate Professor of Emergency Medicine, Associate Director, Center for Resuscitation Science, University of Pennsylvania School of Medicine <b>Topic:</b> <i>“Calpain-Mediated Injury in Post-Ischemic Neurons”</i>
9:05 – 9:15	Discussion
9:15 – 9:40	<b>Amy K. Wagner, MD</b> Associate Professor & Associate Research Director, Physical Medicine & Rehabilitation; Associate Director for Rehabilitation Research, Safar Center for Resuscitation Research; Training Faculty, Center for Neurobiology at the University of Pittsburgh <b>Topic:</b> <i>“Rehabilitation Perspectives on Neuroresuscitation Research”</i>
9:40 – 9:50	Discussion
9:50 – 10:05	Coffee break
10:05 – 10:30	<b>Robert S.B. Clark, MD</b> Associate Professor of Critical Care Medicine and Pediatrics University of Pittsburgh Medical Center <b>Topic:</b> <i>“Practice, Proclivity, and Paradigm Shifts in Brain Resuscitation”</i>
10:30 – 10:40	Discussion

10:40 – 11:05	<b>Rachel P. Berger, MD, MPH</b> Assistant Professor of Pediatrics, University of Pittsburgh, Department of Pediatrics /Children’s Hospital of Pittsburgh of UPMC, Safar Center for Resuscitation Research <b>Topic:</b> <i>“Using Serum Biomarkers to Identify and Evaluate Children with Inflicted Traumatic Brain Injury”</i>
11:05 – 11:15	Discussion
11:15 – 11:30	<b>David K. Shellington, MD</b> Pediatric Critical Care Medicine Fellow, Children’s Hospital of Pittsburgh of UPMC, Safar Center for Resuscitation Research, University of Pittsburgh Medical Center <b>Topic:</b> <i>“Advanced Resuscitation of Hemorrhagic Shock After Traumatic Brain Injury”</i>
11:30 – 11:40	Discussion
11:40 – 11:45	Presentation of the <u>7th Nancy Caroline Fellowship Award</u> Presented by Patrick M. Kochanek, MD
11:45 – 12:00	Break
12:00 – 12:05	Introduction of the Safar Lecture–John P. Williams, MD
12:05 – 12:10	Introduction of Safar Lecturer–Patrick M. Kochanek, MD
<b>12:10 – 12:50</b>	<b>29<sup>th</sup> Annual Safar Lecture–Fritz Sterz, MD</b>
12:50 – 1:00	Questions and Discussion
1:00 – 1:45	Reception – Foyer

## **The 29<sup>th</sup> Peter and Eva Safar Annual Lectureship in Medical Sciences and Humanities**

**Guest Speaker:** FRITZ STERZ, MD  
Associate Professor, Internal Medicine  
Department of Emergency Medicine  
Medical University of Vienna  
Vienna General Hospital, Austria

**Topic:** Peter Safar and Clinical Cooling

# 7th Annual Safar Symposium

May 6, 2009

## Afternoon Session

Location: WISER, 230 McKee Place, Suite 300

- 2:00 – 5:10     **Simulation as a Tool for Education and Assessment of Healthcare Providers**  
**Moderators: James Gordon, MD, MPA and Paul Phrampus, MD**
- 2:00 – 2:05     **Opening Comments – Afternoon Session**  
**Paul Phrampus, MD, FACEP**  
Director, Winter Institute for Simulation, Education and Research (WISER)
- 2:05 – 2:35     **Benjamin W. Berg, MD**  
Associate Professor of Medicine, SimTiki Simulation Center, John A. Burns School of Medicine, University of Hawaii at Manoa  
**Topic:** *“Simulation at a Distance – Friend or Foe?”*
- 2:35 – 2:40     Discussion
- 2:40 – 3:10     **Louis P. Halamek, MD, FAAP**  
Associate Professor, Division of Neonatal and Developmental Medicine, Department of Pediatrics; Director, Fellowship Training Program in Neonatal-Perinatal Medicine; Director, Center for Advanced Pediatric and Perinatal Education (<http://www.cape.lpch.org>), Stanford University  
**Topic:** *“Bringing Simulation to Millions: The Neonatal Resuscitation Program Experience”*
- 3:10 – 3:15     Discussion
- 3:15 – 3:30     Coffee Break

3:30 – 4:00

**James A. Gordon, MD, MPA**

Director, Gilbert Program in Medical Simulation Harvard Medical School, Associate Professor of Medicine, Department of Emergency Medicine, Massachusetts General Hospital

**Topic:** *“Experiential Learning in Medical Education: The Case for Technology-Enhanced Patient Simulation”*

4:00 – 4:05

Discussion

4:05– 4:35

**Mary D. Patterson, MD, MEd**

Associate Professor, Division of Emergency Medicine; Medical Director, Cincinnati Children’s Center for Simulation and Research, Cincinnati Children’s Hospital Medical Center

**Topic:** *“Simulation for Evaluation of System Competence”*

4:35 – 4:40

Discussion

4:40 – 5:00

**Shushma Aggarwal, MD**

Associate Professor, Department of Anesthesiology, University of Pittsburgh School of Medicine; Resident Rotation Director for Liver Transplant Anesthesia; Associate Editor, Liver Transplantation Journal

**Topic:** *“Role of Simulation in Resident Education for Liver Transplant Anesthesia”*

5:00 – 5:05

Discussion

5:05 – 5:10

Concluding Comments –

**Paul Phrampus, MD**

**Patrick M. Kochanek, MD**

# 7th Annual Safar Symposium

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## Morning Session Speakers Breakthroughs in Resuscitation: Resuscitation in the 21<sup>st</sup> Century from Cells to Systems

Location: Starzl Biomedical Science Tower,  
200 Lothrop St. – South-Room S100



### **MICHAEL J. WHALEN, MD**

Associate Professor of Pediatric Critical Care Medicine,  
Massachusetts General Hospital and Harvard  
Medical School

Michael J. Whalen, MD graduated from the University of Rochester, NY in 1982, and from the University of Vermont with a Masters in Cell Biology in 1985. Following medical school at the University of Vermont (1989), Dr. Whalen trained in Pediatrics residency at the Medical College of Virginia and then completed his Pediatric Critical Care Fellowship (1997) at Children's Hospital of Pittsburgh. Dr. Whalen was the recipient of the Charles Schertz Research Fellowship from 1997-1999. Under the mentorship of Dr. Patrick Kochanek at the Safar Center for Resuscitation Research, Dr. Whalen published 9 first author manuscripts and then accepted a faculty position as Instructor at the Massachusetts General Hospital in 1999. Over the last 9 years Dr. Whalen has established a traumatic brain injury research laboratory at MGH and was recently promoted to Associate Professor of Pediatrics, Harvard Medical School.

Dr. Whalen began his work at MGH studying the role of death receptors and their ligands in the pathogenesis of traumatic brain injury in immature and adult mice. This work was funded by a KO8 award and a Charles Hood Foundation grant and an RO1 in 2005. Other research interests in Dr. Whalen's laboratory include the role of plasmalemma permeability in acute cell death and outcome after brain trauma, the role of complement components in brain trauma and intracerebral hemorrhage, the role of necroptosis and necrostatins in TBI, low level red laser light as potential therapy for acute and chronic TBI, and the role of APOE4 genotype in outcome after immature and adult TBI. Currently Dr. Whalen's laboratory is comprised of 4 postdoctoral research fellows, 2 Emergency Medicine physicians, and a postgraduate Pharmacology student. Key collaborators include Dr. Junying Yuan of Harvard Medical School, Dr. Alexei Degterev of Tufts, and various investigators within MGH and the greater Boston area.



## **ROBERT W. NEUMAR, MD, PHD, FACEP**

Associate Professor of Emergency Medicine, Associate Director, Center for Resuscitation Science, University of Pennsylvania  
School of Medicine

Robert W. Neumar, MD, PhD, FACEP, is an Associate Professor of Emergency Medicine and Associate Director of the Center for Resuscitation Science at the University of Pennsylvania School of Medicine. Dr. Neumar obtained his MD in 1990 from the University of Pittsburgh, where he also completed residency training in Emergency Medicine. His formal research training includes a Sarnoff Fellowship at Ohio State University, a Critical Care Research Fellowship under the direction of Peter Safar at the University of Pittsburgh International Resuscitation Research Center (now known as Safar Center for Resuscitation Research), and an Emergency Medicine Research Fellowship at Wayne State University where he obtained his PhD in Physiology. He joined the faculty at the University of Pennsylvania in 1997.

Dr. Neumar's research is focused on the molecular mechanisms of neuronal injury after cardiac arrest, stroke, and head trauma. Current research projects include investigation of: 1) the mechanism and consequences of disrupted calcium homeostasis in post-ischemic neurons, 2) the role of calpain and caspase proteolytic cascades in post-ischemic neuronal death, 3) optimizing therapeutic hypothermia after acute brain injury.



## **AMY K. WAGNER, MD**

Associate Professor and Associate Research Director,  
Physical  
Medicine and Rehabilitation; Associate Director for  
Rehabilitation Research; Safar Center for Resuscitation  
Research; Training Faculty, Center for Neurobiology at the  
University of Pittsburgh

Amy K. Wagner, MD is an Associate Professor and Associate Director of Research in the Department of Physical Medicine and Rehabilitation and Associate Director of Rehabilitation Research at the Safar Center for Resuscitation Research. Dr. Wagner's research investigates gender and genetic differences in treatment and recovery outcomes for patients with traumatic brain injury. Her research also evaluates the recovery of dopaminergic systems after traumatic brain injury and is federally funded through the National Institutes of Health, the Centers for Disease Control, and the Department of Defense.

Throughout her academic and professional career, Dr. Wagner has served as mentor to undergraduates, medical students and resident physicians. She is especially interested in the advancement of women in the field of medicine. Dr.

Wagner is widely published and is involved professionally in many activities including manuscript review for several journals and the NIH peer review process through her membership on ANIE. She is the 2005 recipient of the Young Academician Award from the Association of Academic Physiatrists and in 2009 has been elected to the board of trustees for the Association of Academic Physiatrists.



**ROBERT S.B. CLARK, MD**

**Associate Professor of Critical Care Medicine and Pediatrics, University of Pittsburgh Medical Center**

Robert S.B. Clark, MD received his Doctor of Medicine degree from the Medical College of Wisconsin and completed a residency in Pediatrics at the University of Utah and a fellowship in Pediatric Critical Care Medicine at the Children’s Hospital of Pittsburgh. He began as a research fellow at the Safar Center for Resuscitation Research in 1994, and since has been privileged to have co-authored papers with pioneers in science such as Pat Kochanek, Peter Safar, Steve Graham, Simon Watkins, and Valerian Kagan. He is currently Associate Professor of Critical Care Medicine and Pediatrics and Associate Director of the Safar Center for Resuscitation Research at the University of Pittsburgh and Program Director of Pediatric Critical Care Medicine at the Children’s Hospital of Pittsburgh. His NIH-funded research has been translationally based, and includes characterization of cell death and survival pathways in cells, experimental models of cardiac arrest and traumatic brain injury, and in humans.



**RACHEL P. BERGER, MD, MPH**

**Assistant Professor of Pediatrics, University of Pittsburgh Department of Pediatrics/Children’s Hospital of Pittsburgh of UPMC, Safar Center for Resuscitation Research**

Rachel P. Berger MD, MPH received her undergraduate degree in biochemistry from Harvard University and attended medical school at Columbia College of Physicians and Surgeons where she was elected to the National Medical Honor Society, AOA. She completed her pediatric internship, residency and fellowship at Children’s Hospital of Pittsburgh and her Master’s of Public Health at the University of Pittsburgh. She has been an attending physician at the Child Advocacy Center at Children’s Hospital of Pittsburgh since 2001. She is also an Associate Director at the Safar Center for Resuscitation Research at the University of Pittsburgh. She recently completed a K23 which focused on the use of biomarkers in inflicted traumatic brain injury. She has published over 30 peer-reviewed papers, book chapters and review articles.





## **DAVID K. SHELLINGTON, MD**

**Pediatric Critical Care Medicine Fellow, Children's Hospital of Pittsburgh UPMC, Safar Center for Resuscitation Research, University of Pittsburgh Medical Center**

David K. Shellington, MD is finishing his fellowship in the Pediatric Critical Care Medicine program at Children's Hospital of Pittsburgh. After attending medical school at the Johns Hopkins School of Medicine in Baltimore, MD, he completed his residency training in pediatrics at the Naval Medical Center in Portsmouth.

After residency, he served as staff pediatrician at the United States Naval Hospital in Guantanamo Bay, Cuba, before returning to Naval Medical Center Portsmouth as a pediatric hospitalist.

Dr. Shellington's research at the Safar Center has focused on the role of polynitroxylated pegylated hemoglobin as a resuscitation fluid for the combined injury of hemorrhagic shock after traumatic brain injury and the inflammatory response to combined injury in a new mouse model that has been developed in the center. He is examining both the local response to this combined insult in brain and the systemic inflammatory response in this important condition. His area of focus is on microglial activation in the brain using clodronate as a therapy to slow the initial microglial response to injury. Dr. Shellington is working under the mentorship of Dr. Kochanek on a project funded by the United States Army.

# The 29<sup>th</sup> Peter and Eva Safar Annual Lectureship in Medical Sciences and Humanities

Guest Speaker: FRITZ STERZ, MD, PhD  
Associate Professor, Internal Medicine  
Department of Emergency Medicine  
Vienna General Hospital, Austria

Topic: Peter Safar and Clinical Cooling



Fritz Sterz, MD, PhD is an Associate Professor of Internal Medicine in the Department of Emergency Medicine at the Vienna General Hospital of Austria. He has been involved in the field of emergency medicine since 1975, initially as an emergency medical technician in the ambulance service of Graz. He received his MD degree from the University of Graz in 1981 and after his residency was a research fellow at the International Resuscitation Research Center (currently named Safar Center for Resuscitation Research) under the tutelage of the late Dr. Peter Safar at the University of Pittsburgh between 1987 and 1990 as a Fulbright Scholar. He returned to the University of Vienna where he earned his PhD in Resuscitation Medicine in 1992. Dr. Sterz joined the faculty of the Department of Emergency Medicine at the University of Vienna in 1992 and now serves as the Vice Director of Emergency Medicine. Dr. Sterz has made a number of important contributions to the field of resuscitation medicine and, in 2002, published in the *New England Journal of Medicine* results of the landmark European multi-center randomized controlled trial of therapeutic hypothermia for cardiac arrest in adults—a study that has changed guidelines worldwide and ultimately clinical practice. He has 130 refereed articles, has given 123 invited lectures, has played important roles on the development of resuscitation guidelines for the AHA, is currently on the editorial board of the journal *Resuscitation*, and received the Theodor Billroth Prize from the Medical Association of Vienna.

# Afternoon Session Speakers

## Advances in Pediatric Simulation Education and Assessment

Location: WISER, 230 McKee Place, Suite 300



### **BENJAMIN W. BERG, MD**

Associate Professor of Medicine, SimTiki Simulation Center, John A. Burns School of Medicine, University of Hawaii at Manoa

Benjamin W. Berg, MD was born in London, UK, and received his MD degree from the Tufts University School of Medicine, Boston, Massachusetts. He is board certified in Internal Medicine, Pulmonary Disease, and Critical Care Medicine. Dr. Berg served for over 26 years in the US Army. He held positions as the Internal Medicine Residency Director, Chairman of the Institutional Research Review Board, and Director of Graduate Medical Education at Tripler Army Medical Center, Honolulu, HI. Dr. Berg has conducted multiple clinical telemedicine and distance learning programs. He joined the University of Hawaii faculty full time in 2005. He is the Director of the SimTiki Medical Education Simulation Center at the University of Hawaii. Under his direction the center serves as a community resource for healthcare organizations in the state of Hawaii and the Asia Pacific region. Dr. Berg's current research interests include simulation at a distance, healthcare technology integration, and "Box to Bedside" translational research.



## **LOUIS P. HALAMEK, MD, FAAP**

Associate Professor, Division of Neonatal & Developmental Medicine, Department of Pediatrics; Director, Fellowship Training Program in Neonatal-Perinatal Medicine, Director, Center for Advanced Pediatric & Perinatal Education, Stanford University

Louis P. Halamek, MD, is an Associate Professor in the Medical Center Professoriate in the Division of Neonatal and Developmental Medicine, Department of Pediatrics, and the Division of Maternal-Fetal Medicine, Department of Gynecology and Obstetrics (by courtesy) at Stanford University. He is a graduate of the Creighton University School of Medicine and completed residency and chief residency in Pediatrics at the University of Nebraska Medical Center followed by fellowship in Neonatal-Perinatal Medicine at Stanford University. He is certified by the American Board of Pediatrics in both Pediatric Medicine and Neonatal-Perinatal Medicine and is a Fellow in the American Academy of Pediatrics. He has a clinical appointment at Lucile Packard Children's Hospital at Stanford where he works in the level III neonatal intensive care unit. Dr. Halamek is also the Director of the Fellowship Training Program in Neonatal-Perinatal Medicine at Stanford and is committed to the use of novel training methodologies and the incorporation of advanced educational technologies.

In 2002 Dr. Halamek founded the Center for Advanced Pediatric and Perinatal Education (CAPE, <http://www.cape.lpch.org>), dedicated to fetal, neonatal, pediatric and obstetric simulation. He has served on the Board of Directors of the Society for Simulation in Healthcare since 2005 and is also a member of the Editorial Board of the Journal of Simulation in Healthcare. He serves as Co-chair of the Steering Committee of the Neonatal Resuscitation Program (NRP) of the American Academy of Pediatrics; the NRP has over 26,000 instructors distributed throughout the U.S. and has been delivered to more than 2.2 million trainees during its 20-year history. Dr. Halamek is also a member of the Neonatal Delegation of the International Liaison Committee on Resuscitation (ILCOR). Together NRP and ILCOR set the national and international standards for resuscitation of the newborn. In his role as Steering Committee Co-chair, Dr. Halamek is facilitating the transition of the NRP from a textbook and skills station-based program into a simulation-based immersive learning experience. Finding ways to bring simulation-based learning methodologies to “those in the trenches” delivering care to patients is a primary focus of his work.



## **JAMES A. GORDON, MD, MPA**

Director, Gilbert Program in Medical Simulation, Harvard Medical School; Associate Professor of Medicine, Department of Emergency Medicine, Massachusetts General Hospital

James A. Gordon, MD, MPA, is Director of the G.S. Beckwith Gilbert and Katharine S. Gilbert Medical Education Program in Medical Simulation at Harvard Medical School, where he is an Associate Professor of Medicine and a Scholar in the Academy of medical educators. Dr. Gordon practices and teaches in the Department of Emergency Medicine at Massachusetts General Hospital (MGH) and is on faculty at the MGH/Partners Institute for Health Policy. He is also the co-founder of the Institute for Medical Simulation at the Center for Medical Simulation in Cambridge, MA.

After earning a bachelor's degree in intellectual history at Princeton, Dr. Gordon attended medical school at the University of Virginia and completed his training in emergency medicine at the University of Michigan. Following residency he completed a fellowship in the Robert Wood Johnson Clinical Scholars Program, also receiving a master's degree in public administration. His academic interests blend medical education (patient simulation) and health policy (medicine and social welfare). Dr. Gordon recently served as principal investigator and national co-chair of a federally funded research consensus conference on simulation in healthcare. He was a founding board member of the international Society for Simulation in Healthcare and sits on the editorial board of the inaugural journal in the field, *Simulation in Healthcare*. Dr. Gordon has received the Young Investigator Award from the Society for Academic Emergency Medicine and the Morgan-Zinsser Teaching Fellows Award at Harvard Medical School. His work has been featured in *The New Yorker* magazine, and highlighted as medical news in the *Journal of the American Medical Association (JAMA)*.



## **Mary Patterson, MD, MEd**

Associate Professor, Division of Emergency Medicine;  
Medical Director, Cincinnati Children's Center for  
Simulation and Research, Cincinnati Children's Hospital  
Medical Center

Mary D. Patterson, MD, MEd is an Associate Professor of Clinical Pediatrics and Emergency Medicine at Cincinnati Children's Hospital, the University of Cincinnati. She is also the Medical Director of the Cincinnati Children's Center for Simulation and Research.

Dr. Patterson's primary research interests are related to the use of medical simulation to improve patient safety and human factors work related to patient safety. She is a federally funded investigator in these areas.



## **SHUSHMA AGGARWAL, MD**

Associate Professor, Department of Anesthesiology,  
University of Pittsburgh Medical Center

Shushma Aggarwal, MD has been an anesthesiologist in UPMC for the past 27 years and has been a member of the liver transplant anesthesia team since 1984. Dr. Aggarwal has also been resident rotation director for liver transplant anesthesia since 1989. She has been the Associate Editor of the *Liver Transplantation Journal* for five years.

Dr. Aggarwal's main research interests are acute liver failure and its effect on the brain and noninvasive monitoring of intracranial pressure by use of transcranial doppler in acute liver failure patients.

# Notes

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