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The Safar Center for Resuscitation Research,
The Department of Anesthesiology,
The Department of Critical Care Medicine,
and the Winter Institute for Simulation, Education and Research

# 3rd Annual

# Safar Symposium

SAFAR CENTER FOR RESUSCITATION RESEARCH

UNIVERSITY OF PITTSBURGH

**Thursday, June 23, 2005**

**Biomedical Science Tower**

**South-Room S120**

1980 – 2005
25th Anniversary of
the Safar Center


**The official opening of the Resuscitation Research Center was held in June 1980 – making this the 25th anniversary of the Safar Center for Resuscitation Research.**

# "Father of CPR"

## Peter J. Safar, MD

**April 12, 1924 – August 3, 2003**
**Founding Director**
**International Resuscitation Research Center (1979 - 1994)**
**Founding Chairman, Department of Anesthesiology and Critical Care Medicine (1961 - 1978)**

# 3rd Annual Safar Symposium
# June 23, 2005

## Morning Session

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| 7:30 – 8:00 | Continental Breakfast |
| 8:00 - 8:05 | Opening Comments – Morning Session<br>Patrick M. Kochanek, MD<br>Professor, Critical Care Medicine, Pediatrics and Anesthesiology<br>Director, Safar Center for Resuscitation Research |
| 8:05 – 11:30 | **Advances in Resuscitation Research**<br>**"The Inflammatory Response in Resuscitation"** |
| **Moderators:** | Clifton W. Callaway, MD, PhD and Larry W. Jenkins, PhD |
| 8:05 – 8:35 | William Dalton Dietrich, III, PhD<br>Kinetic Concepts Distinguished Chair in Neurosurgery<br>Scientific Director, The Miami Project to Cure Paralysis<br>University of Miami<br>**"Inflammatory Response to CNS Injury: Effects of Hypothermia"** |
| 8:35 – 8:45 | Discussion |
| 8:45 – 9:15 | Edward D. Hall, PhD<br>Director, Spinal Cord & Brain Injury Research Center<br>University of Kentucky Medical Center<br>**"Nitrosative Stress and Damage in CNS Injury"** |
| 9:15 – 9:25 | Discussion |
| 9:25 – 9:55 | Valerian Kagan, PhD<br>Vice Chairman, Dept. of Environmental & Occupational Health<br>Director, Center for Free Radical and Antioxidant Health<br>University of Pittsburgh Medical Center<br>**"Oxidative Lipidomics of Apoptosis and Phagocytosis"** |
| 9:55 – 10:05 | Discussion |
| 10:05 – 10:20 | Coffee break |
| 10:20 – 10:50 | Hasan B. Alam, MD, FACS<br>Director, Trauma, Emergency and Surgical Critical Care Laboratory<br>Massachusetts General Hospital/Harvard Medical School<br>**"Effect of resuscitation strategies on post-shock inflammatory response"** |
| 10:50 – 11:00 | Discussion |
| 11:00 – 11:20 | Yi-Chen Lai, MD<br>Fellow, Safar Center for Resuscitation Research<br>University of Pittsburgh School of Medicine<br>**"PARP Activation – A Key Component of the Response to Brain Injury"** |
| 11:20 – 11:25 | Discussion |
| 11:25 – 11:30 | Presentation of the 3rd Nancy Caroline Fellowship Award<br>Presented by Patrick M. Kochanek, MD |

## The 25th Peter and Eva Safar Annual Lectureship in Medical Sciences and Humanities

## Guest Speaker: JAMES C. GROTTA, MD
## University of Texas Houston Medical School

## Topic: The Top 10 Issues in Acute Stroke Treatment

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| 11:30 – 11:35 | Introduction of the *Safar Lecture* – John P. Williams, MD |
| 11:35 – 11:40 | Introduction of *Safar Lecturer* – Patrick M. Kochanek, MD |
| **12:30 – 1:30** | **Reception – Foyer** |

## Afternoon Session

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| 1:30 – 1:35 | Opening Comments – Afternoon Session<br>John J. Schaefer, III, MD<br>Associate Professor, Department of Anesthesiology<br>Director, Winter Institute of Simulation, Education and Research (WISER) |
| 1:30 – 5:00 | **Advances in Human Simulation Education** |
| Moderators: | Ake Grenvik, MD, PhD and John J. Schaefer, III, MD |
| 1:35 – 2:05 | Joseph Quinlan, MD<br>Chief Anesthesiologist, Department of Anesthesiology,<br>University of Pittsburgh Medical Center<br>**"Validation of Anesthesia Difficult Airway Management Competency Assessment"** |
| 2:05 – 2:15 | Discussion |
| 2:15 – 2:45 | Elizabeth Hunt, MD, MPH<br>Assistant Professor, Johns Hopkins School of Medicine<br>Director, Johns Hopkins Simulation Center<br>**"Pediatric Mock Codes Using Simulation"** |
| 2:45 – 2:55 | Discussion |
| 2:55 – 3:15 | Coffee Break |
| 3:15 – 3:45 | Michael DeVita, MD<br>Associate Professor, Department of Critical Care Medicine<br>University of Pittsburgh Medical Center<br>**"In Hospital Crisis Team Training With Simulation"** |
| 3:45 – 4:55 | Discussion |
| 3:55 – 4:25 | Paul Phrampus, MD, FACEP<br>Assistant Director, Emergency Medical Program<br>Winter Institute of Simulation, Education and Research<br>**"Simulation-Based Emergency Medicine Difficult Airway Management Training"** |
| 4:25 – 4:35 | Discussion |
| 4:35 – 4:45 | Concluding Comments – Patrick M. Kochanek, MD |

# 3rd Annual Safar Symposium
# June 23, 2005

## Morning Session Speakers
## Advances in Resuscitation Research
## The Inflammatory Response in Resuscitation

WILLIAM DALTON DIETRICH, III, PhD
Kinetic Concepts Distinguished Chair in Neurosurgery
Professor of Neurological Surgery, Neurology, and Cell Biology and Anatomy
Scientific Director, The Miami Project to Cure Paralysis
Vice Chairman for Academic Affairs, Department of Neurological Surgery

Dr. Dietrich received his B.S. in Biology from Virginia Polytechnic Institute and State University in 1974, and his Ph.D. in Anatomy from the Medical College of Virginia in 1979. Dr. Dietrich completed a postdoctoral fellowship in the Department of Pharmacology (Dr. O.H. Lowry) at Washington University, St. Louis, MO, 1981. In 1981, Dr. Dietrich joined the Department of Neurology at the University of Miami School of Medicine as an Assistant Professor, with a joint appointment in Cell Biology and Anatomy; in 1986, he was promoted to Associate Professor with Tenure, 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 has published 48 book chapters, 213 refereed journal articles, 251 abstracts, and 20 editorial comments. He has been a thesis/dissertation advisor to 14 predoctoral students and has trained 27 postdoctoral fellows in his laboratory. Dr. Dietrich is a neuroscientist who utilizes animal models of brain and spinal cord injury to investigate the cellular, biochemical, and molecular events associated with cell death and recovery. In addition to testing new drugs in animal models, he has also investigated temperature-sensitive pathophysiological mechanisms. Ongoing studies target apoptotic and inflammatory processes to limit secondary injury mechanisms. Most recently, strategies to repair the brain and spinal cord have been initiated and include growth factor infusion and cellular transplantation strategies.

EDWARD D. HALL, PhD
Director, Spinal Cord & Brain Injury Research Center
Professor of Anatomy & Neurobiology, Neurology and Neurosurgery, University of Kentucky Medical Center

Dr. Hall received his Ph.D. in neuropharmacology from the Cornell University Graduate School of Medical Sciences in 1976. After completing a post-doctoral fellowship at Cornell University Medical College, he joined the Northeastern Ohio Universities College of Medicine where he rose to the rank of Associate Professor of Pharmacology. In 1982, he moved to the Upjohn Company where he initiated and led an effort over many years to discover and develop agents for the treatment of traumatic brain and spinal cord injury and stroke. In 1997, Dr. Hall left Upjohn and joined Parke-Davis Pharmaceutical Research which is now part of Pfizer Global Research and Development (PGRD). In 2001, he was appointed Senior Director, CNS Pharmacology at PGRD-Ann Arbor. On July 1, 2002, he joined the University of Kentucky Medical Center where he is Director of the Spinal Cord and Brain Injury Research Center (SCoBIRC) and Professor of Anatomy and Neurobiology, Neurosurgery and Neurology. He is an authority on the pathophysiology of acute neurological injury, particularly the role of reactive oxygen mechanisms, and the design and development of antioxidant neuroprotective drugs. He played a leading role in the development of high dose methylprednisolone therapy for acute SCI, and showed that its neuroprotective action involves inhibition of post-traumatic lipid peroxidation. He received the Upjohn Achievement in Science and Medicine Award in 1991. In addition, he was co-discoverer of the 21-aminosteroids ("lazaroids") including tirilazad mesylate. His ongoing research at the University of Kentucky is funded by NINDS and the Kentucky Spinal Cord & Head Injury Research Trust. Dr. Hall is currently a Section Editor for the Journal of Neurotrauma, a member of the Paralyzed Veterans of America Spinal Cord Research Foundation Scientific Advisory Board, he Chairs the VA Merit Review Panel and is Vice President of the National Neurotrauma Society. He also serves on the NINDS CND study section and is Chairman of the VA Merit Review Neurobiology C Review Group.

VALERIAN KAGAN, PhD
Professor and Vice Chairman, Department of Environmental and Occupational Health
Director, Center for Free Radical and Antioxidant Health
University of Pittsburgh Medical Center

Dr. Valerian E. Kagan is Professor and Vice Chairman in the Department of Environmental and Occupational Health, Director, Center for Free Radical and Antioxidant Health, in the Department of Environmental and Occupational Health. He is also a Professor in the Department of Pharmacology, and Senior Investigator, Magee Women's Research Institute. Dr. Kagan's current research focus is on free radical reactions in health and disease, redox biochemistry, lipid peroxidation and antioxidants, cytotoxicity of free radicals, biochemistry of nitric oxide, oxidative stress in apoptosis.

HASAN B. ALAM, MD, FACS
Director, Trauma, Emergency and Surgical Critical Care Laboratory, Massachusetts General Hospital/Harvard Medical School

Dr. Alam is a trauma surgeon and an Associate Professor of Surgery at the Uniformed Services University (USUHS), Bethesda, Maryland and the Georgetown University Medical School, Washington, DC. He has recently joined the Massachusetts General Hospital/ Harvard Medical School as the Director of the Trauma, Emergency Surgery, and Surgical Critical Care Laboratory. Dr. Alam has published widely on topics of hemorrhage control, resuscitation, post-resuscitation cellular injury, novel resuscitation strategies, and therapeutic application of profound hypothermia. He is a Principal Investigator on multiple Federal Research Grants, including an RO-1 grant from the National Institutes of Health.

YI-CHEN LAI, MD
Fellow, Pediatric Critical Care Medicine and
Safar Center for Resuscitation Research
University of Pittsburgh School of Medicine

Dr. Lai received his undergraduate degree in Biochemistry from the University of Pennsylvania, and M.D. degree from the University of Pittsburgh. Subsequently, he completed his pediatric training at Children's Hospital of Pittsburgh. After the completion of his pediatric residency, he pursued additional training in Pediatric Critical Care at Children's Hospital of Pittsburgh. During his fellowship, he was the recipient of two Educational Scholarship Awards from the Society of Critical Care Medicine. Dr. Lai currently is an NRSA fellow at Safar Center for Resuscitation Research under Dr. Patrick M. Kochanek's T-32 training grant entitled "Training in Pediatric Neurointensive Care and Resuscitation Research" (NIH/NICHD). His research is focused on the neuronal response to injury, with a primary interest in apoptosis and related emphasis on anti-apoptotic therapies. For the past few years, Dr. Lai has been working directly under Dr. Robert S.B. Clark, investigating the role of mitochondrial poly-ADP-ribosylation in neuronal death and potential therapeutic interventions.

# The 25th Peter and Eva Safar Annual Lectureship in Medical Sciences and Humanities

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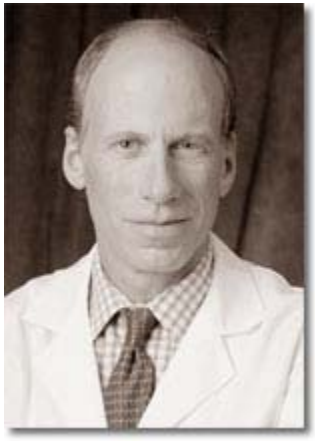
## University of Texas Houston Medical School

## Topic: The Top 10 Issues in Acute Stroke Treatment



Dr. Grotta is Professor of Neurology and Director of the ACGME accredited Vascular Neurology Program at the University of Texas-Houston Medical School where he occupies the Roy M. and Phyllis Gough Huffington Distinguished Chair. Dr. Grotta received his training at Dartmouth College and then at the Universities of Virginia and Colorado, and the Massachusetts General Hospital. He spent two years in the US Public Health Service (Indian Health Service), and first joined the University of Texas Houston Medical School faculty in 1979. His research focuses on development of new therapies for acute stroke patients. He is in the 15th year of NIH funding for laboratory studies on the biology of brain injury and recovery in animal stroke models, and he has played a leadership role in many clinical research studies of both thrombolytic drugs and cytoprotective agents after stroke.

Dr. Grotta has orchestrated the development of a very successful collaborative network between University of Texas, Memorial Hermann Hospital, Houston Fire Department-Emergency Medical Services, and other regional stroke centers to increase the delivery of appropriate therapy to a large number of acute stroke patients in Houston.

Dr. Grotta is an editor of the *Annals of Neurology* and several other peer reviewed journals, has been a member of several NIH and FDA review panels, is a recipient of the Feinberg Award for Excellence in Clinical Stroke from the American Heart Association, and has won awards for teaching excellence at the University of Texas Medical School for 14 years. He has authored or co-authored more than 200 articles in peer-reviewed journals.

# Afternoon Session Speakers
# Advances in Human Simulation Education

JOSEPH QUINLAN, MD
Chief Anesthesiologist, Department of Anesthesiology University of Pittsburgh Medical Center

Dr. Quinlan is a graduate of the University of Pennsylvania School of Medicine and completed an anesthesia residency and cardiac anesthesiology fellowship at the Hospital of the University of Pennsylvania. Upon completion of his fellowship he joined the faculty at the University of Pittsburgh School of Medicine, where he is currently Associate Professor of Anesthesiology. He has served as Chief Anesthesiologist at UPMC-Presbyterian since 2001. Dr. Quinlan's research interests have included mechanisms of general anesthetic effects at GABA-A receptors, use of benzodiazepines to help elucidate basic mechanisms of human memory, and the use of simulation to teach practicing anesthesiologists difficult airway skills. He is currently funded by the Anesthesia Patient Safety Foundation in this area, and was awarded the 2005 Ellison Pierce Award by the Anesthesia Patient Safety Foundation.

ELIZABETH HUNT, MD, MPH
Director, Johns Hopkins Simulation Center
Baltimore, Maryland

Elizabeth A. Hunt, MD, MPH, “Betsy”, was recently named the first Director of the Johns Hopkins Simulation Center. She graduated AOA from Albany Medical College in 1995. This was followed by a combined residency in Internal Medicine and Pediatrics, and a Pediatric Chief Residency at Duke University. Subsequently, she did a Pediatric Critical Care fellowship at Johns Hopkins. She also completed a Masters in Public Health at the Johns Hopkins Bloomberg School of Public Health where she is now nearing completion of a PhD in Clinical Epidemiology. Her thesis involves the use of simulation to assess the performance of pediatric residents during pediatric cardiopulmonary arrests. Her work analyzing in-hospital resuscitation systems through the use of simulation has resulted in receipt of the 2003 “Pearl M. Stetler Grant for Women Researchers”, the First Place Award for a Platform Presentation at the 2004 International Meeting on Medical Simulation, the 2004 Johns Hopkins “Helen Taussig Young Investigator Award” and the 2004 Johns Hopkins “Harriet Lane House Staff Appreciation Award”. She is currently an Attending Pediatric Intensivist in the Johns Hopkins Pediatric Intensive Care Unit, and an Assistant Professor in the Department of Anesthesiology and Critical Care Medicine.

MICHAEL DeVITA, MD
Associate Professor, Department of Critical Care Medicine
University of Pittsburgh Medical Center

Dr. DeVita has been the Associate Medical Director for Patient Safety of UPMC Presbyterian Hospital since 1997, and the Associate Medical Director of the WISER. His interests in resuscitation are practical: preparation for and delivery of emergency medical responses to patients in crisis. As Chair of MERIT (Medical Emergency Response Improvement Team) for UPMC Presbyterian, he has championed the hospital's effort to have a rapid, reliable, and organized response to medical crises. He has developed a novel curriculum for team organization using human simulation and web technology.

PAUL PHRAMPUS, MD, FACEP
Assistant Director, Emergency Medical Programs
Winter Institute of Simulation, Education & Research

Dr. Phrampus is the Assistant Director of Emergency Medical Programs at the Peter M. Winter Center for Simulation, Education and Research. He is an Assistant Professor at the University of Pittsburgh in the department of Emergency Medicine. Dr. Phrampus has been very active in patient safety efforts in airway management and led a team to create a difficult airway management simulation course and accompanying airway algorithm specific to the practice of emergency medicine. His course is now a requirement of practicing Emergency Physicians at UPMC Presbyterian, and will soon be deployed across the entire UPMC Health Systems Emergency Departments. Dr. Phrampus has an extensive background in prehospital care and serves as an active EMS medical director for Fayette EMS in Connellsville, Pa. He co-authored a simulation course for flight crew training for Stat Medevac, which operates 16 helicopters, multiple fixed wing aircraft and employs about 200 crew members. He has been active in education for many years and was recently awarded the faculty excellence award by the University of Pittsburgh Emergency Medicine.