

20th Annual
SAFAR SYMPOSIUM

Paradigm Shifts in Brain Injury Research

Thursday May 18, 2023 | 8 am to 5:30 pm | University Club

Friday May 19, 2023 | 8 am to 12:30 pm | WISER



42nd Peter and Eva Safar Lecture
for the Sciences and Humanities

Geoffrey T. Manley, MD, PhD

Professor and Vice Chairman, Neurological Surgery
University of California, San Francisco

***TRACK-TBI: A 14 Year Journey to Transform
Research and Clinical Knowledge in TBI***

20th Annual Safar Symposium

May 18, 2023

University Club, Ballroom B – 123 University Place

- 7:30 Registration and Continental Breakfast
- 8:00 – 11:45 **PARADIGM SHIFTS IN BRAIN INJURY RESEARCH**
- Moderators:**
- Corina O. Bondi, PhD**
Assistant Professor, Physical Medicine & Rehabilitation and Neurobiology
University of Pittsburgh School of Medicine, Pittsburgh, PA
- Ericka L. Fink, MD, MS**
Associate Professor, Critical Care Medicine and Pediatrics and the Clinical and Translational Science Institute
UPMC Children’s Hospital of Pittsburgh, Pittsburgh, PA
- 8:00 – 8:15 **Opening Comments**
- Patrick M. Kochanek, MD, MCCM**
Distinguished Professor and Vice Chair, Critical Care Medicine
Director, Safar Center for Resuscitation Research
University of Pittsburgh School of Medicine, Pittsburgh, PA
- 8:15 – 8:45 **Christina L. Master, MD, FAAP, CAQSM, FACSM, FAMSSM**
Professor of Pediatrics, University of Pennsylvania Perelman School of Medicine
Co-Director, Minds Matter Concussion Program
Pediatric and Adolescent Sports Medicine, Division of Pediatric Orthopedics
Attending Physician, Care Network – Karabots Center
The Children’s Hospital of Philadelphia, Philadelphia, PA
Minds Matter: Seeing Concussion through New Eyes
- 8:45 – 8:50 Discussion

- 8:50 – 9:20 **David J. Loane, PhD**
 Associate Professor of Neuroscience
 School of Biochemistry and Immunology
 Trinity Biomedical Sciences Institute
 Trinity College Dublin, The University of Dublin, Ireland
Microglial Dysfunction in the Aged and Injured Brain
- 9:20 – 9:25 Discussion
- 9:25 – 9:55 **Christopher M. Horvat, MD, MHA**
 Associate Professor, Critical Care Medicine, Pediatrics, and
 Biomedical Informatics
 Associate Director, Safar Center for Resuscitation Research,
 Informatics
 UPMC Children’s Hospital of Pittsburgh, Pittsburgh, PA
Augmented Intelligence in Pediatric Neurocritical Care
- 9:55 – 10:00 Discussion
- 10:00 – 10:15 BREAK
- 10:15 – 10:45 **Douglas H. Smith, MD**
 Groff Endowed Professor of Teaching and Research in
 Neurosurgery
 Director, Center for Brain Injury and Repair
 Department of Neurosurgery, University of Pennsylvania
 Philadelphia, PA
Havana Syndrome and the Accidental Asset
- 10:45 – 10:50 Discussion
- 10:50 – 11:20 **Jeremy R. Herrmann, MD**
 Clinical Instructor, Pediatric Critical Care Medicine
 UPMC Children’s Hospital of Pittsburgh
 NIH T32 Post-Doctoral Scholar
 Safar Center for Resuscitation Research, University of
 Pittsburgh, Pittsburgh, PA
***Cold Shock Proteins (CSPs)—Can We Achieve the
 Neuroprotective Promise of Therapeutic Hypothermia?***
- 11:20 – 11:25 Discussion

1st Annual
Safar Symposium



Wednesday, November 20, 2002
Petersen Events Center

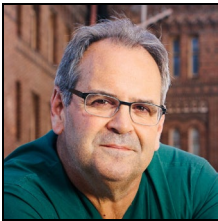


- 11:25 – 11:40 **Special Presentation to Honor John Williams, MD on the 20th Anniversary of the Safar Symposium**
- Nancy Caroline Fellow Award and the S. William Stezoski Technician Award presentations and Morning Session Closing Remarks**
Patrick M. Kochanek, MD, MCCM
- 11:40 – 12:00 BREAK
- 12:00 – 1:00 **42nd Peter and Eva Safar Annual Lectureship in Medical Sciences and Humanities**
Geoffrey T. Manley, MD, PhD
Professor and Vice Chairman, Neurological Surgery, University of California San Francisco
Chief of Neurosurgery, Zuckerberg San Francisco General Hospital
Co-Director, Brain and Spinal Injury Center, San Francisco, CA
TRACK-TBI: A 14 Year Journey to Transform Research and Clinical Knowledge in TBI
- 1:00 – 1:45 Reception
Ballroom B, University Club

The 42nd Peter and Eva Safar Annual Lectureship in Medical Sciences and Humanities

Guest Speaker: **Geoffrey T. Manley, MD, PhD**
Professor and Vice Chairman, Neurological Surgery,
University of California San Francisco
Chief of Neurosurgery, Zuckerberg San Francisco General
Hospital
Co-Director, Brain and Spinal Injury Center
San Francisco, CA

Topic: ***TRACK-TBI: A 14 Year Journey to Transform
Research and Clinical Knowledge in TBI***



Dr. Geoffrey T. Manley is the Chief of Neurosurgery at Zuckerberg San Francisco General Hospital (ZSFG) and is Professor and Vice Chairman of Neurosurgery at the University of California, San Francisco. Dr. Manley is an internationally recognized expert in neurotrauma. In addition to a robust clinical practice at ZSFG, San Francisco and the Greater Bay Area's level 1 trauma center, he coordinates and leads

national and international clinical research efforts in the study of the short- and long-term effects of TBI. With a nationwide team of TBI experts, has recently launched the TRACK-TBI NETWORK, an innovative, precision-medicine driven consortium that will test Phase 2 drugs for TBI. The TRACK-TBI studies have created a modern precision medicine information commons for TBI that integrates clinical, imaging, proteomic, genomic, and outcome biomarkers to drive the development of a new TBI disease classification system, which could revolutionize diagnosis, direct patient-specific treatment, and improve outcomes. His over 300 published manuscripts reflect a wide range of research interests from molecular aspects of brain injury to the clinical care of TBI. He sits on the National Academies of Science, Engineering and Medicine's Committee on VA Examinations for Traumatic Brain Injury and has served as a consultant for the Prehospital Guidelines Committee for the World Health Organization and on numerous clinical research committees for the National Institutes of Health, Centers for Disease Control, and Department of Defense.

Multi-Departmental Trainees' Research Day

May 18, 2023
University Club | 123 University Place

- 1:00 – 1:45 Registration and Poster Setup
- 2:00 – 2:05 **Opening Comments**
Patrick M. Kochanek, MD, MCCM
- 2:05 – 3:20 Poster Session—**Ballroom A**
- 3:20 – 3:30 BREAK
- 3:30 – 4:45 Oral Presentations—**Ballroom B**

Moderators:

Clifton W. Callaway, MD, PhD

Professor and Executive Vice Chair, Department of
Emergency Medicine
Ronald D. Stewart Endowed Chair of Emergency Medicine
Research
University of Pittsburgh School of Medicine, Pittsburgh, PA

C. Edward Dixon, PhD

Neurotrauma Chair Professor
Vice Chair, Research
Director, Brain Trauma Research Center
Department of Neurological Surgery
University of Pittsburgh School of Medicine, Pittsburgh, PA

Oral Presentations

Department of Anesthesiology and Perioperative Medicine

Sydney Lamerand, BS, PhD(c)

Modulation of Neuropathic Pain in Multiple Sclerosis by Spinal Microglia and Sphingosine-1-Phosphate Receptor S1PR1

Department of Critical Care Medicine

Brittany P. Nelson, MS

Short Chain Fatty Acid Supplementation Following Traumatic Brain Injury

Department of Emergency Medicine

Shavin S. Thomas, BS

Validation of Non-Invasive Sensors for Monitoring Core Temperature

Department of Neurological Surgery

Gregory Varga, MS, BS

Pre-Injury Frailty Best Predicts One Year Mortality in Older Adults with Traumatic Spinal Column Fractures

Department of Physical Medicine & Rehabilitation

Ellen M. Annas, BS

Combining a $\alpha 7$ Nicotinic Acetylcholine Receptor Allosteric Modulator and Environmental Enrichment Improves Sustained Attention and Cholinergic Neurotransmission After Controlled Cortical Impact Injury in Male and Female Rats

5:00 – 5:15 Judges Meeting—Ivy Room

5:15 – 5:30 Trainee Awards Presentation—**Ballroom B**

20th Annual Safar Symposium

May 19, 2023

WISER | 230 McKee Place, Suite 300

- 7:30 – 8:00 Registration and Continental Breakfast
- 8:00 – 8:15 **Opening Comments**
Patrick M. Kochanek, MD, MCCM
Distinguished Professor and Vice Chair, Critical Care Medicine
Director, Safar Center for Resuscitation Research
University of Pittsburgh School of Medicine, Pittsburgh, PA
- Paul E. Phrampus, MD, CPE, FSSH**
Director, Winter Institute for Simulation, Education and
Research (WISER)
Professor, Depts. of Emergency Medicine and Anesthesiology
University of Pittsburgh and UPMC, Pittsburgh, PA
- 8:00 – 12:00 **EXCELLENCE IN SIMULATION**
- Moderator:** **John M. O'Donnell, DrPh, CRNA**
Professor and Chair, Department of Nurse Anesthesia
Director, Nurse Anesthesia Program, University of Pittsburgh
School of Nursing, Associate Director, WISER, Pittsburgh, PA
- 8:15 – 8:50 **Mark W. Scerbo, PhD, FHFES, FSSH**
Editor-in-Chief, *Simulation in Healthcare*
Professor and Associate Chair, Human Factors Psychology
Old Dominion University
Adjunct Professor of Health Professions
Eastern Virginia Medical School, Norfolk, VA
Scholarship in Healthcare Simulation: An Editor's Perspective
- 8:50 – 9:05 Discussion
- 9:05 – 9:30 **Geoffrey T. Miller, PhD(c), EMT-P, FSSH**
Associate Professor (P.A.R.), Department of Emergency
Medicine
Doctors David S. and Marilyn M. Zamierowski Directorship,
Johns Hopkins Medicine Simulation Center

Affiliate Faculty Armstrong Institute for Patient Safety and Quality

Baltimore, MD

Assessing Assessments in Healthcare Simulation

9:30 – 9:40

Discussion

9:40 – 10:00

BREAK

10:00 – 10:25

Shelita Y. Kimble, M.Ed, CHSOS

Director of Education and Training Business Solutions

The University of Texas MD Anderson Cancer Center

The Teaching, Inter-Professional, and Simulation (TIPS)

Education Center, Houston, TX

Simulation and Cancer Care Navigating the System

10:25 – 10:35

Discussion

10:35 – 11:00

Michael Spooner, MD, MBA, CHSE, FACC, FHRS, FSSH

Director of Electrophysiology

Program Director, Mercy One North Iowa Cardiovascular

Fellowship

Mercy One North Iowa Heart Center, Mason City, IA

Confronting Fear: At the Heart of Simulation

11:00 – 11:10

Discussion

11:10 – 11:35

Daniel Salcedo, MD, MHPE

Director of Simulation and Educational Technology

Case Western Reserve University School of Medicine

Cleveland, OH

Best Practices in Implementation of XR in Simulation

11:35 – 11:45

Discussion

11:45 – 12:00

Morning Wrap Up / Highlights

Paul E. Phrampus, MD, CPE

Closing Comments

Patrick M. Kochanek, MD, MCCM

20th Annual Safar Symposium

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SPEAKER PROFILES



Dr. Christina L. Master is Professor of Pediatrics at the University of Pennsylvania Perelman School of Medicine and founding co-director of the Minds Matter Concussion Program at CHOP with almost three decades of experience in clinical pediatrics. Dr. Master is board-certified in pediatrics, sports medicine, and brain injury medicine, caring for over eight hundred

children with concussion annually in her outpatient clinical practice. The Minds Matter Concussion Program provides clinical care, community outreach and education, and conducts translational clinical research in youth concussion. Her particular research emphasis has been describing the identifying objective physiological biomarkers in order to target active interventions to improve outcomes for those with concussion.



Dr. David Loane is an Associate Professor of Neuroscience in the School of Biochemistry and Immunology, Trinity College Dublin, Ireland, and Adjunct Associate Professor at the Shock, Trauma, and Anesthesiology Research (STAR) Center at the University of Maryland School of Medicine (UMSOM), Baltimore, MD, USA. Dr. Loane conducted his graduate studies in the Department of Pharmacology

and MRC Center for Synaptic Plasticity, University of Bristol, England. He then pursued postdoctoral training in CNS injury and neuroinflammation at Trinity College Institute of Neuroscience, Trinity College Dublin, Ireland and the Department of Neuroscience, Georgetown University, Washington DC, USA. He was a faculty member in the Department of Anesthesiology and STAR Center, UMSOM from 2009-2018. He then returned to Dublin in 2019 to establish a preclinical neurotrauma and neuroimmunology research group in Trinity College Dublin. Dr. Loane leads a multi-disciplinary research team dedicated to studying brain/systemic inflammation and chronic injury responses following TBI. The mission of his group is to elucidate the pathophysiological mechanisms

underlying post-traumatic neuroinflammation, neurodegeneration and loss of neurological function, and to develop novel treatment strategies for neuroprotection and post-traumatic repair that will translate to the clinic for human head injury.



Dr. Christopher M. Horvat is a Clinician-Investigator who focuses on the development of the Learning Health System, with an emphasis on leveraging modern information systems and remnant biological samples to optimize the care of critically ill children. Dr. Horvat supported by a K23 career development award from NICHD titled “A Learning Health Systems Approach to Precision Sedation and Analgesia”, an

R01 from NINDS titled “Biodigital Rapid Alert to Identify Neuromorbidity (BRAIN AI),” and funding from the Pittsburgh Health Data Alliance and UPMC Enterprises “UPMC Children’s Hospital of Pittsburgh’s Virtual Intelligent Early Warning System (CHP VIEW).”



Dr. Douglas H. Smith is the Robert A. Groff Endowed Professor of Teaching and Research in Neurosurgery and Director of the Center for Brain Injury and Repair at the University of Pennsylvania. In addition, Dr. Smith served as the Scientific Director of the Big 10/ Ivy league Collaboration on Concussion and he also serves as a member on the Scientific Advisory Boards of the US National Football League

(NFL), the National Collegiate Athletic Association (NCAA)-DoD “CARE” consortium on concussion and the International Concussion Society.

Furthermore, the U.S. Department of State Department asked Dr. Smith to lead an investigation into neurological deficits induced in members of the embassy in Cuba, which led to the discovery of a new disorder, “Havana Syndrome.”

Dr. Smith’s group has established that damage to brain networks and specifically, diffuse axonal injury (DAI), represents key pathological processes underlying concussion symptoms and that the extent of acute axonal pathology is predictive of cognitive outcome. In addition, his group has discovered mechanisms of concussion and more severe TBI that lead to progressive neurodegeneration, including chronic traumatic encephalopathy. These collective

research efforts are represented in over 250 published scientific reports earning an *h*-index of over 90. His awards include the Dorothy Russell medal, the highest honor conveyed by the British Neuropathological Society the William Osler Patient Oriented Research Award from the University of Pennsylvania, the highest clinical research honor and the Anthony B. Marmarou Memorial Neurotrauma Lecture Award from the American Association of Neurological Surgeons and Congress of Neurological Surgeons.



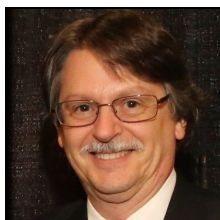
Dr. Jeremy R. Herrmann is a clinical instructor at the UPMC Children's Hospital of Pittsburgh and an NIH T32 Postdoctoral Scholar at the Safar Center for Resuscitation Research at the University of Pittsburgh. His research focuses on brain injury after hypoxic-ischemic insults. He is involved in both translational and bench research examining novel therapeutic strategies to improve neurologic

outcomes in post-cardiac arrest patients.

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SIMULATION SPEAKER PROFILES



Dr. Mark Scerbo is Professor of Human Factors Psychology at Old Dominion University and an Adjunct Professor of Health Professions at Eastern Virginia Medical School. He is a Fellow of the Society for Simulation in Healthcare and currently serves as Editor-in-Chief of the journal, *Simulation in Healthcare*. He is also a Fellow of the Human Factors and Ergonomics Society, where he was recently named a

Titan for his work in healthcare simulation. He has over 35 years of experience researching and designing systems that improve user performance in academic, military, and industrial work environments. He has conducted research in many different specialty areas including emergency medicine, family medicine, interventional radiology, nursing, obstetrics and gynecology, oncology, surgery, as well as with standardized patients. He currently leads a team investigating user interaction with healthcare simulation technology, new simulation models and technology, and methods to integrate simulation into medical school curricula.



Dr. Geoffrey T. Miller is a Medical and Health Professions Educator and Associate Professor (P.A.R.) in the Department of Emergency Medicine at the Johns Hopkins School of Medicine. He is the Doctors David S. and Marilyn M. Zamierowski Director of the Johns Hopkins Medicine Simulation Center. Prior to joining Johns Hopkins School of Medicine, he was the Senior Research Scientist and Division Chief

of the Medical Modeling, Simulation, Informatics & Visualization (MMSIV) Division at the Telemedicine and Advanced Technology Research Center (TATRC), U. S. Army Medical Research and Development Command (USAMRDC), Director of Simulation, Technology and Research and Associate Professor, School of Health Professions at Eastern Virginia Medical School. His research interests focus on simulation-based educational activities, curriculum development, educational outcomes, and translational analysis, with an

emphasis on the creation and improvement of clinical performance assessment using advanced educational technology, modeling and simulation, specializing in immersive virtual environments, serious gaming and innovative educational technology development.



Dr. Shelita Kimble is a passionate operations specialist, simulationist, educator, and technology junkie who was lured into the simulation world purely by accident in 2006. She is the Director of Education and Training Business Solutions at The University of TX MD Anderson Cancer Center. The Teaching, Inter-Professional, and Simulation (TIPS) Education Center at MD Anderson serves over 23,000 cancer care

professionals with its mission to be the international model of excellence in healthcare simulation for cancer care through research-based, innovative, and state-of-the-art education, training, and competency validation to enhance patient care and safety, provision of patient education, clinical services, and research.

She has over 25 years of combined experience in simulation, managing teams, and providing technical expertise and leadership in program, project, IT, operations, logistics, and production management for the healthcare industry. She holds Medical Radiography, Digital Communications, Computer Science, and Education degrees. This combination gives her a uniquely diverse background, which aids in educating health science professionals and her approach to healthcare simulation.

Nationally, Shelita has been a member of The Society for Simulation in Healthcare (SSH) since 2014. Since joining the society, she has participated on several committees and served as the Vice-Chair for the Simulation Operation and Technology Section. Shelita is devoted to advancing Simulation Operation Specialists and the field of simulation as a whole. That devotion led her to co-chair the International Meeting on Simulation in Healthcare (IMSH) and serve as a Subject Matter Expert (SME) for the workshop tasked with ensuring a valid and reliable certification process for the Certified Healthcare Simulation Operations Specialist (CHSOS) exams. Most notably and impactful (or should I use recently), she was a member of the Executive Board of Directors.



Dr. Michael Spooner is a staff Electrophysiologist, Invasive Cardiologist, and Program Director for the Mercy One North Iowa Cardiovascular Fellowship in Mason City, Iowa. He also currently serves on the Executive Committee of the Board of Directors for the Society for Simulation in Healthcare, as well as serving as Co-Chair of the American College of Cardiology's Simulation Workgroup, helping to shape and lead

simulation activities nationally and internationally within the field of Cardiology. He also serves on the ACC's Life-long Learning Oversight Committee and Virtual Reality Training Technology Workgroup. Prior to retirement from the U.S. Navy in 2020 as a Navy Captain, Dr. Spooner served as Director of the Healthcare Simulation and Bioskills Training Center at the Naval Medical Center Portsmouth, Virginia, where he was instrumental in building training curricula, and coordinating and expanding the Navy's involvement in a broad range of real-time high fidelity medical simulation activities. His professional interests and contributions vary from analyzing rare cardiac electrical abnormalities, developing and studying simulation skills curricula, and improving heart rhythm monitoring and surveillance. He is a Fellow of the Society for Simulation in Healthcare, Heart Rhythm Society, and the American College of Cardiology.



Dr. Daniel Salcedo is a General Internal Medicine physician with a deep passion for health professions education and technology; he has extensive international teaching experience in Asia, Europe, Australia, and the American continent.

Daniel is the Director of Simulation and Educational Technology at Case Western Reserve University School of Medicine. He oversees the Mt. Sinai Clinical Skills and Simulation Center and is also responsible for developing and implementing new technologies for health professions education, including XR.

Throughout his career as an educator, Daniel has focused on developing and implementing sustainable and cost-effective technological innovations to enhance the health profession's education and competency-based assessment. He has extensive experience working with VR, and XR applied to clinical skills development.

He is Co-Chair of the Technology-Enhanced Learning Committee at the Association for Medical Education in Europe (AMEE). He sits on the Technology Committee of the Society for Simulation in Healthcare (SSH).

The Safar Center for Resuscitation Research gratefully acknowledges the support of our sponsors:

Dr. Ake N. Grenvik Endowed Chair in Critical Care Medicine
Department of Anesthesiology & Perioperative Medicine
Department of Critical Care Medicine
Department of Emergency Medicine
Department of Neurological Surgery
Department of Physical Medicine & Rehabilitation
University of Pittsburgh School of Medicine
UPMC

Peter M. Winter Institute for Simulation, Education and Research
S. William Stezoski Family
Allan Braslow and Virginia Klunder
UPMC Children's Hospital of Pittsburgh
Safar Symposium Planning Committee

The 20th Annual Safar Symposium is hosted by Patrick M. Kochanek, MD, MCCM, Director of the Safar Center for Resuscitation Research, and Aman Mahajan, MD, PhD, MBA, Chair of the Department of Anesthesiology and Perioperative Medicine.

Committee members are:

Clifton W. Callaway, MD, PhD
Robert S.B. Clark, MD
C. Edward Dixon, PhD
Anthony E. Kline, PhD

John O'Donnell, DrPH, CRNA
Paul E. Phrampus, MD, CPE
Amy K. Wagner, MD
Yan Xu, PhD



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