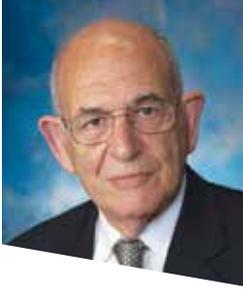


**Department of Surgery**  
School of Medicine

**Eighteenth Annual**

**Richard L. Simmons Lecture  
in Surgical Science and  
Department of Surgery  
Research Day**

**Wednesday, May 6, 2020**  
Microsoft Teams Live Event



## **Richard L. Simmons, MD**

Chair Emeritus, Department of Surgery  
Distinguished Service Professor of Surgery

Richard L. Simmons graduated magna cum laude in biochemical sciences from Harvard University and was elected to Phi Beta Kappa. He earned his MD at Boston University, graduating summa cum laude, and was elected to AOA. He completed his surgical residency at New York Presbyterian Hospital, where he was a National Institutes of Health (NIH) postdoctoral fellow, a visiting fellow in surgery at Columbia University, and an American Cancer Society (ACS) clinical fellow. During this time, he also won the Mead Johnson Award of ACS and was a clinical and research fellow in surgery at Massachusetts General Hospital and a research fellow at Harvard Medical School. He became principal investigator of an RO1 grant as a resident and was NIH funded for more than 40 consecutive years thereafter.

After heading the surgical research team of the U.S. Army in Vietnam in 1967, Simmons joined the surgical faculty of the University of Minnesota, where he was a Markle scholar in academic medicine and held professorships in both surgery and microbiology. Between 1987 and 1998, Simmons served as chair of the Department of Surgery at the University of Pittsburgh School of Medicine, and in 1996, he became the medical director of UPMC—a position he held until 2015.

During his tenure at Pitt, Simmons has received many honors. Locally, he was given the annual award from the Southwestern Pennsylvania Chapter of ACS and the Gift of Life Award from the National Kidney Foundation of Western Pennsylvania and was named Man of the Year (1998) in Science by Vectors of Pittsburgh. He was selected by Archives of Surgery as one of two dozen 20th-century surgeons who have made significant contributions to surgery, and in 2001, ACS dedicated the Surgical Forum to Simmons. In 2004, Simmons received the Medawar Prize for his work in transplantation immunology and infectious disease. He was awarded the Thomas E. Starzl Prize in Surgery and Immunology in 2005 and the Lifetime Achievement Award from the Society of University Surgeons in 2010. The Allegheny County Medical Society Foundation honored Simmons with the Ralph C. Wilde Leadership Award in March 2014. Most recently, Simmons was awarded the Pioneer Award from the American Society of Transplant Surgeons and the Scientific Medallion from the American Surgical Association. Simmons is past chair of the Surgical Forum and past president of the Society of University Surgeons, American Society of Transplant Surgeons, and Surgical Infection Society. Simmons also has served as a member of the Board of Directors of the American Board of Surgery. He has authored or edited 15 books and more than 1,300 articles. In 1994, he was elected to the Institute of Medicine of the National Academies.

Simmons continues to serve the Department of Surgery as chair emeritus and as an advisor and mentor.



## **George K. Gittes, MD**

Benjamin R. Fisher Chair of Pediatric Surgery,  
Professor of Pediatric Surgery and Pediatrics, and  
Chief of Pediatric General and Thoracic Surgery,  
Department of Surgery, University of Pittsburgh  
School of Medicine

Surgeon in Chief Emeritus and Scientific Codirector  
of Research, UPMC Children's Hospital of Pittsburgh  
Director, Richard King Mellon Foundation Institute  
for Pediatric Research

George K. Gittes, grew up in La Jolla, California. He attended Harvard College followed by Harvard Medical School, where he performed research throughout his studies and wrote an honors thesis under the mentorship of Judah Folkman. He returned to California to be a general surgical resident at the University of California, San Francisco, initially under the chairmanship of Haile Debas. During his seven-year tenure in San Francisco, he spent two years in the Hormone Research Institute at UCSF, working in the laboratory of William Rutter, a pioneer in the field of molecular biology who cloned the insulin gene and created the first recombinant hepatitis B vaccine as well as the cesium chloride gradient.

Upon completing his general surgical training in San Francisco, Gittes went to Children's Mercy hospital in Kansas City, Missouri, where he completed a two-year pediatric surgery fellowship. He then moved to New York University, where he spent three years on the faculty as an assistant professor and director of the Laboratory for Surgical Organogenesis. Gittes' research in pancreatic development expanded, and as he began to garner National Institutes of Health (NIH) funding, he was recruited back to Children's Mercy, where he served as the director of surgical research, rose to the rank of professor of surgery and held the Thomas M. Holder and Keith W. Ashcraft Chair in Pediatric Surgical Research. During his time in Kansas City, he also was elected president of the Society of University of Surgeons.

In 2005, he was recruited to become the Benjamin R. Fisher Chair of Pediatric Surgery, surgeon in chief, and director of pediatric surgical research at UPMC Children's Hospital of Pittsburgh and professor of surgery and pediatrics at the University of Pittsburgh School of Medicine. In 2018, after 13 years as the surgeon-in-chief, he took emeritus status, and was appointed director of the Richard King Mellon Foundation Institute for Pediatric Research and coscientific director of research at UPMC Children's Hospital. This transition has allowed him to focus more of his time on his research. He now lives in Pittsburgh with his wife, Elissa, an adolescent medicine physician and medical school classmate. His two sons, Grant and Gregory, are both graduates of Brown University. He has been continuously funded by NIH since 1999 and has finished a seven-year stint as a standing member of the NIH Cellular Aspects of Diabetes and Obesity NIH Study Section.

## Schedule

8-9 a.m.	Richard L. Simmons Lecture in Surgical Science  “Bench-to-Bedside: 1) Congenital Diaphragmatic Hernia; 2) Chronic Pancreatitis; 3) Diabetes Mellitus”  <b>George K. Gittes</b> Benjamin R. Fisher Chair of Pediatric Surgery, Professor of Pediatric Surgery and Pediatrics, and Chief of Pediatric General and Thoracic Surgery, Department of Surgery, University of Pittsburgh School of Medicine Surgeon in Chief Emeritus and Scientific Codirector of Research, UPMC Children’s Hospital of Pittsburgh Director, Richard King Mellon Foundation Institute for Pediatric Research
9-9:15 a.m.	Break
9:15-10:30 a.m.	Long Oral Presentations Session 1
10:30-10:45 a.m.	Break
10:45 a.m.-Noon	Long Oral Presentations Session 2
Noon-12:15 p.m.	Break
12:15-1 p.m.	Short Oral Presentations Session 3
1-1:15 p.m.	Break
1:15-2 p.m.	Short Oral Presentations Session 4
2 p.m.	Closing Remarks <b>Timothy Billiar, MD</b>



# Session 1

Long Oral Presentations (10-minute talk followed by 5 minutes for discussion)

Moderator: **Timothy Billiar, MD**

- 9:15-9:30 a.m.**      **Ranjeet Kalsi, DO**  
"Pancreatic Intraductal Infusion of Adeno-Associated Virus (AAV) in Non-human Primates (NHPs) to Treat Diabetes Mellitus (DM)"  
Mentor: G. Gittes, MD
- 9:30-9:45 a.m.**      **Lillian Tran, MD**  
"Safety and Early Biological Activity of Regulatory Dendritic Cell Therapy in Living Donor Liver Transplantation"  
Mentor: A. Thompson, MD, A. Humar, MD
- 9:45-10 a.m.**      **Sidrah Khan, MD**  
"Cyclic GMP-AMP Synthase (cGAS) is Critical in Maintaining the Crosstalk Between Cell Death and Autophagy During Intestinal Inflammation"  
Mentor: K. Mollen, MD
- 10-10:15 a.m.**      **Christof Kaltenmeier, MD**  
"Neutrophil Extracellular Traps (NETs) Promote Immune Escape and Metastatic Growth After Surgical Stress"  
Mentor: S. Tohme, MD
- 10:15-10:30 a.m.**      **Ricardo Ferrari, PhD, PT**  
"Differential Expression of Canonical Mitosis without  $\gamma$  and DNA-damage Repair Pathways Characterize Muscle Satellite Cells"



## Session 2

Long Oral Presentations (10-minute talk followed by 5 minutes for discussion)

Moderator: **Timothy Billiar, MD**

- 10:45-11a.m.**      **Andrew-Paul Deeb, MD**  
"Finding Goldilocks: Optimal Prehospital Crystalloid Resuscitation Volume in Trauma Patients with Hemorrhagic Shock"  
Mentor: J. Brown, MD
- 11-11:15 a.m.**      **Danielle Gruen, PhD**  
"Early Prehospital Plasma Resuscitation is Associated with Survival Primarily in Patients with Traumatic Brain Injury Diagnosed by Computed Tomography"  
Mentor: J. Sperry, MD
- 11:15-11:30 a.m.**      **Rafael Ramos-Jimenez, MD**  
"Microbiome and Macrophage Function Mediate the Benefits of Plant-based Nutrition in Murine Colitis"  
Mentor: M. Morowitz, MD
- 11:30-11:45 a.m.**      **Anthony Cyr, MD, PhD**  
"Identification of Temporal Plasma Metabolomic Response Patterns Following CLP in Young and Aged Mice"  
Mentor: B. Zuckerbraun, MD
- 11:45 a.m.-Noon**      **Pranav Murthy, Research Associate**  
"Expansion of Autologous Tumor Infiltrating  $\gamma\delta$  T cells in Peritoneal Surface Malignancies"  
Mentor: M. Lotze, MD



## Session 3

Short Oral Presentations (3-minute talk followed by 2 minutes for discussion)

Moderator: **Kevin Mollen, MD**

- 12:15-12:20 p.m.**    **Hamza Yazdani, MD**  
"Exercise Training Decreases Hepatic Injury and Cancer Metastases via Changes in Immune Response to Liver Ischemia/Reperfusion"  
Mentor: S. Tohme, MD
- 12:22-12:27 p.m.**    **Ting Jiang, Medical Student**  
"TLR4 Signaling Transcriptomically and Epigenetically Reprograms Fibroblastic Reticular Cells"  
Mentor: T. Billiar, MD
- 12:29-12:34 p.m.**    **Andrew Yeh, MD**  
"Time-dependent Displacement of Commensal Skin Microbes by Pathogens at the Site of Colorectal Surgery"  
Mentor: M. Morowitz, MD
- 12:36-12:41 p.m.**    **Jurgis Alvikas, MD**  
"Comparison of Verify Now Aspirin and Whole Blood Aggregometry in Patients with Isolated Traumatic Intracranial Hemorrhage"  
Mentor: M. Neal, MD
- 12:43-12:48 p.m.**    **Ping Sun, MD**  
"Novel Specific Inhibitor of Cardiolipin Oxidation Is Liver Protective After Hemorrhagic Shock"  
Mentor: M. Scott, MD, PhD
- 12:50-12:55 p.m.**    **David Silver, MD, MPH**  
"Socioeconomic Contributors to Incisional Hernia Management"  
Mentor: M. Rosengart, MD, MPH

## Session 4

Short Oral Presentations (3-minute talk followed by 2 minutes for discussion)

Moderator: **Kevin Mollen, MD**

- 1:15-1:20 p.m.**      **Kathy Gonzalez, MD**  
"Impact of Dietary Tungsten and Topical Nitrite in Diabetic Wound Healing and the Composition of the Wound Microbiome"  
Mentor: E. Tzeng, MD
- 1:22-1:27 p.m.**      **Weiwei Chen, medical student**  
"Neuronal Activation of Lung ILC2 Promotes  $\gamma\delta$  T Cell Production of IL-17A In Sepsis"  
Mentor: Dr. J. Fan, MD, PhD
- 1:29-1:34 p.m.**      **Lauren Huckaby, MD**  
"Modeling Aortic Wall Stress from Computed Tomography- and Echocardiogram-derived Biomechanical Parameters for Clinical Risk Prediction"  
Mentor: T. Gleason, MD
- 1:36-1:41 p.m.**      **Cindy Teng, MD**  
"The Role of Transactive Memory Systems in Trauma Resuscitation Team Performance"  
Mentor: J. Kahn, MD, M. Rosengart, MD
- 1:43-1:48 p.m.**      **Amelia Lucisano, MD**  
"Predicting Future Violent Recidivism Among Young Adolescent Firearm-related Assault Patients"  
Mentor: B. Gaines, MD
- 1:50-1:55 p.m.**      **Vernissia Tam, MD**  
"The Impact of Robotic Surgery on Functional Recovery Following Pancreatic Surgery: A Prospective Study"  
Mentor: A. Zureikat, MD



## Past Lecturers

**2003**

**"Hyperosmolar Solutions for Fluid Resuscitation During Critical Illness"**

Ori D. Rotstein, MD

Professor of Surgery, Department of Surgery  
University of Toronto

**2004**

**"The Inflammatory Reflex"**

Kevin J. Tracey, MD

Professor and Director, Center for Patient-Oriented Research

Program Director, General Clinical Research Center  
North Shore-LIJ Research Institute

**2005**

**"Why Are You Killing My Patient?"**

Michael B. Yaffe, MD, PhD

Associate Professor of Biology  
Massachusetts Institute of Technology

**2006**

**"Reparative and Regenerative Medicine: A Surgeon's Perspective"**

Michael T. Longaker, MD, MBA, FACS

Deane P. and Louise Mitchell Professor  
Director, Children's Surgical Research Program  
Deputy Director, Institute of Stem Cell Biology and Regenerative Medicine  
Director, Program in Regenerative Medicine  
Stanford University School of Medicine

**2007**

**"How Microbial Pathogens Sense Host Stress and Respond Accordingly"**

John C. Alverdy, MD, FACS

Professor of Surgery  
Director, Minimally Invasive/Bariatric Surgery  
University of Chicago

**2008**

**"VEGF and VEGF Receptors in CRC: Beyond Angiogenesis"**

Lee M. Ellis, MD, FACS

Professor of Surgery and Cancer Biology  
William C. Liedtke Jr. Chair in Cancer Research  
Chair, Ad Interim, Department of Cancer Biology  
University of Texas MD Anderson Cancer Center

**2009**

**"Liver Translational Research: The Bench Work Does Matter"**

David A. Geller, MD

Professor of Surgery  
Codirector, UPMC Liver Cancer Center  
University of Pittsburgh

**2010**

**"Enhancing Vein Graft Patency: From the Molecular to the Obvious"**

Colleen M. Brophy, MD

Professor of Surgery  
Division of Vascular Surgery  
Vanderbilt University

**2011**

**"Memory, Surgery, and Surgical Research"**

Daniel R. Meldrum, MD, FACS, FAHA

Professor of Surgery and Physiology  
Section of Cardiothoracic Surgery  
Indiana University School of Medicine

**2012**

**"Advancing Translational Research in Pancreatic Cancer"**

Diane M. Simeone, MD

Lazar J. Greenfield Professor of Surgery and Molecular and Integrative Physiology  
Chief, Division of HPB and Advanced Gastrointestinal Surgery  
University of Michigan Health System

**2013**

**"Regenerative Medicine: Current Concepts and Changing Trends"**

Anthony Atala, MD

Director, Wake Forest Institute for Regenerative Medicine  
W.H. Boyce Professor and Chair, Department of Urology-Wake Forest School of Medicine

**2014**

**"Small Molecules for Small Patients: A Surgical Journey into the Pathogenesis and Treatment of Necrotizing Enterocolitis"**

David J. Hackam, MD, PhD, FACS

Watson Family Professor of Surgery  
Associate Dean for Medical Student Research  
Professor of Surgery and Cell Biology and Physiology, University of Pittsburgh School of Medicine  
Codirector, Fetal Diagnosis and Treatment Center, Children's Hospital of Pittsburgh of UPMC

**2015**

**"The Challenges and Rewards of Translational Research—One Surgeon's Journey"**

Melina R. Kibbe, MD, FACS, FAHA

Professor and Vice Chair of Research  
Edward G. Elcock Professor of Surgical Research  
Department of Surgery, Northwestern University

**2016**

**"Trauma Care: A Case Study in Translating Research into Policy"**

Avery B. Nathens, MD, PhD, FRCS(C)

Surgeon-in-Chief, Sunnybrook Health Sciences Centre  
Professor of Surgery, University of Toronto  
DeSouza Chair in Trauma Research

**2017**

**"Gut Integrity in Sepsis"**

Craig M. Coopersmith, MD, FACS, FCCM

Professor and Vice Chair, Surgery  
Emory University School of Medicine  
Director, 5E Surgical ICU  
Associate Director, Emory Critical Care Center

**2018**

**"Considerations on the Creative Process in Clinical Problem Solving"**

Elliot L. Chaikof, MD, PhD

Surgeon in Chief,  
Beth Israel Deaconess Medical Center  
Chair, Roberta and Stephen R. Weiner  
Department of Surgery  
Johnson and Johnson Professor of Surgery  
Harvard Medical School

**2019**

**"New Approaches to Pancreatic Cancer Immunotherapy"**

George Miller, MD

H. Leon Pachter Professor  
Departments of Surgery and Cell Biology Leader,  
Cancer Immunology Program  
New York University (NYU) School of Medicine

