



**Department of Surgery**  
School of Medicine

**Nineteenth Annual**

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

**Wednesday, May 12, 2021**

Hybrid Event

University Club: Invitation Only

Watson Education Center: Invitation Only

Virtual Microsoft Teams Meeting: Open to Everyone



University of  
**Pittsburgh**



## **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 R01 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 1,000 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.



## Yolonda L. Colson, MD, PhD

Hermes C. Grillo Professor of Surgery,  
Harvard Medical School  
Chief, Division of Thoracic Surgery,  
Massachusetts General Hospital

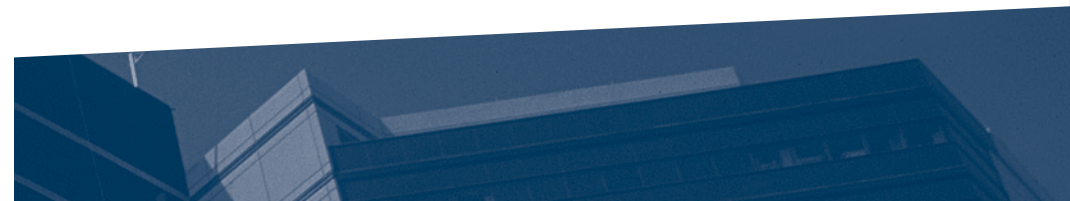
Yolonda Colson is nationally recognized as a successful surgeon-scientist and innovator and one of fewer than a dozen National Cancer Institute-funded clinically active thoracic surgeons in the United States. She has specific clinical interests in improving the identification of lung cancer in the operating room and in understanding the unique differences of lung cancer in women. Her research is focused on the development of unique mechanisms of polymer and nanoparticle drug delivery aimed at preventing cancer recurrence, and the investigation of novel methods to identify hidden tumor that has spread to nearby lymph nodes. In addition to serving as chief of the division of thoracic surgery at Massachusetts General Hospital, Dr. Colson is the examination chair for the American Board of Thoracic Surgery, chair of the advisory council for the American Association for Thoracic Surgery (AATS) Foundation and is involved at a leadership level in dozens of other organizations. In 2020, Dr. Colson was elected vice president of AATS, and in 2023, will become the first female president in AATS history. She was recently elected to the prestigious National Academy of Medicine for her contributions to the fields of thoracic surgery, polymer-mediated chemotherapy release and lymphatic drug delivery, and for leading a national paradigm shift to improve maintenance of certification for surgeons.

Dr. Colson obtained a PhD in pathology/immunology and completed her general surgery residency and postdoctoral research fellowship at the University of Pittsburgh. She also has a BS in biomedical engineering from Rensselaer Polytechnic Institute, and an MD from Mayo Medical School, and completed cardiothoracic surgical training at Brigham and Women's Hospital.

Dr. Colson has received several distinguished awards, including the George H.A. Clowes, Jr. Research Career Development Award from the American College of Surgeons and the Edward M. Kennedy Award for Health Care Innovation from the Center for Integration of Medicine and Innovative Technology. She is coinventor on three awarded patents, has received more than 20 foundation grants and seven R29/R01 grants from the National Institutes of Health and National Cancer Institute. She has formally mentored more than 40 students, residents and junior faculty members in her laboratory and has authored or coauthored more than 140 peer-reviewed publications highlighting her previous work in transplantation and her most recent investigations in sentinel lymph nodes in lung cancer and polymer-mediated drug delivery

## Schedule

8-9 a.m.	Richard L. Simmons Lecture in Surgical Science  <b>“What We Become”</b>  <b>Yolonda L. Colson, MD, PhD</b> Hermes C. Grillo Professor of Surgery, Harvard Medical School Chief, Division of Thoracic Surgery, Massachusetts General Hospital
9:15-10:30 a.m.	Long Oral Presentations Session 1
10:30-10:40 a.m.	Break
10:40-11:55 a.m.	Long Oral Presentations Session 2
11:55 a.m.-12:10 p.m.	Break
12:10-12:45 p.m.	Short Oral Presentations Session 3
12:45-12:55 p.m.	Break
12:55-1:25 p.m.	Short Oral Presentations Session 4
1:30 p.m.	Closing Remarks <b>Timothy R. 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.**     **Sidrah Khan, MD**  
Cyclic GMP-AMP Synthase (cGAS) Regulates Beclin-1 Mediated Crosstalk Between Autophagy and Cell Death During Intestinal Inflammation  
Mentor: **K. Mollen, MD**
- 9:30-9:45 a.m.**     **Xianghong Zhang, PhD**  
Sepsis Restructure the Mitochondrial Calcium Uniporter (MCU) Complex  
Mentor: **M. Rosengart, MD, MPH**
- 9:45-10 a.m.**     **Shimena Li, MD**  
Early Prehospital Tranexamic Acid Following Injury is Associated with a 30-Day Survival Benefit: A Secondary Analysis of a Randomized Clinical Trial  
Mentor: **J. Sperry, MD**
- 10-10:15 a.m.**     **Hamza Yazdani, MD**  
The Protective Effect of Exercise in Liver Ischemia/Reperfusion Injury in a Murine Orthotopic Liver Transplant Model  
Mentor: **S. Tohme, MD**
- 10:15-10:30 a.m.**     **Cindy Teng, MD**  
Factors Associated with Potentially Avoidable Interhospital Transfers in Emergency General Surgery  
Mentor: **M. Rosengart, MD, MPH/J. Brown, MD, MS/J. Kahn, MD, MS**

## Session 2

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

Moderator: **Timothy Billiar, MD**

- 10:40-10:55 a.m.**     **Maryam Mohammed, MD**  
Metformin Improves Immune Defects of Aging  
Mentor: **B. Zuckerbraun, MD**
- 10:55-11:10 a.m.**     **Lillian Tran, MD**  
Single Cell Transcriptomics Reveal Allograft Immune Cell Patterns Associated with Histological Features of Acute Cellular Rejection After Regulatory Cell Therapy in Liver Transplantation  
Mentor: **A. Thomson, MD/A. Humar, MD**
- 11:10-11:25 a.m.**     **Ranjeet Kalsi, DO**  
Chemical Pancreatectomy, a Novel Way to Treat Pancreatic Cancer  
Mentor: **G. Gittes, MD**
- 11:25-11:40 a.m.**     **Katherine Reitz, MD**  
The Correlation Between Case Total Work Relative Value Unit, Operative Stress and Patient Frailty  
Mentor: **D. Hall, MD/E. Tzeng, MD**
- 11:40-11:55 a.m.**     **Caroline Rieser, MD**  
Social Barriers to Cytoreduction and Chemoperfusion for Appendiceal Cancer with Peritoneal Metastases: Unequal Access and Unequal Outcomes  
Mentor: **H. Choudry, MD/R. Hoehn, MD**

## Session 3

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

Moderator: **Kevin Mollen, MD**

- 12:10-12:15 p.m. Heather Mentrup, PhD**  
Urolitin A Improves Intestinal Inflammation Severity by Restoring Mitochondria Bioenergetics  
Mentor: **K. Mollen, MD**
- 12:15-12:20 p.m. Jurgis Alvikas, MD**  
Preoperative Systemic Immune-Inflammation Index Predicts Recurrence After Resection of Pancreatic Neuroendocrine Tumors  
Mentor: **A. Paniccia**
- 12:20-12:25 p.m. Tanner Wilson, MD**  
Prediction of Small Bowel Obstruction Outcomes Using Machine Learning  
Mentor: **G. Clermont, MD**
- 12:25-12:30 p.m. Andrew-Paul Deeb, MD**  
Non-trauma Center "Pit Stop" Associated with Worse Survival After Severe Injury  
Mentor: **J. Brown, MD**
- 12:30-12:35 p.m. Christof Kaltenmeier, MD**  
Neutrophil Extracellular Traps Promote the Upregulation of Lipid Metabolic Pathways in Cancer Cells  
Mentor: **S. Tohme, MD**
- 12:35-12:40 p.m. Abdulrahman Y. Hammad, MD**  
Presence of Perineural Invasion Determines the Need for Adjuvant Chemotherapy in Surgically Resected Pancreatic Carcinoma with Node Negative Disease Following Neoadjuvant Therapy; A Multi-Institutional Analysis  
Mentor: **A. Zureikat, MD**
- 12:40-12:45 p.m. Eishan Ashwat**  
Can the Liver Transplant Risk Score (LTRS) Stratify Perioperative Mortality in Liver Transplant Recipients in Europe?  
Mentor: **M. Molinari, MD**

## Session 4

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

Moderator: **Kevin Mollen, MD**

- 12:55-1 p.m. Jandie Schwartz, DO**  
Cutting Instruments to Cut Costs: A Simple Initiative with Breast Surgical OR Trays that Resulted in Substantial Savings  
Mentor: **E. Diego, MD**
- 1-1:05 p.m. Sultan Abdelhamid, MD**  
Tricarboxylic Acid Cycle Metabolites Actively Released into the Circulation After Traumatic Injury: A Quantitative Metabolomic Analysis  
Mentor: **T. Billiar, MD**
- 1:05-1:10 p.m. Stacy Kowalsky, MD**  
Omission of Right Hemicolectomy May be Safe for Some Appendiceal Goblet Cell Adenocarcinomas: A Survival Analysis of the National Cancer Database  
Mentor: **J. Pingpank, MD**
- 1:10-1:15 p.m. Ali Mubin Aral, MD**  
Impact of Nerve Repair on Inflammatory Networks Following Vascularized Composite Allograft Transplantation in Rats  
Mentor: **Y. Vodovotz, PhD**
- 1:15-1:20 p.m. Anna Ramos, MD**  
Safety Of Non-Operative Management Of Carotid Body Tumors  
Mentor: **E. Hager, MD**
- 1:20-1:25 p.m. Elizabeth Andraska, MD**  
Low Wavelength Light Reduces NET Recruitment to Venous Thrombosis  
Mentor: **M. Neal, 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

2020

**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



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