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This program manual is available online at facss.org/surg-eng

On behalf of the American College of Surgeons (ACS) Division of Education, I would like to welcome you to the 2024 Annual Surgeon and Engineer: A Dialogue on Surgical Simulation Meeting. Given the success of this meeting for the past 5 years, including the first in-person meeting last year after the pandemic, we are pleased to offer another full-day, in-person event. This will provide an excellent opportunity for surgeons, engineers, scientists, healthcare professionals, and educators to advance simulation-based surgical education and the use of state-of-the-art simulation and simulation.

Mark S. Cohen, MD, FSSO, FACS, dean of the Caule Illinois College of Medicine, senior vice president of Caule Health, and professor of surgery and biomedical and human behavioral science at the Caule Illinois College of Medicine, will deliver the keynote Address, Developing an Ecosystem of Innovation and Entrepreneurship: Advances in the Future of Surgery and Academic Medicine. A Special Panel on how to build better surgical simulation will feature a surgeon educator, an academic engineer, and a simulation industry representative and convenor of the discussion. The panel will begin at 11:00 a.m. The panel will include John T. Paige, MD, FACS, professor of clinical surgery and director of wound care at Louisiana State University; Ganesh Sankaranarayanan, PhD, associate professor of surgery and biomedical engineering at The University of Texas at Southwestern Medical Center; and Henning Lin, PhD, simulation learning chair at the University of Michigan.

From the high-quality abstracts received, the ACS Division of Education's Surgeon and Engineer Committee has elected 9 abstracts for podium presentation and 36 abstracts for poster presentation. 20 simulation/modeling will be included in the poster presentation. The inaugural Do-It-Yourself (DIY) simulation/modeling competition.

On behalf of the ACS Division of Education and the Surgeon and Engineer Committee, thank you for attending this unique event. We look forward to

Welcome from Program Chair

On behalf of the Program Committee and the Division of Education of the American College of Surgeons (ACS), we welcome you to the 2024 ACS Surgeon and Engineer : A Dialogue on Surgical Simulation Meeting. The purpose of this meeting is to provide an opportunity for you to help bridge the gap between surgeons and engineers, to help you gain a better understanding of the mutual needs, challenges, and potential benefits of each other's disciplines. We hope that attending this meeting, you will gain a better understanding of the mutual needs, challenges, and potential benefits of each other's disciplines. We hope that attending this meeting, you will gain a better understanding of the mutual needs, challenges, and potential benefits of each other's disciplines.

The agenda for this meeting is specifically designed to concentrate on the cutting-edge ideas and cutting-edge innovation of a unique collaboration of surgeons, academic and industrial engineers, clinicians, and surgical education leaders. We hope that by attending this meeting, you will gain a better understanding of the mutual needs, challenges, and potential benefits of each other's disciplines. We hope that attending this meeting, you will gain a better understanding of the mutual needs, challenges, and potential benefits of each other's disciplines.

Through this collaboration, the Program Committee and the Division of Education have set a mutual goal to bridge surgical and engineering communities, to advance and improve performance and excellence in surgery, and encourage surgical simulation-based training. We hope that attending this meeting, you will gain a better understanding of the mutual needs, challenges, and potential benefits of each other's disciplines.

With this goal in mind, the Program Committee has planned a premier program for you to dialogue, enhance knowledge, build relationships, and participate in:

Developing an Ecosystem of Innovation and Entrepreneurship to Advance the Future of Surgery and Academic Medicine, Mark S. Cohen, MD, FSSO, FACS, University of Illinois Urbana-Champaign

How to Build Better Surgical Simulators, a special panel of a surgeon educator, an academic engineer, and an industrial engineer from the surgical industry.


Our goal and purpose of this meeting will highlight the mutual benefits of collaboration between surgeons and engineers working together in each other's field.

The meeting highlights a focus on DIY simulation/model competition with the aim of promoting the development of do-it-yourself simulation and model and encouraging the use of simulation and model to improve simulation-based surgical education and training.

We are confident that you will find this meeting to be a great opportunity for you to dialogue, enhance knowledge, build relationships, and participate in. We are confident that you will find this meeting to be a great opportunity for you to dialogue, enhance knowledge, build relationships, and participate in.

Program Co-Chair
Assistant Director, Simulation-Based Surgical and Education Training, Division of Surgeons
American College of Surgeons

Program Co-Chair
Founder, Laboratory for Human and Machine Haptics
Massachusetts Institute of Technology
Professor of Haptics, Computer Science Dept.
University College London, UK



(MISTIC) in the Department of Surgery at Johns Hopkins School of Medicine. One of his primary responsibilities in MISTIC is to develop the comprehensive robotic training curriculum. This program provided surgical trainees with basic robotic skills training in preparation for the Fundamental of Robotic Surgery (FRS), and advanced skills training for the immediate application of the learned skills in the trainee's actual case in the operating room. Using this curriculum, Dr. Lee offered robotic training to Hopkins residents, fellows, and attending surgeons, from the practice of general surgery, gynecology, surgical oncology, urology, and cardiothoracic surgery. In

Program Chairs (continued)



Founder, Laboratory for Human and Machine Haptics, Massachusetts Institute of Technology; Professor of Haptics, Computer Science Department, University College London, UK

Prof. Mandaam A. Sini is a founder of the laboratory for human and machine haptics at the Massachusetts Institute of Technology and holds the professional chair of haptics at the Department of Computer Science, University College London, UK. He is also a faculty member at the Indian Institute of Technology Madras, India. He received a bachelor's degree in civil engineering from Bangalore University, a master's degree in aeronautical engineering from the Indian Institute of Science, and a PhD. degree in mechanical engineering from Yale University. Following postdoctoral fellowships at the Department of Anesthesiology, Yale University School of Medicine, he moved to MIT and founded the Laboratory for Human and Machine Haptics, known worldwide as the MIT Touch Lab.

Prof. Sini is an international leader in the past three decades on the science and technology of haptic information acquisition and object manipulation. His research has played a pivotal role in establishing the multidisciplinary field of modern haptics. He has been recognized worldwide as an authority on computation, cognition, and communication through his research in human and modern machine touch, a computer and object. His pioneering scientific investigations of human haptics in the fields of biomechanics, neuroscience, and psychophysics have led to significant advances in understanding of haptic sensing in the kinesthetic domain. He has received the Haptics Award and the Haptics Award of the International Association of Robotics and Mechatronics. His work on machine and computer haptics in the field of design and development of novel objects

design, mathematical algorithms and real-time control of force has enabled touching, feeling, and manipulating objects in a novel way in all a program in the computer. He has also demonstrated novel haptic applications such as a virtual reality-based training lab for medical training, real-time touch interaction between people across continents and direct control of objects from a neural signal. Moreover, he has been working on developing haptic aid for blind people, mobile-based healthcare for the elderly population, novel object-finger grip, and teleoperation systems for micro-/nanomanipulation capable of performing geospatial single cell micromanipulation.

The international impact of Prof. Sini is an' work has been multifaceted. He has led American and European multidisciplinary teams in a number of cutting-edge technologies and projects. He has authored more than 230 publications in multiple fields ranging from neuroscience to object manipulation. Some of the most highly cited papers on haptics. He has given more than 130 invited talks all over the world, and many keynote plenary talks in international conferences. Prof. Sini is an' work has attained broad social impact as well; he has been featured on a wide range of print media such as *Scientific American*, *Time Magazine*, *The Wall Street Journal*, *The New York Times*, *Times of India*, *Pravda*, and *The Smithsonian Magazine*, a well as a worldwide radio and TV network such as the BBC and CNN in a program focused on cutting-edge research in information technology and its future perspectives. Several of the technologies that he developed in his lab have been developed and commercialized in the emerging haptic human-machine touch. He is a member of the Board of Members of Science, MIT Member, and the V&A Member in London.







Do-It-Yourself (DIY) Competition Engine

The aim of the inaugural Do-It-Yourself (DIY) Simulation Engine

Ro a Anna Cho o
Mayo Clinic, Rochester, MN

Remigio Flo , MD
US Army, Department of Defense

R-n Roge , DJ T aina, Ja on Speich,
and Dan B ke
University of Washington, Seattle, WA

Abhina T ma
*New York-Presbyterian Hospital/Weill
Cornell Medical Center, New York, NY*

Rka Pan a e
*Michigan Medicine 3Di Lab, University of
Michigan, Ann Arbor, MI*

K leigh K iene
*The University of Queensland,
Brisbane, Australia*

Kamini King
*Parkview Mirro Simulation Lab, Fort Wayne,
IN*

Eli aben Wei b od, MA, CMI, FAMI
*The Henry M. Jackson Foundation for
the Advancement of Military Medicine,
Inc., in Support of the Uniformed Services
University of the Health Sciences,
Silver Spring, MD*

Da ian L. Hoagland, MD, and
William Fa - MD
*Lahey Hospital & Medical Center,
Burlington, MA*

Nime h Nag
Johns Hopkins University, Baltimore, MD

J d Roa k
*UT Center for Advanced Medical
Simulation, Knoxville, TN*

Al a D. M illo
*University of California San Francisco,
San Francisco, CA*

B ian Ka fman
*NYU Grossman School of Medicine,
New York, NY*

Jimmie Knight III
Rush University Medical Center, Chicago, IL

And e Ab e
*University of Texas Southwestern Medical
Center, Dallas, TX*

Remigio Flo , MD
US Army, Department of Defense

Shaki a B on
*University of Texas Southwestern Medical
Center, Dallas, TX*

Jenn Ga ne
*WISH-University of Washington,
Seattle, WA*

Scot S mple
*London Health Sciences Centre, London,
ON, Canada*

J an Ignacio Cobian
*Creative Lab/ INSPIRE Simulacion Femeba,
Buenos Aires, Argentina*

ACS





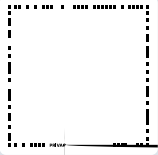
Assistant Professor of Biomedical Engineering,
*Department of Electronics, Information, and
Bioengineering (DEIB), Politecnico di Milano,
Milan, Italy*

*Assistant Research Professor, Malone Center
for Engineering in Healthcare, Whiting
School of Engineering The Johns Hopkins
University, Baltimore, MD*

*Professor; Vice-Chair for Education;
Assistant Dean, Engineering (DEan, Italy)*

Exhibitor







2025 ACS SURGEONS AND ENGINEERS

SAVE THE DATE |

Call for Abstracts in May 2024 / Registration will open late Fall

facs.org/

2024 MEETING SURVEY

*the 2024 ACS Annual Surgeons and Engineers:
A Dialogue on Surgical Simulation Meeting.*

In order to better understand the surgical and engineering communities, we ask you to complete a brief survey. Please have a moment to find out more about today's conference and changes you would like to see in the future.



NAVIGATE TO:

<https://redcap.link/2024SurgEndFeedback>

OR SCAN THE QR CODE

with your smartphone camera to access the survey

