

Tufts / AIONS Symposium

AI in Surgery

Date: Thursday, December 10, 2026
Time: 7:30A to 2:15P
Location: Dental Alumni Lounge (15th Floor)
 Tufts University School of Dental Medicine
 1 Kneeland Street, Boston, MA 02111

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Goal: The rapid integration of artificial intelligence into surgical practice is reshaping the entire continuum of care, from preoperative planning and intraoperative decision-making to postoperative assessment. Adoption of these technologies raises important questions surrounding safety, ethics, accountability, and clinical effectiveness. Addressing these challenges requires meaningful collaboration and dialogue across multiple disciplines. This conference was created to provide a forum for such discussion.

Program

7:30A Breakfast & Registration

8:00A Opening Remarks

Abani Patra, PhD
Director, Center for Data Foundations of AI, Tufts Institute for Artificial Intelligence, Tufts University, Medford, MA
 Iris Jaffe, MD, PhD
Executive Director, TU-TM Research Enterprise, Boston, MA

Session 1: Engaging with Surgical Autonomous Systems

Moderator: William Harvey, MD, MSc
Chief Medical Informatics Officer, Tufts Medical Center, Boston, MA

8:10A Keynote Speaker – Autonomous Actions in Surgery, What Level is Possible and What Level Should be Allowed

Andrew A. Gumbs, MD, MSc, MBA, PhD(c)

Antoine-Béclère Hospital, Clamart, France

President, AIONS

8:50A Managing Legal and Enterprise Risk in Surgical AI

Jennifer Tolkoff, JD, MHA, CPHRM

Deputy General Counsel & Chief Risk Officer, Tufts Medicine, Burlington, MA

9:10A Ethics in the Age of AI: The Principle of Autonomy in AI-Assisted Surgery

Andreia Martinho, PhD

Postdoctoral Scholar, Tufts Institute for Artificial Intelligence, Tufts University, Medford, MA

9:30A Applying Human Factors in the Development of AI-Empowered Surgical Systems

Michael Wiklund, MS, PE, CHFP

Director, Human Factors Engineering Program, Tufts University, Medford, MA

9:50A Coffee Break

Session 2: Current Challenges of Surgical AI

Moderator: Jason Hall, MD, MPH

Chairman and Surgeon-in-Chief, Department of Surgery, Tufts Medical Center, Boston, MA

10:10A Keynote Speaker – Will AI Make Surgeons' Lives Better and Easy Ways That It Can

Heather Yeo, MD, MHS, MBA, MS

Associate Professor of Surgery, Weill Cornell Medicine, New York Presbyterian, New York, NY

10:50A Debate

Explainable AI in Surgery – Unraveling the Black Box

Anar Amgalan, PhD and Pia Tripathi, PhD

Tufts Institute for Artificial Intelligence, Tufts University, Medford, MA

11:10A Engineering an Autonomous Surgical Robot: How Hard Can It Be?

Lidia Al-Zogbi, PhD

Department of Electrical and Computer Engineering, Tufts University, Medford, MA

11:30A Coffee Break

Session 3: Computer Vision in the Operating Room

Moderator: Rebecca Batorsky, PhD

Center for Data Foundations of AI, Tufts Institute for Artificial Intelligence, Tufts University, Medford, MA

11:50A Image Selection for Surgical Computer Vision Model Development

Kara Button, DO

Research Fellow, Surgical Imaging Lab, Tufts Medical Center, Boston, MA

12:10P Computer Vision Approaches to Enhance Generalization to Novel Scenarios

Bipin Gaikwad, PhD

Research Assistant Professor, Tufts Institute for Artificial Intelligence, Tufts University, Medford, MA

12:30P Vision Transformer vs CNN in Surgical Image Classification

Bahar Kor

Postgraduate Student, Tufts Institute for Artificial Intelligence, Tufts University, Medford, MA

12:50P From Pixels to Information: Understanding Digital Images

Isaac Gendelman, MD, MS

Research Fellow, Surgical Imaging Lab, Tufts Medical Center, Boston, MA

1:10P Closing Remarks

Bipin Gaikwad, PhD

Research Assistant Professor, Tufts Institute for Artificial Intelligence, Tufts University, Medford, MA

Thomas Schnelldorfer, MD, PhD

Director, Surgical Imaging Lab, Tufts Medical Center, Boston, MA

1:15P Networking Lunch

Dental Alumni Lounge

2:15P Wrap-Up

Registrations: Participation in the Conference is free of charge. Advance registration is mandatory prior to December 8. Room capacity is 80 people. Registration must be completed online at

<https://forms.gle/9Jsyz2G7qGcLi1ZX9>

Kindly note that access to the Conference venue cannot be ensured without prior registration.

CME credits: This conference is not accredited for Continuing Medical Education (CME) credits.