



Society for
Technology in
Anesthesia

Advancing Technology Through Education & Innovation

#STA25Tempe



Harmonizing Hardware and Software in the Digital Dunes

JANUARY 9-12, 2025

Tempe Mission Palms by Hyatt • Tempe, Arizona

**Program Chairs: James Xie, MD
and Matthew Zapf, MD**

***Offering AMA PRA
Category 1 Credits™***

**NEW THIS
YEAR!**

**Pre-registered
attendees
will receive an
exclusive STA
2025 Annual
Meeting t-shirt.**



Meeting Accreditation Information

Activity Overview

The Society for Technology in Anesthesia (STA) 2025 Annual Meeting will provide a platform for anesthesia researchers to present their findings and developments in an effort to improve practices in anesthesia. Specific topics will include user-centered design, advances in Artificial Intelligence, device development and solutions to disparities in medicine.

Educational Objectives

As a result of participation in this CME activity, learners should be able to:

- Summarize recent advances in monitors, wearable technology, applied artificial intelligence, and extended reality tools in the perioperative setting.
- Describe how electronic health records can be leveraged for pragmatic clinical trial designs.
- Discuss the guiding principles of safe medication administration in anesthesiology.
- Summarize what we can learn from understanding the history of anesthesia device development.

Joint Accreditation Statement

In support of improving patient care, this activity has been planned and implemented by Amedco LLC and Society for Technology in Anesthesia. Amedco LLC is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team. Amedco Joint Accreditation #4008163.



Target Audience

This live activity is designated for a national and international audience of physicians, engineers and industry members, as well as other practitioners in the field of anesthesia seeking an update on the current and future state of anesthesia technology.

Pre-Conference Session

Challenges and Opportunities in Developing Anesthesia Products (for Industry ONLY)

Thursday, January 9, 2025 • 0800 - 1200

Experienced anesthesiologists have developed this course for Regular and Sustaining Corporate Members who may be new to the anesthesia market, as well as those with experience. The course is designed to provide a concise overview of the specialty and an opportunity to discuss the role of technology in a collegial (non-sales) environment. The course is intended to foster one of STA's primary goals, which is to establish relationships between users and developers of technology.

This course will demonstrate the anesthesiologists' interaction with patients and devices through a dynamic, interactive agenda. The day will include expert mini-lectures and group discussions on key aspects of the clinical specialty, including anesthesia 'work', behaviors driving equipment usage, the state of anesthesia-induced unconsciousness and machine function. **OPEN TO INDUSTRY PARTICIPANTS ONLY.**

STA FRIDAY EVENING DINNER

Join STA Friday evening for dinner! Enjoy a unique dining experience amid beautiful desert scenery of the Desert Botanical Gardens. After dinner, wander around the 55 acres that is home to thousands of species of cactus, trees and flowers from all around the world.

Each ticket includes dinner, one drink, admission to the Gardens, and roundtrip transportation from the Tempe Mission Palms hotel. Additional \$105 fee applies to attend.

IN MEMORIAM

We are saddened by the loss of Dr. Matt Zapf, STA 2025 Co-Chair, who tragically passed away on Saturday, August 31, 2024. STA extends our deepest condolences to Dr. Zapf's family, friends, and colleagues and our heartfelt gratitude to Dr. Zapf for his many contributions to STA and the 2025 Annual Meeting program.

In April 2024, Matt found his truest passion and purest joy: fatherhood. His son, Art, was the light of Matt's life. On behalf of the STA community, we ask that you consider a donation to Art's college fund (via Art's code C5D-E6B at the website ugift529.com).



Schedule of Events

Thursday, January 9, 2025

0700-0800

Challenges & Opportunities Registration Breakfast
(For Industry ONLY – Pre-Registration required)

0800-1200

Challenges & Opportunities in Developing Anesthesia Products

(For Industry ONLY – Pre-Registration required)

David Feinstein, MD, MS, John Pawlowski, MD, PhD,
Christopher Quartararo, MD, Nate Greenbaum, MD,
MS, John Sudkamp, MD, Charlene Blake, MD, PhD,
Adeel Faruki, MD, MBA

1600-1800

Exhibitor Registration & Setup

1800-2000

Registration & Welcome Reception

Friday, January 10, 2025

0700-0800

Registration and Continental Breakfast

0800-0815

Welcome Address

Allan Simpaio, MD, MBI & James Xie, MD

Session 1: Keynote Address

Moderators: James Xie, MD

0815-0915

From Neuroscience and Signal Processing to AI and Back Again: An Engineer's Journey in Anesthesia and Innovation

Patrick Purdon, PhD

0915-0930

Break with Exhibitors & Abstract Posters

Session 2: Wearable Devices: Update on the Current State

Moderator: Mohamed Rehman, MD

0930-0950

Current State of Wearables

Christian Stammel

0950-1010

Respiratory Rate = 16. The Mysterious Tale of the Perfect Breathing Pattern

Justin Adams, BSEE, MBA

1010-1030

Navigating the Risks: Challenges and Liabilities in Wearable Technology

Mohamed Rehman, MD

1030-1040

Panel Discussion

1040-1100

Break with Exhibitors & Abstract Posters

Session 3: Novel Monitors in the Perioperative Period

Moderator: Bret Alvis, MD

1100-1120

Non-Invasive Venous Waveform Analysis (NIVA) in Heart Failure: Discovery and Utility in Volume Status Monitoring

Bret Alvis, MD

1120-1140

Rapid, Point-of-Care Blood Propofol Measurement

Tim Craft, BA, MSc, PhD

1140-1200

Wearables for Dehydration and Hemorrhage

Kevin Sexton, MD

1200-1210

Panel Discussion

1215-1325

Industry Spotlight Luncheon

Moderator: Justin Adams, BSEE, MBA

Session 4: Pragmatic Clinical Trials

Moderator: Robert Freundlich, MD, MS, MSCI

1330-1350

Embedding Clinical Trials into the Electronic Health Record

Eddie Qian, MD

1350-1410

Our Experience Enrolling 6,500 Patients into a Clinical Trial without a Single Coordinator

Eilon Gabel, MD, MHA

1410-1430

Leveraging the Perioperative EHR to Enable Pragmatic Randomized Clinical Trials—the MPOG Experience

Douglas Colquhoun, MBChB

1430-1440

Panel Discussion

1445-1525

Posters in a Minute: Moderated Poster Summaries Group A

Moderators: Hannah Lonsdale, MBChB, FRCA & Asad Siddiqui, MD, FRCPC, MMed

1525-1545

Break with Exhibitors & Abstract Posters

Session 5: Abstract Awards & Presentations

Moderator: Thomas Hemmerling, MD, MSc, DEAA

1545-1600

Excellence in Technology Award Presentation

Thomas Hemmerling, MD, MSc, DEAA

1600-1615

Best Clinical Application Award Presentation

Thomas Hemmerling, MD, MSc, DEAA

1615-1630

Best of Show Award Presentation

Thomas Hemmerling, MD, MSc, DEAA

1635-1735

Speed Networking with Corporate Members

Moderator: Justin Adams, BSEE, MBA

1800

Dinner at Desert Botanical Garden
Transportation Provided from Hotel
Additional Fee Applies

Saturday, January 11, 2025

0700-0800

Registration and Continental Breakfast

Session 6: Beyond the Classroom: Extended Realities and the Future of Medical Education

Moderator: Thomas Caruso, MD

0800-0820

International Communication Skill Training with Augmented Reality

Thomas Caruso, MD

0820-0840

Behavioral Training with Mixed Reality and Artificial Intelligence

Asheen Rama, MD

0840-0900

Crisis Resource Training with Augmented Reality

Kim Strupp, MD

0900-0910

Panel Discussion

Session 7: Future of Safe Medication Administration in Anesthesiology

Moderator: Karen Nanji, MD, MPH

0915-0935

Medication Errors: Current Trends and Safety Guidelines

Rita Jew, PharmD, MBA

0935-0955

Streamlining Safety with Automated Medication Labeling

Peter Baek, MD, MS

0955-1015

Navigating Complexity with Clinical Decision Support as your Co-Pilot

Karen Nanji, MD, MPH

1015-1025

Panel Discussion

1025-1100

Break with Exhibitors & Abstract Posters

Session 8: STA Startup Pitch Competition

Moderator: Barrett Larson, MD

1100-1210

Join STA for an exciting, fast-paced innovation showcase! Three anesthesia technology startups will pitch their innovations to the audience. Attendees will have the opportunity to ask questions and vote for the winner using real-time polling software. Don't miss this chance to see the future of anesthesia technology and help choose the next big breakthrough!



Schedule of Events *continued*

1215-1345

STA Business Luncheon & 2025 J.S. Gravenstein Award Presentation

Allan Simpao, MD, MBI & David Feinstein, MD, MSBME

Session 9: The Latest in Artificial Intelligence in Anesthesiology

Moderator: Sunny Lou, MD, PhD

1345-1405

Clinician-Facing AI Implementations at Northwestern Medicine

Vladislav Mukhin, MS

1405-1425

Towards Design, Validation, and Implementation of a Personalized Surgical Transfusion Risk Prediction Tool

Sunny Lou, MD, PhD

1425-1445

Lessons Learned from Real-Time AI Prediction of Postoperative Complications at Washington University

Bradley Fritz, MD, MSCI

1445-1455

Panel Discussion

1500-1540

Posters in a Minute: Moderated Poster Summaries Group B

Moderators: Hannah Lonsdale, MBChB, FRCA & Asad Siddiqui, MD, FRCPC, MMed

1540-1600

Break with Abstract Posters

Session 10: VR/AR/XR Workshop

1600-1730

Hands-on with Extended Reality Modalities

Tom Caruso, MD; Garrett Burnett, MD, Jennifer Davis, MD, Julia Gálvez Delgado, MD, MBI, Asheen Rama, MD, Allan Simpao, MD, MBI, Kim Strupp, MD, Jonathan Tan, MD, MPH, MBI, FASA, James Xie, MD & Ellen Wang, MD

Attendance at this workshop will provide hands-on demonstrations with immersive technologies and how to integrate into perioperative care. Ever want to use augmented reality for crisis resource management? Virtual reality during IV placements? We have it all! In addition to demonstrations, learn how to bring this software to your institutions at low to no cost along with strategies for implementation.

1600-1730

Target Designation, Visualization and Tool-Tip Guidance with a Mixed-Reality Headset

Samsun Lampotang, PhD, FSSH, FAIMBE

Attendees will be able to designate a target inside a body using a tracked ultrasound probe, visualize the designated target inside the body while wearing a Magic Leap 2 headset and moving around the body and visually drive a tool tip (e.g., the tip of a needle) to the target.

Sunday, January 12, 2025

0730-0815

Registration and Coffee Only

0815-1000

STA Engineering Challenge

Moderator: Jeffrey Mandel, MD, MS

1000-1020

Break with Abstract Posters

Session 11: Society for Computing and Technology in Anesthesiology (SCATA)

Moderator: James Xie, MD

1020-1055

Open Source Healthcare Software by Example: A Better Way?

JP Lomas, MBChB, FRCA, FFICM

Session 12: Historical Tales of Anesthesia Devices

Moderator: Lawrence Tsen, MD

1100-1120

Misadventurous Lessons: Technology Applied to the Provision of Obstetric Anesthesia

Lawrence Tsen, MD

1120-1140

Inhalation Anesthesia: Evolution of Vaporization Technology

Ramon Martin, MD, PhD

1140-1200

The State of Perioperative Temperature Management in 2025

Chris Rishel, MD, PhD

1200-1210

Panel Discussion

1210

Meeting Adjourned

Invited Faculty

Justin Adams, BSEE, MBA
AlertWatch

Bret Alvis, MD
Vanderbilt University

Peter Baek, MD, MS
Vigilant Labels

Charlene Blake, MD, PhD
University of California, San Francisco

Garrett Burnett, MD
Icahn School of Medicine at Mount Sinai

Thomas Caruso, MD
Stanford University

Douglas Colquhoun, MBChB
University of Michigan

Tim Craft, BA, MSc, PhD
Somnus Scientific

Adeel Faruki, MD, MBA
University of Texas MD Anderson Cancer Center

David Feinstein, MD, MS
Beth Israel Deaconess Medical Center

Robert Freundlich, MD, MS, MSCI
Vanderbilt University

Bradley Fritz, MD, MSCI
Washington University Physicians

Eilon Gabel, MD, MHA
University of California, Los Angeles

Julia Gálvez Delgado, MD, MBI
Boston Children's Hospital

Nate Greenbaum, MD, MS
Harvard Medical School

Thomas Hemmerling, MD, MSc, DEAA
McGill University

Rita Jew, PharmD, MBA
Institute for Safe Medication Practices

Samsun Lampotang, PhD, FSSH, FAIMBE
University of Florida

Barrett Larson, MD
Stanford University

JP Lomas, MBChB, FRCA, FFICM
Royal Bolton Hospital

Sunny Lou, MD, PhD
Washington University School of Medicine

Jeffrey Mandel, MD, MS
Mandel Anesthesia Innovations, LLC

Ramon Martin, MD, PhD
Harvard Medical School

Vladislav Mukhin, MS
Northwestern Medicine
Karen Nanji, MD, MPH
Massachusetts General Hospital

John Pawlowski, MD, PhD
Beth Israel Deaconess Medical Center

Patrick Purdon, PhD
Stanford University

Eddie Qian, MD
Vanderbilt University

Christopher Quartararo, MD
Winchester Anesthesia Associates

Asheen Rama, MD
Stanford University

Mohamed Rehman, MD
John Hopkins All Children's Hospital

Chris Rishel, MD, PhD
Stanford University

Kevin Sexton, MD
Vanderbilt University Medical Center

Allan Simpao, MD, MBI
Children's Hospital of Philadelphia

Christian Stammel
Wearable Technologies

Kim Strupp, MD
Children's Hospital Colorado

John Sudkamp, MD
St. Anthony's Memorial Hospital

Jonathan Tan, MD, MPH, MBI, FASA
Children's Hospital Los Angeles

Lawrence Tsen, MD
Brigham and Women's Hospital

Ellen Wang, MD
Lucile Packard Children's Hospital, Stanford

James Xie, MD
Stanford University

Meeting Registration Information

ONLINE REGISTRATION www.stahq.org

Online registration accepted until Wednesday, January 1, 2025 – limited onsite registration is available.

MAIL OR FAX REGISTRATION FORM

This is how your name will appear on your name badge. *Required fields.

*FIRST NAME: *LAST NAME:

*CREDENTIAL(S):

*COMPANY/INSTITUTIONAL AFFILIATION:

*ADDRESS:

*CITY: *STATE/PROVINCE: *ZIP: *COUNTRY:

*PHONE:

*EMAIL ADDRESS:

Special Needs: ☐ Hearing Impaired ☐ Sight Impaired ☐ Other:

☐ Dietary (Please Specify)

REGISTRATION FEES

Registration fee includes course materials, 2 continental breakfasts, 2 lunches and 1 cocktail reception.

	Early Bird by 10/31/24	Before 12/31/24	After 12/31/24
☐ STA Member Registration (<i>membership dues must be paid for 2025</i>).....	\$700	\$725	\$750
☐ STA Lifetime Member Registration (<i>for STA Life Members who want to contribute extra to the Society</i>).....	\$850	\$875	\$900
☐ *Non-Member Registration.....	\$850	\$875	\$900
☐ Trainee Registration (Student/Resident/Fellow) Registration	\$250	\$250	\$250

*Non-member fee includes 1 year of membership to qualifying physicians.

A LA CARTE ITEMS

- ☐ Additional Thursday Reception Event Ticket.....
- ☐ Spouse/Guest Registration.....
- ☐ 2025 Membership Dues Renewal.....
- ☐ Friday Dinner at Desert Botanical Gardens
- ☐ Lifetime Member Status

SUBTOTAL:

PAYMENT MUST ACCOMPANY REGISTRATION TOTAL DUE:

METHOD OF PAYMENT

The following methods of payment are acceptable for the registration fee:

1. Check: Made payable to STA. *There is a \$25 returned check fee.*
☐ Check Included
2. Credit Card Payments: ☐ Visa ☐ MasterCard ☐ Discover ☐ AMEX

NAME ON CARD:

CARD #: SECURITY CODE: EXP DATE:

SIGNATURE:

Paper Registration
By Fax or Mail
(SEE CONTACT INFORMATION BELOW)

If you are unable to register online please fax or mail your paper registration form. STA cannot accept credit card information by email.

Onsite Registration
Online registration accepted until January 1, 2025. After January 1st limited onsite registration is available.

Registration Cancellation
All cancellations must be in writing and sent via U.S. mail, email or fax. Fee for cancellations postmarked or date stamped before January 1, 2025 will be completely refunded less an administrative fee of \$25. NO REFUNDS WILL BE MADE AFTER JANUARY 1, 2025.

Questions? Contact Us:
Society for Technology in Anesthesia
6737 W Washington St
Ste 4210
Milwaukee, WI 53214
stahq@stahq.org
OFFICE: 414-389-8600
FAX: 414-755-1346

PLEASE NOTE: Registration is not complete until you receive a confirmation email for your pre-registration. If you do not receive this email within 5-7 days of registration, please contact us at 414-389-8600.

It is recommended to bring your confirmation of registration with you to the conference.



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2025 ANNUAL MEETING

JANUARY 9-12, 2025 • TEMPE AZ



Reservation Phone: 480-894-1400

Room Rate: \$249/night

Reservation Deadline: December 18, 2024

*Visit www.stahq.org to book your hotel
accommodations online!*

Tempe Mission Palms
60 E 5th St, Tempe, AZ 85281

**Program Chairs: James Xie, MD
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