



# INTERFACE

## 2017 Board of Directors

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## President's Message

By Mark Poler, MD, Geisinger Health System

### ANNUAL MEETING

We are looking forward to an excellent Annual Meeting this year in January 2018 at the beautiful Turnberry Isle Miami in Aventura, Florida. Drs. Lara Brewer and Jonathan Tan have prepared an excellent program, including a shared day of programming in collaboration with the Foundation for Anesthesia Education and Research (FAER).

Submissions are open for the abstracts and the Engineering Challenge -- we expect to see innovative ideas and enjoy the fun of the competition.

### MEMBERSHIP GROWTH

The Board is attending to the growth of membership to secure the continuity and evolution of STA. This is not a single activity, but a number of experiments seeking to discover effective recruiting strategies. Anesthesiology continues to become more technologically based, and the younger practitioners are more technology-savvy than previous generations. If the word is spread, there is potentially a plentiful harvest of new members for this unique society. Many with identifiable technological bents have been unaware of the existence of STA. Many have shown interest; some have joined.

STA has always been a small but unique society that encourages the interaction of clinicians, engineers, product managers, and others interested in any technologies related to anesthesia practice. As Eric Raymond observed for bug fixes in Open Source Software, many eyes make all problems shallow. Solutions to problems can be transparently simple for the right people, when exposed in the right venue. Some of you may have ideas that would foster growth and development of the society in new directions, as technology is always changing and opening

new vistas. Some of the technologies that were current in the early years of STA are still with us. The simulation component that developed in STA eventually outgrew the parent and became a larger society on its own. Other technologies faded away. Some of our members will be aware of applicable emerging technologies. Please promote them so that they can provide opportunities for growth and exciting content for upcoming meetings.

Growing the membership, especially among new anesthesia residents, has again been propelled by the efforts of Drs. Charlene Blake and Lisa Chan with social media activity. They also promoted the Society at the ASA



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**President's Message** *continued from previous page*

Annual Meeting, attracting attention with STA labeled "bait": USB recharging batteries and multiple adapter USB cables. Dr. Blake will be redirecting her focus to the next Annual Meeting, while Dr. Chan will continue to focus on membership.

We would like to benefit from the insights of our non-clinical academic partners: You are peers in this organization. How can we do better to attract and develop the careers of your professions alongside and synergistically with the clinician members?

Included in this year's program is a workshop for beginning investigators. For future meetings, Dr. Christine Lee would like to develop further focus on young engineering and investigator talent addressing issues in anesthesia. Ideas are welcome to encourage participation – please contact Dr. Lee or the STA Office with your interest.

We would also like to hear more from our commercial supporters: How we can make the Society and its meetings more valuable to you, assuring a good return on investment for your support? Ultimately, STA is dependent on commercial sponsorship to maintain a sound balance sheet and the ability to continue having meetings that are beneficial to a broad spectrum of participants. With your help, we hope that STA will become more widely known and sought after as a premier meeting place that supports collaborative improvement of technology for all our members and the broader international practice of anesthesia.

Several STA activities are explicitly exploring aspects of collaboration and frequently counterproductive perceived conflict or competing interests. Academic development of ideas, and commercial realization are vital to the advancement of anesthesiology and patient safety. At the Annual Meeting we have a collaborative One-Day FAER Panel. A proposed STA panel for the IARS meeting was not accepted. The premise has been expanded and re-proposed for the ASA meeting, Anesthesiology 2018, to keep the discussion alive in the larger anesthesiology community.

**WEBSITE**

The new STA website is live - it is a very large improvement. If you have not had an occasion to visit, please do so, and provide suggestions for further improvement, along with any ideas to make it more useful for all members and attractive to potential members.

**STA IN OTHER ASSOCIATIONS**

Drs. Brian Rothman and Ori Gottlieb represented STA at the SCATA meeting in Glasgow, Scotland. Their participation was enthusiastically acknowledged by our friend Dr. Andrew Norton. We look forward to the fruitful continuation of this new trans-Atlantic exchange.

The ASA Anesthesia 2018 meeting is beginning to take shape now. Development of panel proposals for the ASA meeting has been active. STA members have participated in preparation of a number of interesting proposals sponsored by ASA committees. One panel is specifically sponsored by STA, discussing challenges of entrepreneurship in the current ethical and regulatory climate for medicine. We are eagerly hoping for selection and a place on the Anesthesiology 2018 meeting program.

As noted, the panel proposal from STA for the Spring IARS meeting in San Francisco was not accepted. In lieu of a STA-proposed panel, STA is endorsing a panel chaired by Dr. Maxime Cannesson and featuring STA members (Hofer, Kheterpal, Lee), titled "Leveraging Machine Learning to Improve Patient Care: What is Involved, and What It Really Means". If you are able to attend the IARS meeting, please lend your support to your colleagues.

The EMIT and E&F Committees of the ASA are chaired by STA members, and offer another opportunity for STA members to carry their expertise and enthusiasm into the larger anesthesiology society. If you are interested in participating, please contact Drs. Brian Rothman or Butch Loeb before the upcoming ASA nomination period.

**2018 BOARD NOMINATIONS**

The slate of nominees for officers and members of the Board of Directors was approved at the STA Board meeting during the ASA at Boston. Please participate in the election for the officers who will be leading your society for the next few years.

Sincerely,  
**Mark Poler**  
STA President



## Report from the Executive Director

By Jane Svinicki, CAE

### Why Do I Keep Hearing About 'Emotional Intelligence'?

Seems like the topic of emotional intelligence is all over the business press lately. So what exactly is emotional intelligence? It is the ability to effectively manage our own emotions and the emotions of those around us.

It is quickly becoming the No. 1 competency for workplace leadership in the 21st century. Shareholders, associates, customers and all of humanity crave for a workplace culture that values and is committed to emotional intelligence.

We are not talking about Jedi Master mind control here; we are talking about the ability to read and respond to the emotions of others in the workplace.

If two companies have the same expertise, technology and personnel, what gives a competitive edge is the staff and their abilities. Top talent is gravitating to companies that have a culture of emotional intelligence.

So, how can you increase your emotional intelligence? Here are five ideas from Bill Marklein, Founder and CEO of Employ Humanity LLC whose expertise is emotional intelligence.

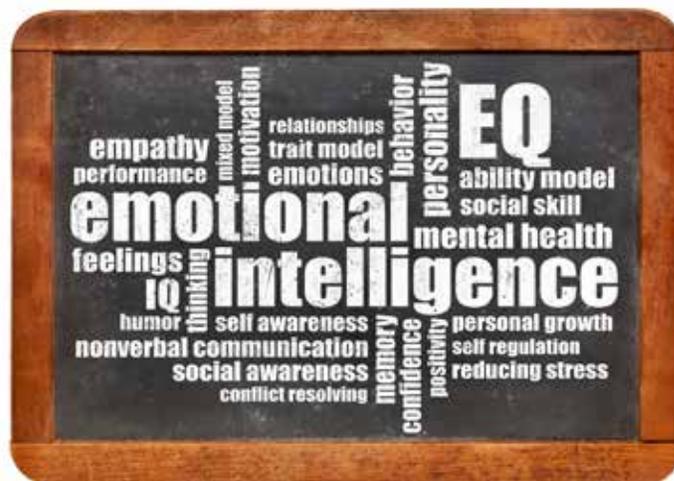
Watch and observe your thoughts. Our minds can become a snow globe of irrational thoughts, and leaders need to not attach to each snowflake. Watch and let go of the thoughts. This will position you to be in the present moment without judgement or biases.

Find time to pause and unplug. Disengage from technology and enjoy your immediate surroundings. Constant interaction with technology rewires our brain in a negative way.

Embrace all emotions. Negative emotions give us wisdom. Negative emotions are part of life and illuminate the positive emotions such as joy and peace.

Strive to feel what others are feeling. Imagine an iceberg. We often judge and only view above the water, but there is a whole story underwater. Below the surface is the sweet spot.

Have an awareness that the workplace is a portal to inspire your employees to be the best version of themselves and provide them resources to thrive. It is not work-life balance, because balance implies polar opposites. It is work-life integration, which is the social awareness and social management that work



affects the home and vice-versa and that there is a community outside of your work walls.

Bonus 36: Model the behavior desired in your culture. Culture change starts with self-management. You need to model the behavior desired for your staff.

The bottom line, emotional intelligence is understanding what others are feeling because you have experienced it yourself or you can put yourself in their shoes. Empathy allows you to build trust with your staff, customers and others.

Jane A. Svinicki, CAE  
Executive Director



## Office Holiday Hours

The STA Office will be closed  
on the following dates:

November 23-24, 2017

December 25-26, 2017

January 1-2, 2018

## STA 2017 Ty Smith Dinner Recap

By James Szocik, MD, STA Interface Newsletter Committee Chair

The Annual STA Ty Smith dinner took place on Sunday, October 22, 2017 at the Mistral Bistro restaurant in Boston, Massachusetts. The invited speaker was the illustrious author, Dr. Robin Cook. He regaled us with tales of his past: being the first college graduate in his family, working nights in a blood gas lab to fund his way through medical school, and having a mentor at Columbia who had been a French partisan in World War II.



Dr. Robin Cook (middle), Ty Smith Dinner speaker, with President, Dr. Mark Poler, (left) and Past President, Dr. John Pawloski (right).

The interplay between these factors led him to spend a summer doing blood gases on Jacques Cousteau's ship, the *Calypso*. While there he met a member of the U.S. Navy, who said to call him in the future. The future came as Robin was drafted into the Marines. He called his contact, and was advised to volunteer for submarine duty. He described his tour of duty on the USS Kamehameha as leaving 8 hours a day available for writing, resulting in his first novel, *The Year of the Intern*. Robin



Audience question from Dr. Kirk Shelley at the Ty Smith Dinner.



Dr. Robin Cook speaking to the audience at the Ty Smith Dinner at Mistral Bistro in Boston, Massachusetts on Sunday, October 22nd.

described the book as boring, leading him to read other best-selling novels, such as *Jaws* and *Love Story*, taking them as case studies, and learning what made them fun to read.

His philosophy is to highlight important issues in medicine, such as organ donation (*Coma*), managed care (*Fatal Cure*), and medical malpractice (*Harmful Intent*). Robin feels that works of fiction, such as *The Jungle* by Upton Sinclair, *Uncle Tom's Cabin* by Harriet Beecher Stowe, and *The Citadel* by AJ Cronin, can have a greater impact on public policy than works of non-fiction.

Importantly, he listed many stakeholders in medicine today: Big Pharma, hospitals, device manufacturers, insurance companies, and the government, but the two that were disenfranchised were the doctors and the patients.

Be sure to save the date for next year's Ty Smith Dinner in San Francisco on Sunday, October 14, 2018.



STA staff at the Ty Smith Dinner (from left to right: Rachel Witte, Marie Odden and Jane Svinicki).

STA

## 2018 Board of Directors Voting Information

The 2018 candidate statements for the STA Board of Directors are provided to assist you with voting. Voting is conducted online, please visit the STA website at [www.stahq.org](http://www.stahq.org) or [CLICK HERE](#) to proceed to the voting website.

**BOARD OF DIRECTORS ELECTION**  
**Deadline to Cast Your Vote:**  
**Tuesday, December 15, 2017**

## Candidate Profiles

### Position: President Elect *(vote to approve)*



**Brian Rothman, MD**

Dr. Rothman is an Associate Professor of Anesthesiology, Surgery, and Biomedical Informatics, Medical Director of Perioperative Informatics, and Director in the Office of the Chief Health Information Office at Vanderbilt University Medical Center. He received his medical degree from the University of Cincinnati and completed his residency at The Johns Hopkins Hospital. He has been an active member of the STA since 2008, and he is currently serving as Immediate Past President on the STA Board of Directors. In 2010, Dr. Rothman received the STA Innovation Award in the Computers in Anesthesia Engineering competition and the STA Clinical Application of Technology Award for his success in utilizing an iPhone as a mobile perioperative situational awareness device.

Dr. Rothman serves as the American Society of Anesthesiologists (ASA) Committee for Electronic Media and Information Technology Chairperson and recently concluded committee chair roles with the Healthcare Information and Management Systems Society he has held since 2013.

His current work in the area of medical technology and informatics focuses on further enhancing Vanderbilt's EHR and developing innovative tools for clinicians. He leads teams charged with developing enhancements to directly improve patient safety, increase efficiency, and facilitate timely communication through the accurate acquisition, handling, and delivery of data to healthcare personnel. His current focus includes leading his informatics teams to implement Epic at Vanderbilt and will be heavily involved in further system enhancements after the initial implementation.

Dr. Rothman's interest in returning as President-Elect in 2018 is to continue to build on the successes of previous years and further foster STA's mission to promote the application of technology through education, research, and collaboration with industry partners and other organizations that align with STA's mission.

### Position: Secretary *(vote for one of two)*



**Robert Freundlich, MD, MS**

Dr. Freundlich is a practicing Anesthesiologist, Intensivist, and Clinical Informatician at Vanderbilt University Medical Center. In addition to his clinical responsibilities in the operating room and cardiovascular intensive care unit, he is an active member of the Vanderbilt Anesthesiology and Perioperative Informatics Research (VAPIR) Division, working on a variety of research and quality improvement projects in the perioperative domain.

He is active on several national committees and panels related to his academic interests, including the ASA Subcommittee on Outcomes and Database Research, the IARS Session Proposal Review Panel (STA nominee), and the Early-Stage Anesthesiology Scholars.

He has served as an abstract reviewer for the ASA and AMIA meetings for the past several years. He is also an active reviewer for a number of perioperative journals, including Anesthesia and Analgesia and Anesthesiology. He is board certified in anesthesiology, critical care, basic transesophageal echocardiography, and is in the process of obtaining board certification in clinical informatics.

**Norma Sandrock, MD**



Dr. Sandrock has been a member of the STA since 2009, drawn to the Society by her engineering past and love for all things and people technical and innovative. She has enjoyed teaching the "Challenges and Opportunities in Developing Anesthesia Products" course at the Annual Meeting for the last eight years and loves the opportunity to educate STA's industry friends about the daily life

**Secretary Candidate Profiles** continues on next page

**Candidate Profiles** *continued from previous page*

of a clinician and the challenges faced that present opportunities for innovation.

She is happy to have the opportunity for more involvement with the Society and the opportunity for a greater contribution. Her educational and training background is: BSCHE from Washington

University in St. Louis, MO, MD from Harvard Medical School, internship in Internal Medicine at New England Deaconess Hospital and residency in Anesthesiology/Fellowship in Pain Management at Beth Israel Hospital. She is currently on the attending staff at Beth Israel Deaconess Medical Center in Boston, MA.

**Position: At Large International Director** *(vote to approve)*

**Thomas Hemmerling, MD, MSc, DEAA**

Dr. Hemmerling is an Associate Professor in anesthesia and the Director of ITAG laboratory at McGill University. He is also the Chief and Directors of Anesthesia at Ahuntsic Health Centre and acts as Chair of the STA Research Committee.

**Dr. Hemmerling asked the following message to be included in his bio for the At Large International Director position:**

Another year in an evolving theatre of scientific and clinical challenges has passed by; we all know that it has become increasingly difficult to do research, to practice our specialty using the highest standards and best and most modern equipment. I have been fortunate to participate in some of the solutions, which have been found for some of these challenges within the leadership of the

STA, being as well the Chairman of the Research Committee.

The main achievements this past year were the establishment of a junior research grant, as well as attracting an increased number of visitors and participants from abroad.

As At Large International Director, my main focus this coming year shall be to further establish bridges with other similar-minded societies of the world, create specific initiatives to make the STA more known internationally, attract more prospective members and meeting participants from all over the world with a special focus on junior international staff.

As in the past, being based in Canada – close to the border – but with a European background, I will try to continue to bridge and establish connections between the STA and other countries. Allow me to continue on this path.

**Position: At Large Industry Director** *(vote for one of three)*

**Steven Barker, MD, PhD**

Dr. Barker received his B.S. in Physics from Harvey Mudd College in 1967, his PhD in Aeronautical Engineering from the California Institute of Technology in 1972, and his MD from the University of Miami in 1981. He has reached the rank of tenured professor in both engineering (UCLA) and anesthesiology (UC

Irvine, University of Arizona). He chaired the Department of Anesthesiology at UC Irvine from 1990 to 1995, and then at the University of Arizona from 1995 to 2013. He has published over 200 scholarly works, including 15 textbook chapters. Dr. Barker has served as president of the national organization of anesthesiology department chairs (AAPD) and of the STA, senior oral examiner for the American Board of Anesthesiology, and Section Editor for Technology for the journal *Anesthesia and Analgesia*.

During his 18-year tenure as anesthesiology chair at the University of Arizona, Dr. Barker was active in a number of governance roles outside of his department. He was Chair of the Council of Clinical Department Heads from 2000 through 2003, and then chair of the clinical department heads working group. He served seven years as the American Society of Anesthesiologists Director for Academic

Anesthesiology, representing all university anesthesiology departments at the ASA. Dr. Barker has been a productive academician, and has also participated actively in governance and administration at local, state, and national levels. He is now Professor Emeritus of Anesthesiology and Aerospace Engineering at the University of Arizona.

Dr. Barker has been involved with Masimo Corporation, a world leader in medical technology, since its beginnings in 1990. He now serves as Masimo's Chief Science Officer and member of the Board of Directors. His Masimo activities allow Dr. Barker to combine his engineering and medical backgrounds to advance patient care and safety through improved technology. Dr. Barker is also actively involved with the Patient Safety Movement Foundation (PSMF), and serves on its Board of Directors.

In November 2015, Dr. Barker received the Lifetime Achievement Award from IAMPOV (Innovations and Applications of Monitoring Perfusion, Oxygenation, and Ventilation), "for championing the development of vitally important monitoring technologies and associated testing." In January 2016, he received the J.S. Gravenstein Award from the STA, "for his visionary understanding of the role of technology in anesthesia care and lifetime commitment

**At Large Industry Director Profiles** *continues on next page*

**Candidate Profiles** *continued from previous page*

to patient safety.” In April 2016, he received the “Distinguished Alumni Award” from Harvey Mudd College.

**David Giarracco**

Mr. Giarracco is currently the Vice President of Global Market Development for the \$1.6B Respiratory Monitoring & Solutions business of Medtronic.

In this role, he leads the efforts to accelerate the adoption of Medtronic technologies for addressing deep vein thrombosis, nutritional insufficiency and respiratory compromise around the globe. Dave and his global teams work customers and cross functionally to raise awareness of these conditions and the impact they have on healthcare, generate evidence, and develop services to enable our healthcare partners in addressing them.

He has worked in medical device industry for over twenty years holding leadership roles in engineering, operations, sales/marketing and business acquisitions/ divestitures across the entire care continuum from home to emergency medical services through hospital and long-term care.

He holds a Masters in Biomedical Engineering from The Johns Hopkins School of Medicine, as well as Bachelors in Biomedical Engineering from The Johns Hopkins Whiting School of Engineering.

**Siddarth Satish, BS, MS**

Mr. Satish is the Chief Executive Officer of Gauss Surgical. He founded the company in 2011 and served as its Chief Technology Officer and Chairman of the Board until 2015.

He has over 10 years of experience in computer-aided modeling of biological systems and managed the development of the company’s core technology from invention through six US/EU regulatory approvals, including FDA De Novo clearance and CE mark.

In his operating roles, he has raised \$25 million in venture capital and led the company’s early commercial and strategic market development activities. From 2011 to 2013, Siddarth served as an Entrepreneur-in-Residence at StartX, Stanford University’s Startup Accelerator. Prior to founding Gauss, Siddarth held a SIMdesign fellow in the Department of Surgery at Stanford University, and worked on computer-aided molecular modeling research at Gilead Sciences and UC Berkeley.

Siddarth holds a BS in Chemical Engineering from the University of California, Berkeley, and an MS in Bioengineering from the UC Berkeley/UCSF Joint Graduate Group in Bioengineering. He holds over 25 issued or pending patents in the fields of mobile vision and medical devices, and serves on the boards of Gauss Surgical and Verteco Energy.

## Swimming with Sharks - Technology Version

Anesthesiology has a long history of innovation, entrepreneurship, and collaboration among academicians, private practitioners, and industry to improve patient care. FAER and the Society of Technology in Anesthesia have played essential roles in our history of innovation.

FAER and STA are sponsoring a forum on entrepreneurship. Following a “networking” lunch from 12:45 to 2:00 pm, there will be a 2-hour program “Success and Failure Travel Together, with presentations of adventures, and misadventures, by Drs. Brewer, Mandel, Arndt, and Shafer.

This will be followed by a 2-hour session during which four inventors “pitch” their invention to one of the above panelists. The panelists will ask tough questions about the unmet medical need, the likelihood of technical and commercial success, and the potential return on investment. Following the presentations, the panelists will select a winner.

This is the same format as the well-attended “Swimming with Sharks” session at this year’s ASA. Several of the presenters at the “Swimming with Sharks” sessions were approached by potential

business partners and investors following the presentations. That is why both the presenters and panelists worked hard to hone the “elevator pitch” as would be expected for an investor presentation.

If you are interested in applying to be one of four inventors to stand in the spotlight and present your innovative idea to a panel of successful entrepreneurs, please complete this form and submit it to [FAER@faer.org](mailto:FAER@faer.org) by the **December 4, 2017** deadline.

[Download the Application Form HERE](#)





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### At Large Director

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**SOCIETY FOR TECHNOLOGY IN ANESTHESIA**

**BROCHURE ON PAGES 9-13**

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 19999 W Country Club Dr  
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**Reservation Deadline:**  
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**STA 2018 ANNUAL MEETING**  
*Data Driven Innovation and Technology in Anesthesia*

**#STA18TURNBERRY**



# *Data Driven Innovation and Technology in Anesthesia*



## 2018 Annual Meeting Program

**#STA18TURNBERRY**

January 10-13, 2018  
Turnberry Isle Miami  
Aventura, Florida

Annual Meeting  
Program Co-Chairs  
Lara Brewer, PhD  
Jonathan M. Tan, MD, MPH



Society for Technology in Anesthesia  
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**FAER**   
Foundation for Anesthesia  
Education and Research

Featuring a Joint Session  
with the Foundation for  
Anesthesia Education  
and Research

# MEETING ACCREDITATION INFORMATION

## Activity Overview

The Society for Technology in Anesthesia (STA) 2018 Annual Meeting will provide a forum for discussion of emerging innovations and technology in anesthesia with a particular emphasis on how data and data science are being used to drive and support these innovations. Topics covered throughout the program include how data driven innovation is informing automated drug delivery, perioperative medicine, academic innovation and cybersecurity in healthcare.

## 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.

## Educational Objectives

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

- Describe examples of innovations in anesthesia and perioperative medicine.
- Explore the current state of automated drug delivery and closed loop systems.
- Understand the importance and complexity of cyber security and interoperability in modern anesthesia and health care practice.
- Discuss how data science can be applied to EHRs to create more effective multicenter research and improve perioperative medicine.
- Describe how anesthesiologists in academic medicine are creating innovation and technology to drive both research and entrepreneurial missions.
- Discuss how young researchers can further their careers through mentorship and opportunities in anesthesia technology research and entrepreneurship.
- Summarize current research presentations from anesthesiologists, engineers, scientists and industry in anesthesiology technology and innovation.

## Barriers to change:

- Harnessing new knowledge and applications of technology in a healthcare space that traditionally rewards routine and incremental changes.

## Accreditation Statement

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Amedco and the Society for Technology in Anesthesia (STA). Amedco is accredited by the ACCME to provide continuing medical education for physicians.

## Credit Designation Statement

Amedco designates this live activity for a maximum of **21.25 AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## PRE-CONFERENCE SESSION

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

**Wednesday, January 10, 2018 • 0800 - 1200**

The Challenges and Opportunities Course started over ten years ago as an introduction to the practice of anesthesia for non-clinical STA members. Through the years it has evolved to its current form where STA industry members and anesthesiologists meet to discuss current trends in anesthesia practice and product development.

This half day course is planned for industry by the scientist and researcher members of the STA involved in designing, testing and marketing new developments and products to anesthesiologists. Basic talks will provide participants with an understanding of the practice of anesthesiology and how to recognize opportunities for new products. The session will include mini descriptions and group discussions on key aspects of the clinical specialty, including anesthesia work-flow: what works and what's needed.

Discussions are driven by participant interests regarding all aspects of anesthesia care and practice. Faculty for the course are board-certified anesthesiologists from multiple geographic locations, practice settings and varieties of anesthesia care. Prior sessions have focused on the anesthesia machine, infusion pumps, AIM systems and Big Data, as well as the basics for those who are just getting acquainted with the specialty.

Work groups of anesthesiologists and participants will address challenges in the design process and how these can be overcome to market a successful product. This will be a highly interactive and stimulating workshop. **OPEN TO INDUSTRY PARTICIPANTS ONLY.**

# SCHEDULE OF EVENTS

## Wednesday, January 10, 2018

0700-0800	Challenges and Opportunities Registration (FOR INDUSTRY ONLY)
0800-1700	Exhibitor Registration & Setup
0800-1200	Challenges and Opportunities in Developing Anesthesia Products (FOR INDUSTRY ONLY) David Feinstein, MD, Norma Sandrock, MD, John Pawlowski, MD, PhD, Jesse Ehrenfeld, MD, MPH, Christopher Quartararo, MD
1600-2000	Resident Gathering
1800-2000	Registration & Welcome Cocktail Reception

## Thursday, January 11, 2018

0700-0800	Registration & Breakfast
0800-0815	Welcome Address Mark Poler, MD & Lara Brewer, PhD & Jonathan M. Tan, MD, MPH

### Session 1: Keynote Address

Moderator: Lara Brewer, PhD & Jonathan Tan, MD, MPH

0815-0930	Challenges of Anesthesia During Future Interplanetary Space Missions Matthieu Komorowski, MD, MRes
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0930-1000	Break with Exhibitors & Abstract Posters
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### Session 2: A Road Less Traveled: Successful Innovations from Academic Institutions

Moderator: Clyde Matava, MBChB, DA, MMed

1000-1030	Builders and Carers – Inventors Divided by a Common Language George Shorten, MD, PhD
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1030-1100	Patient-Centered Anesthesia and Learner- Centered Training Samsun Lampotang, PhD
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1100-1130	New Drugs & New Techniques Jason Maynes, MD, PhD
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1130-1200	Panel Discussion
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1200-1315	Luncheon
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### Session 3: Automated Drug Delivery is Here!

Moderator: J. Mark Ansermino, MBBCh

1315-1345	Closed Loop for Diabetes: Challenges and Opportunities Lane Desborough, MASc
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1345-1415	Closed Loop TIVA for Combat Casualty Care Stephane Bibian, PhD
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1415-1445	Closed Loop Anesthesia: Can We Make it Safe by Design? Guy Dumont, PhD
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1445-1515	Panel Discussion
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1515-1545	Break with Exhibitors & Abstract Posters
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1545-1615	Posters in a Minute: Moderated Poster Summaries (Group A) Moderator: Charlene Blake, MD, PhD
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### Session 4: Abstract Awards & Presentations

Moderator: Thomas Hemmerling, MD, MSc, DEAA

1615-1640	Excellence in Technology Award Presentation Thomas Hemmerling, MD, MSc, DEAA
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1640-1705	Best Clinical Application Award Presentation Thomas Hemmerling, MD, MSc, DEAA
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1705-1730	Best of Show Award Presentation Thomas Hemmerling, MD, MSc, DEAA
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1730-1745	2018 Junior Research Grant Recipient Awarded Thomas Hemmerling, MD, MSc, DEAA
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## Friday, January 12, 2018

0700-0800	Registration & Breakfast
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### Session 5: Analysis of Big Data

Moderator: Patrick Tighe, MD, MS

0800-0830	When Perioperative Data Get Tens(or) Patrick Tighe, MD, MS
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0830-0900	Deep Analysis of Messy Perioperative Data Parisa Rashidi, PhD
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0900-0930	Artificial Intelligence to Enhance Non-Artificial Cognitive Assessment Catherine Price, PhD, ABPP-CN
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0930-1000	Panel Discussion
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1000-1030	Break with Exhibitors & Abstract Posters
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### Session 6: Trust but Verify: Achieving the Medical Internet of Things

Moderator: Julian M. Goldman, MD

1030-1035	Interoperability and Cybersecurity: What's the Connection? Julian M. Goldman, MD
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1035-1105	Medical Device Security and the Curse of the Internet of Things Thomas P. Engel, MD
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1105-1135	Technical Aspects of System Safety: Interoperability and Cybersecurity Sandy Weinger, PhD
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1135-1205	Decrypting the Cybersecurity Landscape Anura Fernando
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1205-1230	Panel Discussion
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1230-1345	STA Business Luncheon & 2018 J.S. Gravenstein Award Presentation Mark Poler, MD & Matthew Weinger, MD
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1345-1415	Posters in a Minute: Moderated Poster Summaries (Group B) Moderator: Matthew Levin, MD
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1415-1430	Break with Abstract Posters
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# SCHEDULE OF EVENTS CONTINUED

## Friday, January 12, 2018 continued

### Session 7: STA & FAER Jointly Sponsored Concurrent Sessions



1430-1630 **Young Researchers Workshop**  
Christine Lee, MS, Maxime Cannesson, MD, PhD,  
Joseph Rinehart, MD, Barrett Larson, MD

The objective of this workshop is to bring together a community of young research scientists. In this community, researchers will share their individual research experiences, as well as develop collaborative relationships to further promote the advancement of technology in anesthesia. The focus of this year's workshop will be entrepreneurship.

1430-1630 **Multicenter Collaborative Data Research**  
Mohamed Rehman, MD,  
Luis M. Ahumada, MSCS, PhD

The objective of this workshop is to help groups work together and share data that will help attendees understand and improve outcomes of rare events. The workshop will have four 15 minute presentations of projects, followed by a group discussion and conclusion of next steps.

1700-1900 **STA Cocktail Reception**

## Saturday, January 13, 2018

0700-0800 **Registration & Breakfast**

### Session 8: STA Engineering Challenge

Moderator: Jeffrey Mandel, MD, MS

0800-0930 **Engineering Challenge**  
Jeffrey Mandel, MD, MS

0930-1000 **Posters in a Minute: Moderated Poster Summaries (Group C)**  
Moderator: Allan Simpao, MD, MBI

1000-1030 **Break with Abstract Posters**

### Session 9: Entrepreneurial Innovation and Application of New Technology

Moderator: Jorge Galvez, MD, MBI

1030-1100 **Crowdsourced Innovation: A Model for Accelerating Medical Technology Development**  
Barrett Larson, MD

1100-1130 **Accelerating Medical Devices to Market: Strategies for Rapidly Supporting Unmet Clinical Needs**  
Seth Goldenberg

1130-1200 **Technology in Anesthesia: Crystal Balling the Future**  
Amer Majeed, MBBS

1200-1230 **Panel Discussion**

1230-1400 **STA/FAER Luncheon**

### Session 10: Successful Steps in Entrepreneurship – A FAER-Sponsored Session in Honor of Dr. Ted Stanley

Moderator: James Eisenach, MD

1400-1600 **Success and Failure Travel Together**

Stories from four clinically driven entrepreneurs who have attempted commercialization of clinically-driven ideas.

- Early Innovation in Academia – Lara Brewer, PhD
- Innovation for the Established Academic – Jeffrey Mandel, MD, MS
- Building Long Term Relationships - George Arndt, MD
- Why “Can’t Fail” Fails - Steven Shafer, MD

1600-1630 **Break**

1630-1815 **FAER Swimming with Sharks – Technology Version**  
Lara Brewer, PhD, Jeff Mandel, MD, MS, George Arndt, MD, Steven Shafer, MD

Turning your academic hobby into game changing technology. Anesthesiology has a long history of innovation, entrepreneurship, and close interactions between academicians, private practitioners, and industry to bring new concepts to the clinical arena and better care for our patients. Using the entertaining format of Shark Tank™, this session will have participants pitch their ideas to a panel of innovation experts, and learn about the steps involved in the process of developing an idea to bring it to market.

1830-2000 **FAER Closing Cocktail Reception**

## INVITED FACULTY

Soodeh Ahani, PhD  
University of British Columbia

Luis M. Ahumada, MSCS, PhD  
Children's of Hospital of Philadelphia

J. Mark Ansermino, MBCh  
University of British Columbia

George Arndt, MD  
University of Wisconsin School of Medicine and Public Health

Stephane Bibian, PhD  
Neurowave Systems, Inc

Charlene Blake, MD, PhD  
Annual Meeting Abstract Co-Chair

Lara Brewer, PhD  
Annual Meeting Program Co-Chair  
University of Utah

Maxime Cannesson, MD, PhD  
University of California, Irvine

Lane Desborough, MASC  
Bigfoot Biomedical

Guy Dumont, PhD  
University of British Columbia

Jesse Ehrenfeld, MD, MPH  
Vanderbilt University Medical Center

Tomas P. Engel, MD  
Loma Linda University School of Medicine

David Feinstein, MD  
Beth Israel Deaconess Medical Center

Anura Fernando  
Underwriters Laboratories

Jorge Galvez, MD, MBI  
Children's Hospital of Philadelphia

Seth Goldenberg  
NAMSA

Julian M. Goldman, MD  
Massachusetts General Hospital

Thomas Hemmerling, MD, MSc, DEAA  
McGill University

Matthew Komorowski, MD, MRes  
Charing Cross Hospital

Samsun Lampotang, PhD  
University of Florida

Barrett Larson, MD  
Stanford University School of Medicine

Christine Lee, MS  
University of California, Irvine

Matthew Levin, MD  
Annual Meeting Abstract Co-Chair

Amer Majeed, MBBS  
King Faisal Specialist Hospital and Research Center

Jeffrey Mandel, MD, MS  
University of Pennsylvania

Clyde Matava, MBChB, DA, MMed  
Hospital for Sick Children

Jason Maynes, MD, PhD  
University of Toronto

John Pawlowski, MD, PhD  
Beth Israel Deaconess Medical Center

Catherine Price, PhD, ABPP-CN  
University of Florida

Christopher Quartararo, MD  
Winchester Anesthesia Associates

Parisa Rashidi, PhD  
University of Florida

Mohamed Rehman, MD  
John Hopkins All Children Hospital

Joseph Rinehart, MD  
University of California, Irvine

Norma Sandrock, MD  
Beth Israel Deaconess Medical Center

Steven Shafer, MD  
Stanford University

George Shorten, MD, PhD  
University College of Cork, Ireland

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

Jonathan M. Tan, MD, MPH  
Annual Meeting Program Co-Chair  
Children's Hospital of Philadelphia

Patrick Tighe, MD, MS  
University of Florida

Matthew Weinger, MD  
Vanderbilt University

Sandy Weinger, PhD  
FDA/CDRH/OSEL

# MEETING REGISTRATION INFORMATION

## ONLINE REGISTRATION [www.stahq.org](http://www.stahq.org)

Online registration accepted until Tuesday, January 3, 2018 – Limited Onsite Registration

### MAIL OR FAX REGISTRATION FORM

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

\*FIRST NAME:  \*LAST NAME:

PROFESSION:  \*HIGHEST DEGREE(S):

\*COMPANY/INSTITUTIONAL AFFILIATION:

\*ADDRESS:

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

\*PHONE:  FAX:

\*EMAIL ADDRESS:

Special Needs:  Hearing Impaired  Sight Impaired  Other:

Dietary (Please Specify)

### STA FULL MEETING REGISTRATION FEES (Includes FAER One-Day Meeting)

Full meeting registration fee includes Wednesday-Saturday, course materials, 3 continental breakfasts, 3 lunches and 3 cocktail receptions.

	Early Bird by 11/15/17	By 12/15/17	After 12/15/17
<input type="checkbox"/> STA Member Registration (membership dues must be paid for 2018).....	\$475	\$500	\$575
<input type="checkbox"/> *Non-Member Registration.....	\$575	\$600	\$675
<input type="checkbox"/> Resident Registration.....	\$50	\$50	\$50

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

### FAER ONE-DAY MEETING

One-day registration fee includes Saturday breakfast, lunch and reception.

	Before 1/13/18	On 1/13/18
<input type="checkbox"/> STA/ASA/AVA Member Registration.....	\$125	\$175
<input type="checkbox"/> Non-Member Registration .....	\$275	\$325

### A LA CARTE ITEMS

- Additional Wednesday Reception Event Ticket.....\$50
- Additional Friday Reception Event Ticket.....\$50
- Spouse/Guest Registration.....\$325
- 2018 Membership Dues Renewal.....\$100

SUBTOTAL:

PAYMENT MUST ACCOMPANY REGISTRATION

TOTAL DUE:

### METHOD OF PAYMENT

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

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

NAME ON CARD:

CARD #:  SECURITY CODE:  EXP. DATE:

SIGNATURE: \_\_\_\_\_

### Paper Registrations

By Fax or Mail  
(SEE CONTACT INFORMATION BELOW)

If you are unable to register online please fax or mail your paper registration form.

### Onsite Registration

Online registration accepted until January 3, 2018. After January 3rd 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 3, 2018** will be completely refunded with an administrative fee of \$25. **NO REFUNDS WILL BE MADE AFTER JANUARY 3, 2018.**

### 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: 414-276-7704

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.