



Interface

NEWSLETTER

SOCIETY FOR TECHNOLOGY IN ANESTHESIA • NOVEMBER 2020

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President's Message



JEFF E. MANDEL, MD, MS
STA President
Jersey Shore University Medical Center

When accepting the gavel from Dr. Brian Rothman in January, I had all sorts of notions about what the year would be like. I had proclaimed my commitment to environmental issues and was making plans for a STA Earth Day announcement. I was hoping to invite my former colleague Stephen Hahn to give the Ty Smith lecture. Mainly, I hoped to have an uneventful term and pass the gavel on to President-Elect, Dr. Maxime Cannesson, with stable finances. How could I be so naïve?

By early March, it was clear that the world was changing. Elective surgery was being shut down in the Northeast. Special intubation teams were being created. STA members Drs. Jeffrey Feldman, Robert "Butch" Loeb, and Jim Philip were developing guidance on use of anesthesia machines as ICU ventilators. I participated in a project with Dr. Kai Kück and others designing an open source ventilator. We all learned about virtual meetings and Zoom attire. My wife got used to me spending several hours a day "President-ing".

By May, it was clear that COVID was not going to suddenly disappear. The Board of Directors approved cancelling the 2020 Ty Smith Dinner,

which fortunately did not require any financial outlay. The 2021 Annual Meeting was a more contentious issue, as we were contractually obligated to penalties for cancellation. There was no support for holding a physical meeting amongst the Board members, and a poll of the membership failed to find significant support for this either. Ultimately, we were able to exit the contract under favorable terms and are working to develop a 2021 meeting that we feel will be one of the best virtual meetings of the season.

While I really wish we could find a way to have a physical meeting in January, it is unlikely such an event would be safe or well attended. Nonetheless, I look forward to presenting the 2021 J.S. Gravenstein Award to Dr. Jeffrey Feldman for, in part, his work on providing answers to questions facing anesthesiologists during the pandemic and passing the gavel to Maxime with the finances largely intact.

I look forward to seeing as many of you as possible virtually in January. Get a green screen, download a background of a sunset over the ocean, chill a bottle of your favorite beverage and put on a casual Zoom shirt for our reception!

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A Reminder to Prioritize Your Mental Health

MARIE ODDEN
STA Executive Director

In 2015, did anyone's 5-year plan conclude with a worldwide pandemic? No? Mine neither!

It's no secret 2020 has been rough on everyone. Associations across the board are feeling the financial impact of COVID-19; however, more important is the impact it's had on YOU, STA members, our families and our healthcare providers.

We're living in a different world than just months ago. A world where you don't see the bottom half of people's face, your hands are dry from washing them non-stop and you are distancing yourself at least six feet from colleagues, friends and family. For even the most introverted person, it understandably takes a toll.

The STA in general, especially its Annual Meeting, is different than most medical associations I manage. Members attend the Annual Meeting every January not only to accumulate more CME credit, but in large part for the networking and comradery. It's a time to come together after the chaos of the holidays, in a warm city and enjoy a nice venue. A time to relax with colleagues and reconnect. Personally, one of my favorite things about STA is that most greetings come with a hug!

Now more than ever, there is demand on healthcare providers to care for the most vulnerable patient population, all while being expected to research, innovate and invent ideas to combat this worldwide pandemic. In the meantime, who's taking care of you?

All of you are aware of physician burnout, or worse, physician suicide. You are aware of the signs that your mental health is suffering, and you are responsible for a lot of people – patients and family included. I don't have to list the signs or symptoms. I just want to remind you not to forget about taking care of yourself. Take a breath, go for a jog, snooze your alarm once or twice. Check on your colleagues. You have the weight of the world on your shoulders right now, but your efforts are not unnoticed. As difficult as it is to comprehend, this is temporary. COVID-19 coined the phrase, "healthcare heroes" for a reason.

On a lighter note, please save the original in-person meeting dates of January 13-16, 2021, for the virtual Annual Meeting. Exact dates/times are to be announced; however, the program will take place within this timeframe. Though nothing can beat the in-person networking the STA Annual Meeting provides, Drs. Ira Hofer and Matthias Gorges have planned an exciting, yet abbreviated program, complete with a virtual cocktail hour, interactive question and answer and a few other fun ideas.

Until then, happy holidays – virtual or not, I'm excited to SEE everyone in January!

Marie Odden

STA Office Holiday Hours

The STA Office will be closed on the following dates:

November 26-27, 2020

December 24-25, 2020

December 31, 2020 - January 1, 2021



The ASA Ellison C. Pierce Lecture: Advances and Future Directions of Patient Safety

JONATHAN M. TAN, MD MPH MBI
STA Communications Committee Chair
Children’s Hospital of Los Angeles

Each year, the American Society of Anesthesiologists (ASA) Annual Meeting celebrates the work and leadership of an influential patient safety advocate with the honor to give the Ellison C. Pierce Lecture. The lecture is named after Ellison C. Pierce Jr., MD, the founding President of the Anesthesia Patient Safety Foundation (APSF) and Past-President of the ASA in 1984. The lecture is dedicated to honoring contributions and continuing his vision for patient safety and the practice of anesthesiology.

The honor of this year’s ASA Ellison C. Pierce Lecture went to Matthew Weinger, MD, MS, whose lecture was entitled, “Is Safety Becoming the Poor Stepchild of Quality?” Dr. Weinger is the Norman Ty Smith Chair in Patient Safety and Medical Simulation, Associate Vice Chair of Academic Affairs, Professor of Anesthesiology, Biomedical Informatics, and Director of the

Center for Research and Innovation in Systems Safety at Vanderbilt University. Dr. Weinger has several other leadership positions within Vanderbilt University, national patient safety organizations and anesthesiology. If we listed them all, we would never meet the word count limit on an Interface Newsletter. Demonstrating his commitment and leadership in advancing patient safety, he has received more than \$12 million in research support and has more than 200 publications across many disciplines that relate to patient safety. Dr. Weinger’s career was recently celebrated at the 2018 STA Annual Meeting, where he was awarded the J.S. Gravenstein Award for lifetime achievement.



VANDERBILT UNIVERSITY
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| Production Focus | Safety/Reliability Focus |
|-----------------------------|-------------------------------|
| Optimization (Just in Time) | Redundancy (Just in Case) |
| Promote standardization | Accept diversity/variability |
| Resistant to change | Adaptive and flexible |
| Adverse events as anomalies | Adverse events as information |
| Optimism about outcomes | Pessimism about outcomes |
| Shoot the messenger | Reward the messenger |

Adapted from Landau & Chisholm, *J Contingencies Crisis Manage* 3:67, 1995

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Pierce Lecture continues from previous page

In his presentation, Dr. Weinger provided deep insight into explaining the importance of patient safety and quality in perioperative medicine. He discussed how these two important goals can conflict with one another in the real world and highlighted the need to understand how achieving quality goals can lead to clinician and patient safety compromise. Drawing from many disciplines and lessons outside of healthcare, Dr. Weinger provided attendees the opportunity to think about how we can advance patient safety given a different perspective. Examples given included his research on the use of non-routine events to improve health systems safety instead of simply the events that occurred during an adverse outcome. Non-routine events can be defined as events that are not desirable, unusual or surprising. These events are important because they can lead to deviation from optimal care.

Another central aspect of the lecture focused on the tension between hospitals that focus on production versus safety and reliability. During his lecture, Dr. Weinger asked the audience to reflect on their own work environment and challenged us to

consider what kind of organization our hospital is. Production-focused organizations may put patient safety at risk with the emphasis placed on value and cost reduction instead of high reliability organizations, such as aircraft carriers and nuclear power plants. The competing pressures, he outlined, can lead to a “drift toward failure” and normalization of new safety boundaries that are less safe. The challenges or rarity of studying safety events can lead to a dangerous compromise of safety in the face of production.

Dr. Weinger concluded his talk by emphasizing that the most important patient safety monitor that can push back on these competing interests remains the anesthesiologist. He encouraged us to be leaders and prioritize patient safety at the individual and system level while highlighting that anesthesiologists are uniquely qualified to lead as safety leaders and system thinkers. His final charge to the audience was for us to be “Safety Superheroes!”

For anyone interested in viewing this year’s ASA Ellison C. Pierce Lecture, the full recording is available on the ASA website for anyone with access to this year’s ASA virtual meeting archive.



Message from the Editor

JONATHAN M. TAN, MD MPH MBI
STA Communications Committee Chair
Children’s Hospital of Los Angeles

It has been incredible to reflect on how different the world has become since the last *Interface* was published. The Society for Technology in Anesthesia (STA) celebrated its 30th

Anniversary at the 2020 Annual Meeting. For many of us, the STA Annual Meeting in Austin was among the last in-person conferences that we attended. COVID-19 changed the world dramatically and put center stage the critical role that physicians, nurses and other health care professionals have in our society. Like many of you, I have never been prouder to be in health care and have the privilege of serving and caring for our patients in their most vulnerable moments.

The past year has also demonstrated the lifesaving role science, technology and communication has in healthcare. While COVID-19 spread throughout the world, the world became closer. Scientists, engineers and anesthesiologists came together to rapidly develop both simple and complex technological solutions to deliver health care in a pandemic. New methods and tools to optimize safety during aerosol generating procedures and ways to maximize the number of ventilators were developed. None

of this could have been possible without the close collaboration of interdisciplinary groups of individuals including those from industry. An example of this was the quick work that members of the STA, the Anesthesia Patient Safety Foundation, the American Society of Anesthesiologists and representatives from anesthesia machine manufacturers came together to help provide guidance on repurposing anesthesia machines as critical care ventilators.

This edition of the *Interface* is different than previous ones. Mentions of virtual meetings and COVID-19 will be present throughout. Despite the changes, I continue to be excited for the future of the STA and our membership. The mission of the STA and long-standing tradition of anesthesiologists, engineers, scientists and industry working together to leverage technology to improve patient care is now more important than ever before. I look forward to helping communicate and celebrate the accomplishments of the STA and our specialty.

2021 BOARD OF DIRECTORS ELECTION

Deadline to Cast Your Vote: December 15, 2020

2021 Board of Directors Voting Information

The 2021 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 or [CLICK HERE](#) to proceed to the voting website. *Note: You **MUST** hold a STA membership for 2021 for your vote to be valid. Log on to the STA website to renew your membership today!*

President-Elect (*Vote for One of Two*)



Lara Brewer, PhD

Lara Brewer, a Research Assistant Professor in Anesthesiology and Biomedical Engineering at the University of Utah, has been an enthusiastic STA society supporter since 2003. In addition to regularly mentoring STA research presentations, she previously served on the Board as Director At-Large and was a Co-Chair for the 2018

Annual STA Meeting. She was also a Judge for “Swimming with the Sharks”, a joint STA/FAER entrepreneurial workshop program in 2018, and is an ad-hoc reviewer for several journals.

In collaboration with several major medical device manufacturers, Dr. Brewer’s academic research work has influenced clinical decision support and improved non-invasive patient monitoring devices for anesthesia and critical care. Her graduate and post-doc work in the anesthesiology bioengineering laboratory at the University of Utah centered on non-invasive cardiopulmonary monitoring. Her current primary research interest relates to detection and prevention of

opioid-induced respiratory depression. She is an inventor on 14 US and international patents and has diverse clinical research experience at the interesting intersection of patient care, engineering constraints, and business opportunity.

Dr. Brewer values STA’s commitment to open dialogue and collaboration among clinicians, engineers and medical device manufacturers. She believes the thought leading STA community will continue to bring unique foresight, insight and technology solutions for patient care needs. She plans to leverage the unique strengths of the STA membership to develop guidance statements and technology innovation related to our current global pandemic.

Dr. Brewer will foster STA’s mission to promote the application of technology through education, research, and collaboration with industry. She plans to strengthen recruitment, support, and mentoring opportunities for junior members of STA. With continued focus on ample time for meaningful dialogue and a forum for research discussions and brainstorming, Dr. Brewer believes STA will thrive, regardless of our ability to meet in person in 2021.



Jonathan Wanderer, MD, MPhil, FASA

Dr. Jonathan Wanderer is an Associate Professor for Biomedical Informatics and Anesthesiology at Vanderbilt University, where he is the Medical Director for Perioperative Informatics, Associate Fellowship Director for the Clinical Informatics Fellowship Program, and co-course

director for the Foundations of Clinical Informatics in the Masters of Applied Clinical Informatics Program. He has been a member of the Society for Technology in Anesthesia since 2012, served as Annual Meeting Chair in 2017, and is currently a member of the Board. He has served on the Anesthesia Quality Institute’s Data Definitions, Data Use and Registry Operations Committees. Additionally, he is a member on Epic’s Anesthesiology Specialty Steering Board and leads Vanderbilt’s Physician Builder program. He enjoys all things related to electronic health records, clinical decision support and data science, and in his downtime, he is attempting to raise twins.

Board of Directors Election continues on next page

Board of Directors Election *continues from previous page*

At Large International Director (*Vote for One of Two*)



Matthias Görges, PhD

Dr. Matthias Görges received his MSc in Biomedical Engineering from the Hamburg University of Applied Sciences, Germany (2005) and his PhD in Bioengineering from the University of Utah, Salt Lake City, USA (2010). After postdoctoral training in Electrical and Computer Engineering at the University of British Columbia, Vancouver, Canada, he became an Assistant Professor in the Department of Anesthesiology, Pharmacology & Therapeutics at UBC in 2016. He is a Scientist at the BC Children's Hospital Research Institute, where he co-founded the Digital Health Innovation Lab and co-leads the Clinical & Community Data, Analytics

& Informatics group. His interdisciplinary research team focuses on the development and application of new technologies in anesthesia and intensive care with an emphasis on digital health and predictive analytics.

Dr. Görges has attended every STA Annual Meeting since 2010, which he enjoys for opportunities to network, discuss new research ideas, and receive feedback from leaders in both engineering and perioperative medicine. He is the current At-Large International Director, and is an Annual Meeting Co-Chair for the 2021 STA Virtual Annual Meeting. Dr. Görges is looking forward to seeing everyone again in person for the 2022 STA Annual Meeting and would be honored to continue to serve on the STA Board for 2021.



Clyde Matava, MD

Dr. Clyde Matava is a Staff Anesthesiologist at SickKids and Associate Professor at the University of Toronto. He is the Associate Chief, Bioinformatics for Perioperative Services and the Director of Informatics, Innovation and Technology in the Department of Anesthesia at SickKids. Dr. Matava is a member of the SickKids Enterprise Security team, Health Information Management Committee, Clinical Decision Support, Enterprise Hardware team, and MyChart Committee. He led the extraordinarily successful Epic Anesthesia implementation and sits on Epic's Specialty Steering Board, having developed new features which have been incorporated into Epic's foundation system.

Dr. Matava has created and designed several apps, and he has won several teaching and innovation awards. His current work focuses on the use of 3D printing, Virtual Reality, and machine learning to improve outcomes in medical education and patient care. He is also co-director of the SickKids's and University of Toronto's VR lab - CHISIL that is researching the use of virtual, augmented and mixed reality in medicine. His clinical interests include airway management and regional anesthesia. He is currently President of the Canadian Pediatric Anesthesia Society.

Dr. Matava has been a proud and active member of STA. He has presented at the conference on several occasions. He has mentored residents and fellows with scientific presentations at the STA as well as leading several STA Engineering Challenge teams. Dr. Matava was honored to serve as the 2019 Abstract Co-Chair for the STA Annual Meeting and the 2020 Co-Chair for the STA annual Meeting.

At Large Industry Director (*Vote for One of Three*)



Justin Adams, BSEE, MBA

Justin Adams is the Chief Executive Officer of AlertWatch, Inc. He has overseen all facets of the firm, including the commercialization of AlertWatch:OR and AlertWatch:OB; having received three FDA 510(k)-clearances for these real-time patient monitoring solutions. Justin co-authored two design patents involving the innovative AlertWatch display, and he continues to code in Objective-C and Swift for fun.

Prior to joining AlertWatch, Justin worked in the automotive industry, investment banking, venture capital, and ran several firms as interim CEO, helping oversee R&D efforts and operational turn-arounds. He holds a Bachelor of Science in Electrical Engineering from the University of Michigan, and an MBA from the Ross School of Business.

Justin has enjoyed collaborating on the STA Board over the last year, and he looks forward to helping STA carry out a successful Virtual Annual Meeting in early 2021. He will focus on strengthening STA's role as the premiere organization supporting anesthesia's critical role in healthcare innovation.

Board of Directors Election *continues on next page*

Board of Directors Election *continues from previous page*

At Large Industry Director (Vote for One of Three) continued



Scott Augustine, MD

Dr. Augustine founded Augustine Medical, Inc. (now known as Arizant/3M, Inc.) in 1987 and served as its CEO, Chairman and Chief Technology Officer until he left the company at the end of 2002. While at Augustine Medical, Dr. Augustine and his team successfully developed several new medical devices, including

Bair Hugger[®], the market leading patient temperature management product worldwide; Ranger[®], the market leading patient fluid warming product in the US; Bair Paws[®], the market leading heated patient gown; and WarmUp[®], a uniquely effective chronic wound therapy. Dr. Augustine is the primary inventor on more than 200 issued US patents.

Dr. Augustine earned his MD degree at the University of Minnesota and was trained in anesthesiology in the US Navy. Dr. Augustine also did Fellowship training in Intensive Care Medicine at Stanford

University and Cardiac Anesthesiology at the Mayo Clinic. He was a staff anesthesiologist at the Research Medical Center in Kansas City, MO and the University of Minnesota in Minneapolis, MN. He has been a member of the ASA since 1984.

Dr. Augustine was named the 2002 Ernst and Young Entrepreneur of the Year in the Medical Technology and Life Sciences category. Dr. Augustine received the “2011 Outstanding Achievement Award for Alumni,” from his alma mater, the University of Minnesota.

The son of missionary parents, Dr. Augustine spent 7 years of his childhood living in the bush of Tanzania, East Africa. He has maintained an interest in Africa, its people and its problems. In 2000, he and his wife started Peace House Africa (PHA), a non-profit dedicated to caring for and educating the orphan children left behind from the AIDS pandemic in Africa. In 2006, PHA built Peace House Secondary School—a 650 student boarding school for the orphans, outside of Arusha, Tanzania.



Trent Bryson, MD

Dr. Trent Bryson is an Associate Professor in the Department of Anesthesiology and Pain Management at The University of Texas Southwestern (UTSW) in Dallas, Texas. There he has served as Deputy Chief Information Officer since 2015, assisting in many EHR implementations and upgrades along with pushing UTSW

to the leading edge of anesthesia technology adoption. A recent project of note included the development of a novel bar-coding system to

integrate on-the-fly printed syringe labels that are recognized by the EHR and used for intraoperative bar-coded medication administration on syringes of all sizes. Dr. Bryson also spearheaded the largest integration of intraoperative infusion pump data capture among all American Epic EHR customers. In addition, he has worked closely for several years with EHR developers to assist directly in clinician led development cycles of monitoring, transition of care communication, and controlled substance chain of custody modules. His physician-first approach to EHR process has helped reduce the need for documentation clarification for professional billing from over 25% down to less than 2%.

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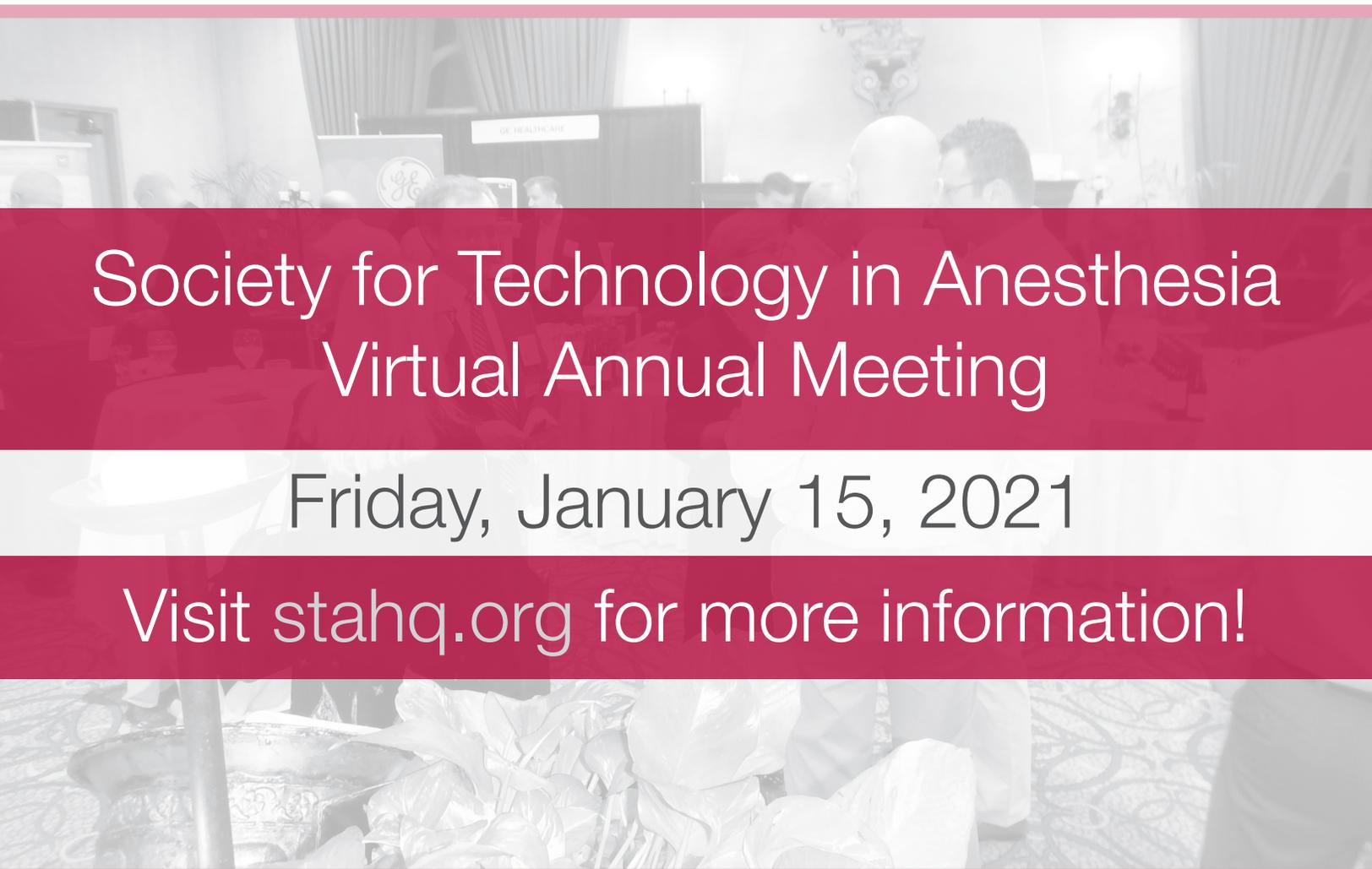
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At Large - International Director

Matthias Gorges, PhD
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Society for Technology in Anesthesia
Virtual Annual Meeting

Friday, January 15, 2021

Visit stahq.org for more information!