

Scholars' Program Comes to AUA & IARS!



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This year's meeting features a brand new program of talks targeted specifically at early-career faculty, fellows, residents, and other trainees interested in a career in academic anesthesiology: the AUA/IARS Scholars' Program. The Scholars' Program is intended to introduce the newly-minted Society of Anesthesiology Scholars (SAS), the "academic home" for early-career anesthesia scholars proposed by Drs. Michael Avidan, Margaret Wood, Jeanine Wiener-Kronish, Judith Hellman, and George Mashour with the support of the AUA Council and first highlighted in this Newsletter in Spring 2015.¹ We think the new program offers something of incredible importance to young investigators: a personalizable, cross-disciplinary roster of talks and interactive sessions that covers the spectrum from concrete

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scientific and career development advice to navigating the changing social, economic, and political contexts of academic anesthesiology.

But, why now? What is SAS? And why do we need a program like this?

Why now?

Times are changing in the world of early-career anesthesiologist/scientists. Research silos, parochialism, escalating service obligations that compete with nonclinical time, and increasingly scarce funding – with changing funding priorities – make the choice of an academic career in anesthesiology particularly daunting, even though considerable resources may be invested in promising young trainees through the residency stage and Dr. Balser's analysis of factors contributing to anesthesiology's relatively low prominence as an "academic" specialty identified the difficulty of transitioning from early-career researcher to mid-career funding sources as a potential explanation.² A decade later, failures in the transition from early-career to mid-career clinician/scientist continue to waste enthusiasm, talent, and expertise, and prevent our specialty from reaching its full potential. Research mentorship certainly helps, but even experienced mentors may falter when navigating new requirements for community engagement, initiating cross-disciplinary collaborations, or understanding what exactly a "cancer moonshot" is – a few examples of the changing face of research in the 21st century.

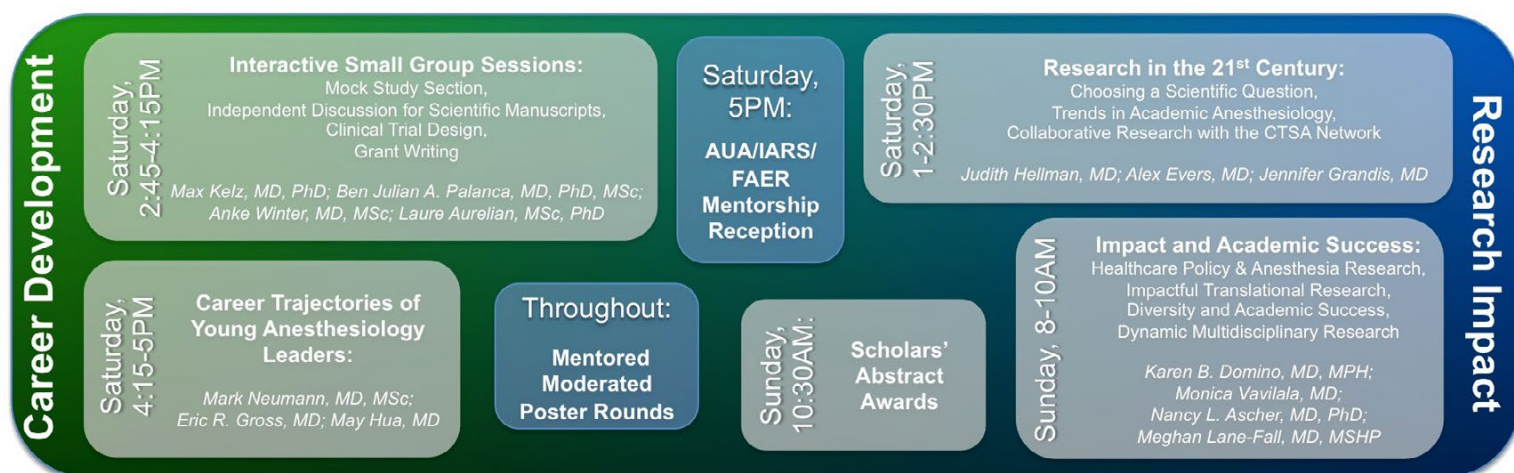
What is the Society of Anesthesiology Scholars (SAS)?

SAS is a nascent organization developed with AUA, IARS, and FAER mentorship but spearheaded by the young investigators of whom it is composed. This consortium of early-career academic

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anesthesiologists (from medical school through junior faculty) is intended to foster peer and senior mentorship, networking, and scientific collaboration among its members. Most importantly, however, SAS seeks to support young professionals interested in an academic career in anesthesiology. As Dr. Avidan and others proposed,³ SAS will serve as an academic home for developing scholars in anesthesiology. Crucially, SAS is bolstered by generous academic support from the AUA and other groups committed to academic anesthesiology, in recognition that this body of driven young anesthesia scholars forms the breeding ground for the senior scientists and thought leaders of future anesthesiology practice – and future AUA members – will be drawn.

Why do we need a program like this?

An informal survey by Drs. Avidan and Mashour revealed two major themes: early career researchers need concrete knowledge about how to accomplish tasks related to research success, and are also seeking philosophical support. Examples of the former – like in-depth exploration of the process of NIH grant evaluations, or how to manage a research laboratory – abound, and could easily have formed the bulk of the program. But the scholars are also looking for a deeper theoretical understanding of their research environment, like sessions forecasting important research questions and trends in anesthesiology (this topic was the top choice for almost 40% of respondents!).⁴ We, early-career scientists, can benefit tremendously from the wisdom of senior academic anesthesiologists in order to learn how our work can capture the imagination of our specialty, and illuminate crucial processes which refine and improve our understanding of human health and of the care we provide. The upcoming Scholars' Program, which is integrated as a specialized track within the meeting, recognizes these complementary needs, and with the help of senior members of the AUA, IARS, SOCCA, and FAER, we have assembled a program that brings together thought leaders and high-impact researchers from anesthesiology and beyond.

While the full program schedule is available at <http://goo.gl/DDr7Ms>, the graphic above highlights the innovative sessions it offers and the speakers who will join us. Academic anesthesiologists are well represented in the program, of course, but we have also chosen to explore outside our discipline; the program offers talks from two surgeons, a clinical epidemiologist, and a Senior Advisor for Faculty Development. Reflecting the growth of academic diversity, over half the speakers are women. Further, we are particularly excited about featuring three junior faculty members from anesthesiology departments across the United States to discuss career development advice stemming from their own (recent) experiences.

Finally, we would be remiss if we didn't extend our deep and sincere gratitude, on behalf of the many Scholars who have expressed interest in SAS and the Scholars' Program, to the dedicated members of AUA, IARS, SOCCA and FAER who have been instrumental in conceiving and populating the program. We draw on you for our career mentorship, we look to you to understand the context in which we work, and we are unendingly thankful for the enduring support you provide – scientifically, clinically, and personally – to developing Scholars like us. Want to get involved as a mentor? There are still plenty of opportunities to meet up with Scholars, formally or informally; we have highlighted the AUA/IARS/SOCCA/FAER Mentorship Reception and the Mentored Moderated Poster Discussion Sessions!

Thank you again for your support and enthusiasm. We are very excited to see you in San Francisco!

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Educational Advisory Board Report: The Roses and Thorns of GME – A DIO Perspective



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“We can complain because rose bushes have thorns or rejoice because thorn bushes have roses.”

This quote, often attributed to Abraham Lincoln, was first written in French by Alphonse Karr, in 1853. In 1949, the concept was used in a short article in an American Medical Association (AMA) publication. It was a tale about two little girls looking at roses in a garden, viewing life differently, to emphasize that these differences in viewpoint and temperament were important in caring for patients.¹ It aptly describes Graduate Medical Education (GME) with “thorny” issues such as resident duty hours, financing, assessment of physician competence and “roses” such as the dedicated teaching faculty, clinical and didactic curricula used to educate compassionate, skilled physicians, and the contribution of the GME Community to Excellence in teaching, research and provision of high quality, safe, affordable patient care. It will not be possible to review in-depth the beauty of the roses or the sharpness of the thorns, and the focus will be to highlight a few of the topics that reveal these two sides of graduate medical education.

Accreditation for the majority of (GME) programs in the United States is through two separate accrediting bodies – the American Osteopathic Association (AOA) and the Accreditation Council for Graduate Medical Education (ACGME). Two years ago, the boards of the ACGME, AOA and the American Association of Colleges of Osteopathic Medicine entered into a memorandum of understanding to develop a “Single Accreditation System” by 2020. The single accreditation system allows graduates of allopathic and osteopathic medical schools to complete their residency/fellowship education in ACGME-accredited programs and demonstrate achievement of common Milestones and Competencies. Currently, there are only 3 programs in anesthesiology, located in Pennsylvania, Michigan, and California, that are following this Single Accreditation System pathway. In addition to ACGME-accreditation, there are fellowship programs that are accredited, monitored, or

regulated by various specialty Boards (i.e. American Board of Medical Specialties (ABMS)) as well as professional societies, consortiums, and program organizations. Within anesthesiology, these are the combined programs in Pediatrics/Anesthesiology or Internal Medicine/Anesthesiology, and in subspecialties, such as Regional, Neuro and Transplant Anesthesiology. After meeting specific criteria established by the ACGME, these programs may eventually seek and achieve ACGME-accreditation, as occurred in the case of Pediatric, Critical Care, Pain, Cardiac and Obstetric Anesthesiology Fellowship Programs.

Several definitions are necessary in order to explain the structure and processes used for ACGME accreditation. A Sponsoring Institution (SI) is the organization (or entity) that assumes ultimate financial and academic responsibility for a program. Oversight of resident/fellow assignments and of the quality of the learning and working environment by the SI extends to all participating sites, national or international. The Designated Institutional Official (DIO) is the individual, who in collaboration with a Graduate Medical Education Committee (GMEC), has authority and responsibility for the oversight and administration of the SI’s ACGME-accredited programs, as well as responsibility for ensuring compliance with the ACGME Institutional, Common, and Specialty/Subspecialty-Specific Program Requirements. The DIO, based upon actions by the Board of Trustees of the National Resident Matching Program (NRMP), is also the Institutional Official for “the Match.” Finally, the Residency Review Committees (RRC) are bodies within the structure of the ACGME that have oversight responsibilities for the postgraduate specialty programs. The function of each committee is to set accreditation standards and provide peer evaluation of residency programs. Members of the Anesthesiology RRC include representatives from the ABA, ASA, AMA, a public member, a resident member, and an AOA member. The consequences of the actions of the ACGME and the RRCs related to accreditation requirements and decisions have dramatic impacts upon programs, residents/fellows, and SIs, as well as learning environments and patient care. Likewise, the consequences of actions taken locally by the DIO and the SI’s GMEC have equally important impact in these same areas. The best example of this impact is related to the implementation of duty hour requirements, as well as the impact of establishing requirements focused on the clinical learning environment and patient safety and quality.

Internationally, in the countries of Lebanon, Oman, Qatar, Singapore and the United Arab Emirates (Abu Dhabi), there are sponsoring institutions that support programs, with accreditation provided by ACGME-International.² In Canada, all postgraduate medical education occurs through university-based medical schools. All other specialties, including anesthesiology

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are certified/accredited through the Royal College of Physicians and Surgeons, with duration of training between 4-6 years in length.³ The exception is Family Medicine, a 2-year training program (3 years in the U.S.). This specialty has certification/accreditation provided by the College of Family Physicians of Canada. GME issues related to financing, workforce, quality and safety of care, curricula, technology integration, are the same around the world.

The most recent data from the ACGME (2014-2015) indicates approximately 121,600 residents train in 9,600+ residency programs in 690 SIs. Of these, there are 133 accredited Anesthesiology Programs, comprising roughly 1.4% of programs with approximately 6,000 trainees or 5% of the total number of residents in training. Anesthesiology residency programs have a mean resident enrollment of 45. This is comparable in size to Pediatrics; much smaller than Internal Medicine (61); but larger than Surgery (30). In anesthesiology fellowship programs, the greatest numbers of enrolled residents are in the specialty of Pain Medicine (336); followed by Pediatric Anesthesia (191); Cardiothoracic Anesthesia (177), and Critical Care Medicine (159). The least number of enrolled fellows are in the newest accredited anesthesiology specialty (2012), Obstetric Anesthesiology, with 35. Sixteen new medical schools opened in the U.S. within the past 25 years, bringing the total by 2012 to 141. Accordingly, there has been an increase in the numbers of residents and residency programs over the past 10 years. Anesthesiology, emergency medicine, plastic surgery, general surgery, thoracic surgery and vascular surgery have had a 10% increase in positions since 2010.⁴

The ACGME's "Next Accreditation System" (NAS) initiative began in 2013, and has been fully implemented. An important feature of the NAS was the institution of annual reviews of every single training program by the RC, using data such as annual resident and fellow surveys, board pass rates, scholarly activity of the faculty and residents – in contrast to the periodic 1-5 year site visits and "cycle length" of the past system. In the NAS, resident progress is monitored by programs through a set of specialty-specific Milestones that have been developed for each competency. Clinical Competency Committees (CCCs) use multi-source evaluations to assess progress of a resident on these developmental milestones. Although the use of CCCs is familiar to Anesthesiology Residency Programs, they are a relatively novel concept in other specialties, and have generated much discussion regarding correct membership, conduct of evaluation sessions, and communication to the resident of outcome. Within an SI, Anesthesiology Residency/Fellowship Programs can be very helpful to those in other specialties that need assistance with forming and developing CCCs. Another important feature of the NAS was the initiation of Clinical Learning Environment Review (CLER). During a CLER visit, site visitors go to all clinical environments in which residents/fellows are educated, including operating rooms, intensive care units, inpatient and outpatient units. They interact with

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nurses, students, technicians, residents and others, on these walk-arounds, focusing on 6 topics (patient safety, health care quality and health care disparities, care transitions, supervision, duty hours/fatigue management and mitigation, and professionalism). Interspersed with walk-arounds are group meetings using audience response systems, with peer-selected residents, faculty, program directors, patient safety officers and risk managers. Findings are presented to leadership, including the DIO and Hospital President, with the stated intent that these individuals are best able to use the information to build upon strengths and act on opportunities for improvement in the focus areas.

Duty Hours regulations, consistently and still hotly debated, were established as a part of ACGME Common Program Requirements in 2003. Components included the 80-hour work week cap; call no more frequently than 1/3; 24 hour limit on continuous duty; 1/7 days free from patient care/educational obligations and 8-10-hour rest period between periods of duty. Compliance with these requirements by hospitals and programs resulted in increased costs in personnel and modification of clinical and didactic schedules and curricula. Revisions to the duty hours section of the requirements in 2011, added items related to supervision (definition of indirect and direct) and set additional limits (e.g. no more than 16 hours on duty for first-year residents). Debate revolves primarily around effect on continuity of care and increased need for transitions in care, the quality of physician education, professional development, and effect on patient outcomes. The ACGME agreed to waive specific duty hours requirements in order for 2 national, large, independent, multicenter trials that are further examining these relationships. The Flexible in Duty Hour Requirements for Surgical Trainees Trial (FIRST) trial results, published in February of this year, concluded that "there was no significant difference in resident satisfaction with overall well-being and education quality and there was no association with non-inferior patient outcomes".⁵ The iCompare (Individualized Comparative Effectiveness of Models Optimizing Patient Safety and Resident Education) in internal medicine should be concluded by 2017. In these studies, duty hours requirements were waived, except for 3 (1) 80-hour workweek; (2) 1/7 days off and; (3) In-house call no more frequently than every 3 nights. In a letter from Public Citizen and the American Medical Student Association, to the Director of the Division of Compliance Oversight, Office of Human Research Protections, ethical concerns were raised about conducting these trials without obtaining informed consent and potentially subjecting those in the "experimental arm of the (NIH-funded) iCompare trial to greater risks of motor vehicle accidents, percutaneous injuries and exposure to blood-

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borne pathogens, depression, and possibly poorer obstetric outcomes”⁶. As requirements are reviewed every 5 years by ACGME policy, a task force to review and revise this section of requirements was established earlier this year.⁷

It should be noted that the 2011 Common Program Requirements in the same section, set expectations for the faculty and residents in Professionalism, Personal Responsibility and Patient Safety and Quality Improvement; and Transitions of Care and Teamwork. There was increased emphasis on residents being able to identify and report errors and adverse events; having opportunities to participate in quality improvement; having access to systems to improve care and patient outcomes; working in interprofessional teams and safely transitioning care. These changes and the implementation of CLER visits, have resulted in increased need for educational materials and skilled educators in these priority areas. Much of the GME community has been addressing these needs through intense faculty development programs and by the development

concerns about physician shortages, and accountability, there have been multiple reviews by various organizations, including the Institute of Medicine (IOM) in the U.S. and a Consortium of Organizations in Canada. In July 2014, the IOM published a report, which recommended continued Medicare funding, with greater transparency as to where/how the money is spent.⁹ Highlights from this report stressed GME’s role as it relates to public accountability and responsibility to (1) graduate competent physicians; (2) produce the right workforce for the U.S.; (3) ensure that the training process is efficient and cost-effective; (4) protect patients and; (5) be accountable to trainees.¹⁰ There are 3 major initiatives (AMA-Change Medical Education; ACGME-Promoting Excellence in the Clinical Learning Environment; and AAMC-Optimizing GME) that seek innovative responses to the issues brought forward in these reports.

Training the physicians of the future, improving the learning environment, and developing faculty skills and knowledge, particularly in patient safety and health care quality, and use of technology are all major themes in GME. The importance of the Student-Teacher relationship in Medical Education and the impact that it has on the formation of future physicians is well-described.¹¹

Choosing to see the roses, rather than the thorns – the beauty of GME is that of teaching our special skills and knowledge to those who take care of human beings.

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“Anesthesiology has a long history in addressing patient safety, teamwork, quality and professionalism, and can contribute to GME by creating, participating and lending their expertise to their SIs and educational programs.

of interprofessional efforts to address common topics (i.e. intraprofessional and interprofessional competence). At the national level, the Interprofessional Education Collaborative (IPEC), made up of the Professional Colleges and Schools of Nursing, Osteopathic Medicine, Pharmacy, Dentistry, Allopathic Medicine and Public Health, have defined interprofessional education, collaborative practice, teamwork, and team-based care with associated competencies.⁸ Anesthesiology has a long history in addressing patient safety, teamwork, quality and professionalism, and can contribute to GME by creating, participating and lending their expertise to their SIs and educational programs.

Financial support for GME, similar to duty hours discussions, continues to be very controversial. Support provided by the government to educate physicians is estimated to be over 15 billion dollars and Medicare legislation funding GME, enacted in 1965, was intended to be temporary. In 1983, 2 separate GME funding streams were established for teaching hospitals – direct and indirect GME. Direct funds cover expenses such as resident and faculty salaries and benefits; indirect funds provided an adjustment for teaching hospitals that treat complex patients and provide highly specialized care. Due to the public funding and increasing costs of educating physicians, and in response to

Scientific Advisory Board Report: At Long Last: Meaningful Advances in Chronic Pain Management



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The cure for stagnation is curiosity. After a protracted period of incremental progress (Mekhail et al., 2010), the past twelve months have brought a number of meaningful advances to the field of interventional pain management, notably in the form of novel technologies. While analgesic pharmaceuticals have lagged behind, maintaining penetrance substantially through ease of use, technology is now increasingly filling the gaps.

Optimism around technology is certainly warranted. A number of therapies are achieving much more than the modest two-point reduction in numerical rating scale of pain intensity to which we've become accustomed. The term "pain remitter" has rightfully entered the vernacular of physician anesthesiologists who specialize in the treatment of chronic pain.

Can long-time chronic sufferers enter "remission" from their pain? Several pieces of recent data suggest that technology can achieve such substantial decrements in pain to allow select patients to achieve a reprieve, regain function and decrease reliance on analgesic medications.

Back Pain

The observation that chronic pain patients are entering clinical remission was noted in the recent reports (Al-Kaisy et al., 2014; Kapural et al., 2015). In the SENZA Randomized Controlled Trial, 10 kilohertz Spinal Cord Stimulation (SCS) was compared against an active control of conventional paresthesia-based SCS in patients with back and leg pain attributable to common spine pain diagnoses including postlaminectomy syndrome, radiculopathy or degenerative disc disease. Response was obtained in excess of 83% in treated subjects, achieving a relative ratio of responders nearly double that observed in the conventional treatment arm who were receiving treatment with the active comparator.

The trial used a comparative effectiveness design: use a novel technology and compare it with the best available active control. Historically, pain studies had been criticized for showing only modest improvement over sham treatments, such

"In the SENZA trial, two-thirds of patients with chronic spine pain achieved clinical remission when receiving 10 kilohertz SCS, and 35-40% remitted with the conventional paresthesia-based control device."

as a radiofrequency probe which was placed in proximity to a target, but never turned on, or a novel agent compared to a placebo tablet. While recognizing the fundamental value of such an approach, we certainly hope comparative effectiveness studies play a greater role in pain research such that the strengths of both placebo controlled trials and comparative effectiveness designs are exemplified in the field of pain medicine.

In the SENZA trial, two-thirds of patients with chronic spine pain achieved clinical remission when receiving 10 kilohertz SCS, and 35-40% remitted with the conventional paresthesia-based control device. Follow-up data suggests the therapy has sustained analgesic efficacy at 24-months. Is 10 kilohertz SCS the magic bullet for chronic back and leg pain? It's probably too soon to tell and the mechanisms of action remain to be understood.

A technological modification in the SCS programming algorithm underlies the majority of the SENZA results, since other controllable variables were kept constant between the two treatment arms. In fact, the 10 kilohertz hardware is not markedly different from other available devices, despite what corporate marketers may assert. The device is still simply a battery pack, a series of electrical contacts and a circuit board which is programmed in a novel way. Energy delivered to the neural structures through a programming change and modification of lead position is likely all that is responsible for this significant advancement in chronic pain care. It remains to be elucidated how the electrical impulses with these parameters interact with the neurons, glial cells, and immune cells in the spinal cord to modify the conductivity, transmissibility, and connectivity of pain pathways and to change pain perception in the brain.

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So what does clinical remission from pain look like? Some experts contend that “remission” amounted to scores of ≤ 2.5 on established 10-point pain scales. While we do not want to dismiss the significance of this goal, we hope that the term “pain remitters” will eventually encompass measures of an increase in function, allowing patients to further enjoy work, hobbies, and other aspects of life. Measuring success by these goals should be the focus of continual longitudinal outcome studies, both in the ongoing monitoring of SENZA patients, as well as other patients enrolled in clinical pain trials.

Complex Regional Pain Syndrome

The treatment of Complex Regional Pain Syndrome (CRPS) recently saw a similar advance through technology. A preview of twelve-month outcome data characterizing improvement in extremity pain was presented at the 2015 North American Neuromodulation Meeting. To date, this is the largest prospective neuromodulation trial performed in CRPS. Patients were randomized to receive conventional paresthesia-based dorsal column stimulation with a commercially available SCS system, or were implanted with a novel type of neuromodulation device consisting of a lead-electrode array placed through the intervertebral foramen to overly specific Dorsal Root Ganglia (DRG).

“From the engineering standpoint, the ability to place a DRG electrode in such close proximity to the target structure will likely prove more energy efficient, conserve battery longevity and perhaps further permit miniaturization of implanted hardware.”

As another example of comparative effectiveness design, DRG stimulation was compared with conventional dorsal column stimulation. As high as 70% of patients achieved at least an 80% decrement in visual analog pain scores when stimulation was applied to the DRG, compared with 52% who achieved the set endpoint with conventional dorsal column stimulation. The DRG technology achieved clinical and statistical superiority to the traditional method of stimulation when outcomes were compared at both the 3-month and 12-month endpoints.

The choice of targeting the DRG is interesting both from the technological and physiological standpoint. As a transit point for sensory input including nociception, the DRG imparts presynaptic control between the central and peripheral nervous system. From the engineering standpoint, the ability to place a DRG electrode in such close proximity to the target structure will likely prove more energy efficient, conserve battery longevity and perhaps further permit miniaturization of implanted hardware. Electrical current can be reduced when targeting

neurostimulation at the DRG since scatter is reduced by thinner layers of dura and shallower depths of cerebrospinal fluid.

Neurostimulation has long been utilized in the treatment of CRPS, with outcome data spanning a five-year follow-up in at least one cohort. The durability of SCS in the treatment in CRPS has been the subject of criticism, as diminishing effectiveness has been observed over time (Kemler 2008). Five year outcome data with conventional dorsal column, paresthesia-based SCS has shown diminishing effectiveness with time; disappointing for patients and practitioners alike. The durability of DRG stimulation in this same patient population remains uncertain, as only 12-month follow-up data have been shared.

Miniaturization

The evolution of SCS systems has provided robust advancements in programming capabilities, but only small advancements in the pulse generator. Disappointingly, each new generation of SCS device has decreased the size of the hardware by only a few cubic millimeters. The limiting factor in miniaturizing these devices is the same obstacle in shrinking the size of our mobile phones: battery size. Battery technology continues to lag behind the rapid evolution of component hardware devices in healthcare, mobile phones and nearly every other battery-based industry. The recent commercialization of a neuromodulation system entirely free of an implanted battery has certainly drawn our attention.

StimWave LLC (Ft. Lauderdale, Florida) has built an implanted neuromodulation system which consists of conventionally placed epidural leads that are capable of receiving current delivered through an external transmitter. The device is powered by the external peripheral device which the patient can wear discretely beneath their clothing. Though in its first generations, one can expect the future external components becoming increasingly more discrete, perhaps clipped to a belt, attached to a keychain in the pocket or placed in a handbag.

Additionally, when further enhancements in programming are eventually realized, this type of device is unlikely to require a surgical revision. A quick swap of the external component parts may be the only upgrade permitting patients to realize novel SCS waveforms.

Eliminating the need for the SCS battery has a great potential to be disruptive. Generator site pain will be eliminated and surgical site infection will be dramatically decreased since the battery is the predominant nidus for infection. The device also portends to have the potential to eliminate the need for SCS trialing since the permanent implant lead is similar in size and character to leads which are used in conventional battery-based SCS systems. The clinician will not need to place both a trial lead and a permanent lead if pricing is comparable. A second trip to the operating room could be avoided and patients will

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“If today’s innovations in pain treatment are predictors of what the future holds, anesthesiologists with interest in interventional pain management should strengthen partnerships between disciplines outside of the school of medicine since technological advancements are often first realized elsewhere.”

realize the therapeutic benefit sooner than the current model of a staged trial which is later followed by eventual permanent placement of the device.

As a new technological advancement, we are still awaiting longitudinal outcomes data, but eliminating generator site pain, obviating the need for a SCS trial and the potential cost savings attributable to eliminating the need for an implanted pulse generator is certainly exciting. Wireless power delivery is beginning to be utilized in several smartphones, and the elimination of a separate pulse generator has recently been seen in cardiac space with an entirely self-contained pacemaker which can be implanted in the right ventricle.

The Future

While we are optimistic about these advances, we must simultaneously exercise caution. We are particularly interested in long-term outcomes data on safety, efficacy, and cost-effectiveness. In addition, we would love to see whether these new technologies would improve care for patients with a wide range of neuropathic pain disorders such as diabetic neuropathy, post-herpetic neuropathy, phantom limb pain/stump pain after amputation, and central neuropathic pain disorders. We should also be mindful of the prevention of overuse and abuse of these novel devices. The example of oversubscription of Intra-Discal Electrothermal Therapy (IDET) comes immediately to mind, and attempts to broadly apply this treatment in growing patient subgroups diluted the cumulative benefits of this therapy with poorly selected patients who proved to be non-responders to

treatment. Cost-conscious payers quickly took note and have largely stamped out the use of IDET in contemporary clinical practice, shutting the door for rigorously selected patients who may still benefit.

If today’s innovations in pain treatment are predictors of what the future holds, anesthesiologists with interest in interventional pain management should strengthen partnerships between disciplines outside of the school of medicine since technological advancements are often first realized elsewhere. Renewed potential to advance patient care is arising from ever-broadening departments across the traditional academic units within and outside of the university, most noteworthy the biomedical engineering laboratories and innovation departments. Rigorous, well-designed and meaningful clinical trials are being carried out which impart immediate benefit to patients. How refreshing.

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AUA 2016 Nominations Open for Member Voting on Friday, May 20!

AUA Active Members will be able to vote on the current list of AUA nominees for membership via an electronic ballot. Voting will begin on Friday, May 20 and will stay open for two weeks.

Don't Miss Out! Play A Part in Shaping the Future of the AUA and Cast Your Vote!

AUA Nominating Committee Announces 2016 Candidates for Council

The AUA Nominating Committee is pleased to present the following slate of candidates for the AUA Council for 2016. These candidates will be presented for a vote before the AUA membership for election at the AUA Annual Business Meeting on Thursday, May 19 during the AUA 63rd Annual Meeting at the Hilton San Francisco Union Square in San Francisco, California.

AUA members will vote to elect one Secretary for a 2-year term, one Treasurer for a 3-year term, and two Councilors-at-Large for a 3-year term. Additional candidates may be nominated from the floor at the Annual Business Meeting.

Candidate for Secretary



Jeffrey R. Kirsch, MD
Professor and Chair of the Department of Anesthesiology and Perioperative Medicine, and Associate Dean for Clinical and Veterans Affairs, Oregon Health and Science University, Portland, Oregon

Candidate for Treasurer



Robert A. Pearce, MD, PhD
Ralph M. Waters Distinguished Professor and Chair of Anesthesiology, University of Wisconsin – Madison, Madison, Wisconsin

Candidates for Councilor-at-Large



Dean B. Andropoulos, MD, MHCM
Anesthesiologist-in-Chief, Texas Children's Hospital; Professor, Anesthesiology and Pediatrics Vice Chair for Clinical Affairs, Department of Anesthesiology, Baylor College of Medicine, Houston, Texas



Michael A. Gropper, MD, PhD
Professor and Chair, Department of Anesthesia and Perioperative Care, Professor of Physiology, Investigator, Cardiovascular Research Institute, University of California, San Francisco, San Francisco, California



Jianguo Cheng, MD, PhD, FIPP
Vice President for Scientific Affairs, American Academy of Pain Medicine; Chairman, USA Section of World Institute of Pain; Editor-in-Chief Elect, Pain Practice; Professor of Anesthesiology and Director, Cleveland Clinic Pain Medicine Fellowship Program, Departments of Pain Management and Neurosciences, Cleveland Clinic Anesthesiology Institute and Lerner Research Institute, Cleveland, Ohio



Howard B. Gutstein, MD
Peter and Eva Safar Professor and Chair, Department of Anesthesiology, University of Pittsburgh, Pittsburgh, Pennsylvania

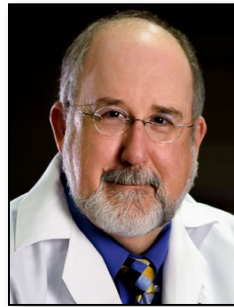
AUA Nominating Committee 2016 Candidates for Council

Continued from Page 9

Candidates for Councilor-at-Large, continued



Zeev N. Kain, MD, MBA
Professor of Anesthesiology, Pediatrics, and Psychiatry, Associate Dean for Clinical Operations, University of California, Irvine, Irvine, California



Peter Rock, MD, MBA, FCCM
Professor and Chair, Department of Anesthesiology, University of Maryland; Anesthesiologist-in-Chief, University of Maryland Medical Center, Baltimore, Maryland



Matthias Riess, MD, PhD
Professor of Anesthesiology and Pharmacology, Vanderbilt University, Nashville, Tennessee



Lena S. Sun, MD
Emanuel M. Papper Professor of Pediatric Anesthesiology, Professor of Anesthesiology and Pediatrics, Vice Chairman, Department of Anesthesiology, Chief, Division of Pediatric Anesthesia, College of Physicians and Surgeons, Columbia University, New York, New York

To learn more about the candidates for AUA Council in 2016, view the candidate statements [here](#).



Be sure to attend the AUA Annual Business Meeting and Cast Your Vote on Candidates for Council!

Meeting: AUA Annual Business Meeting

Date: Thursday, May 19, 2016

Time: 4:30 pm – 5:30 pm

For more information on the Annual Meeting, visit aiahq.org/aua-annual-meeting.

AUA Active Members will be able to vote to elect one Secretary, one Treasurer, and two Councilors-at-Large during the AUA Annual Business Meeting. Make your vote count and attend the meeting!



AUA 63RD ANNUAL MEETING

May 19-20, 2016

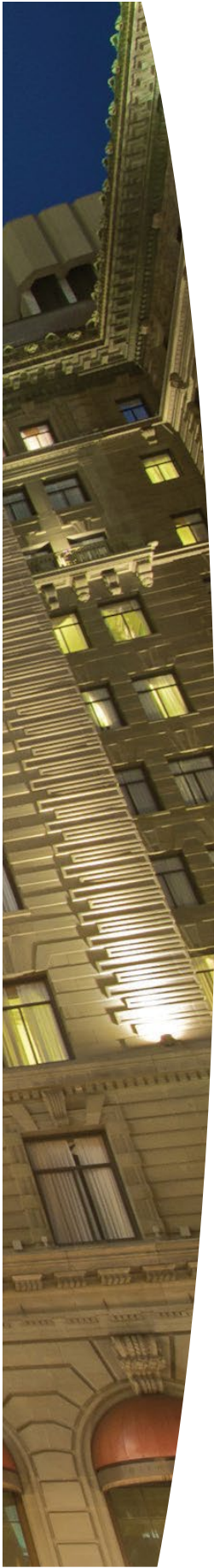
HOSTED BY

University of California, San Francisco

Hilton San Francisco Union Square
San Francisco, California

PRELIMINARY PROGRAM





Hotel & Travel Information

Headquarters Hotel

Hilton San Francisco Union Square

333 O'Farrell Street, San Francisco, California

Special Hotel Rates for AUA Attendees End Monday, April 18!

The Hilton San Francisco Union Square is the Headquarters Hotel for the AUA 63rd Annual Meeting. All Annual Meeting education sessions will be conveniently located at the Hilton. San Francisco is a city famous for selling out of hotel rooms. We expect this hotel will sell out of rooms very quickly.

[Book your hotel room today and reserve your spot at the Headquarters Hotel!](#)

One of the largest and tallest hotels on the West Coast, the Hilton San Francisco Union Square puts you in easy proximity to the famous cable cars and makes it easy to visit attractions such as the Golden Gate Bridge, Fisherman's Wharf, Pier 39, the Marina, and Nob Hill.

The AUA has secured a limited block of rooms for meeting attendees at the Hilton San Francisco Union Square.

The special conference rates are below for either single or double occupancy:

Classic Room:	\$249
Urban Contemporary Room:	\$269
Bay View or Skyline:	\$299

All room rates are quoted exclusive of state and local taxes, fees and assessments, currently 16.45%. Taxes are subject to change. Quoted rates will be offered, based on availability, to attendees three days before and three days after the meeting dates. The additional fee for every third and fourth occupant in a room is \$20 per person. Children under 18 stay free if they are staying in the same room as parents and utilizing existing bedding. Rollaways are currently \$25 plus tax per rollaway, subject to change.

Hotel Reservation Cancellation Policy: The hotel will charge one night's deposit at the time of the reservation. Should plans change and you need to cancel the room, the deposit is refundable if the reservation is canceled prior to Monday, April 18, 2016. For cancellations made after Monday, April 18, 2016, the one night's deposit will be forfeited.

Please be sure to provide the AUA conference code of ANE to receive the special AUA rates.

Travel Information

Airports: The Bay Area has two airports serving the region: San Francisco International Airport (SFO) and Oakland International Airport (OAK).

The San Francisco International Airport is 14 miles away or a 25-minute drive from the Hilton San Francisco Union Square. The Oakland International Airport is 20 miles away or a 35-minute drive from the Headquarters Hotel. Both airports are connected to the region's subway system, Bay Area Rapid Transit (BART), for easy access to the city and offer multiple flights a day from a wide selection of airlines.

To learn more about available transportation options and rates to the Hilton San Francisco Union Square, [click here](#).

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Special Events

Thursday, May 19

Resident, Fellow, and Junior Faculty Lunch

12:00 pm to 1:15 pm, Hilton San Francisco Union Square (333 O'Farrell Street)

Tables will be reserved for residents, fellows, junior faculty members, and their sponsoring chair. Members of the AUA Council will be present to meet with these future leaders in academic anesthesiology.

AUA Social Event Reception

6:30 pm to 9:30 pm, California Academy of Sciences (55 Music Concourse Drive)

The AUA Social Event Reception, sponsored by Host Institution, University of California, San Francisco, will take place on Thursday, May 19, from 6:30 pm to 9:30 pm, at the California Academy of Sciences, one of the largest natural history museums in the world, located in Golden Gate Park. The event includes hearty appetizers and drinks, live music and access to the museum. An additional fee is required to attend this special event, and a ticket will be provided with your badge for attendance to this reception. Please sign-up for this special event when registering if you and/or your guest will attend.

Friday, May 20

British Journal of Anesthesia & Anaesthetic Research Society Reception

6:00 pm to 7:30 pm, Hilton San Francisco Union Square (333 O'Farrell Street)

AUA attendees are invited to attend the *British Journal of Anesthesia & Anaesthetic Research Society* Reception on Friday, May 20, from 6:00 pm to 7:30 pm, at the Hilton San Francisco Union Square. Please sign-up for this event when registering for the Annual Meeting if you and/or your guest will attend. A ticket will be provided with your badge for attendance to this reception.

Saturday, May 21

Two Receptions during the Aligned Meeting Day at the IARS 2016 Annual Meeting

The following receptions will take place as part of the IARS 2016 Annual Meeting and International Science Symposium. AUA registered attendees are invited to attend these IARS receptions as part of their AUA registration fee.

Scholars' Program Reception

5:00 pm to 6:00 pm, Hilton San Francisco Union Square (333 O'Farrell Street)

Network and socialize with scholars at the Scholars' Program Reception on Saturday, May 21, from 5:00 pm to 6:00 pm, and celebrate the new knowledge gained during the Scholars' Program. Scholars should be sure to sign up in advance for a small group mentor/scholar session at this energizing social event. This reception and mentorship opportunity is supported by FAER's Academy of Research Mentors in Anesthesiology.

IARS Alignment Reception

6:00 pm to 7:30 pm, Hilton San Francisco Union Square (333 O'Farrell Street)

Come together and toast the educational magnetism that results when leading minds in all subspecialties of anesthesiology join forces in one location. Join your colleagues and peers for the upbeat Alignment Reception on Saturday, May 21, from 6:00 pm to 7:30 pm, and taste a little bit of the unique flavor that San Francisco has to offer.



Continued on Page 14

Program Schedule

Join the leading academic anesthesia educators and researchers at the AUA 63rd Annual Meeting, May 19-20, 2016, at the Hilton San Francisco Union Square in San Francisco, California for a robust program, featuring education sessions from the Educational Advisory Board (EAB), Scientific Advisory Board (SAB), and the Host Institution, University of California, San Francisco, focused on cutting-edge topics, and two days of Moderated Poster Discussion Sessions.

Plus, new this year, AUA attendees will benefit from a special Aligned Meeting Day at the IARS 2016 Annual Meeting and International Science Symposium on Saturday, May 21 with education sessions on thought-provoking topics in anesthesiology. AUA registrants may attend all Aligned Meeting Day sessions at the IARS 2016 Annual Meeting as part of their AUA registration fee.

Thursday, May 19

7:00 am	–	5:30 pm	Registration
8:00 am	–	8:15 am	Welcome from AUA President and Host Institution Chair Thomas J.J. Blanck, MD, PhD Michael A. Gropper, MD, PhD
8:15 am	–	9:15 am	Scientific Advisory Board (SAB) Oral Session I
9:15 am	–	9:30 am	Break
9:30 am	–	10:30 am	SAB Oral Session II
10:30 am	–	12:00 pm	Moderated Poster Discussion Session I
12:00 pm	–	1:15 pm	All Attendee Lunch
12:00 pm	–	1:15 pm	Resident, Fellow and Junior Faculty Lunch Tables will be reserved for residents, fellows, junior faculty members and their sponsoring chair. AUA Council Members will also be present.
1:15 pm	–	4:15 pm	Host Panel Session: <i>Precision Medicine: From Molecules to Social Justice</i> Moderator: Michael A. Gropper, MD, PhD Panelists: <ul style="list-style-type: none">▪ <i>Genomics and Infectious Disease: Clinical Case Studies</i> Joseph L. DeRisi, PhD▪ <i>The Multiple Sclerosis BioScreen: A Model for Chronic Disease Management</i> Stephen L. Hauser, MD▪ <i>Precision Medicine at UCSF: Turning the Hype into Reality</i> Talmadge E. King, Jr., MD▪ <i>Frontiers in HIV Medicine</i> Diane Havlir, MD

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Program Schedule

Thursday, May 19 Continued

4:15 pm – 4:30 pm **Break**

4:30 pm – 5:30 pm **AUA Annual Business Meeting**

6:30 pm – 9:30 pm **AUA Social Event Reception**

Hosted by University of California, San Francisco

California Academy of Sciences (55 Music Concourse Drive, San Francisco)

Friday, May 20

6:00 am – 6:00 pm **Registration**

8:00 am – 9:00 am **SAB Oral Session III**

9:00 am – 9:15 am **Break**

9:15 am – 10:15 am **SAB Oral Session IV**

10:15 am – 11:45 am **Moderated Poster Discussion Session II**

11:45 am – 1:00 pm **All Attendee Lunch**

11:45 am – 1:00 pm **Educational Advisory Board (EAB) Lunch**

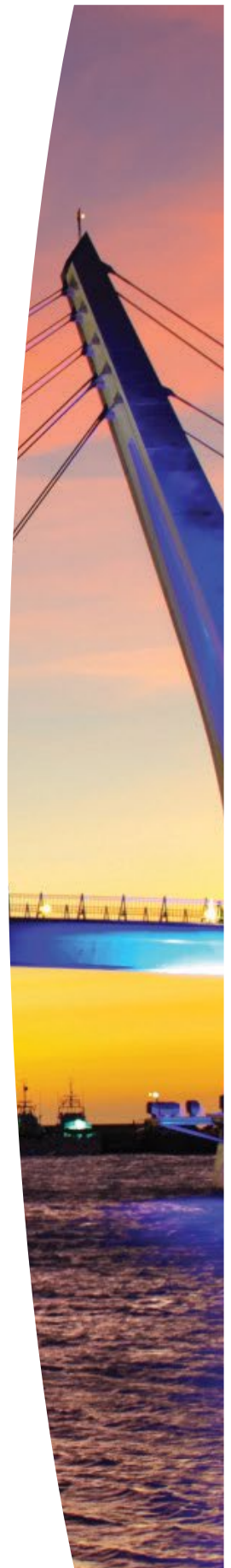
11:45 am – 1:00 pm **President's Lunch**

11:45 am – 1:00 pm **Scientific Advisory Board (SAB) Lunch**

1:00 pm – 2:30 pm **Educational Advisory Board (EAB) Program Session I:
*The Science of Communication***

Moderator: Robert R. Gaiser, MD

- ***The Science of the Hand-off Communication***
Meghan Lane-Fall, MD, MSHP
- ***The Science of Communication Among Professionals***
Rebecca D. Minehart, MD
- ***An Evidence-Based, ARTful Approach to Feedback in Clinical Education***
Calvin Chou, MD



Continued on Page 16

Program Schedule

Friday, May 20 *Continued*

- 2:30 pm – 4:00 pm **EAB Program Session II:
*Publication of Education Research***
Moderator: Robert R. Gaiser, MD
- ***Education Research: How to Get Started***
Davinder Ramasingh, MD
 - ***Closing the Loop in Education Research***
Alex Macario, MD, MBA
 - ***How to Publish Education Research***
Maxime Papadakis, MD
- 4:00 pm – 4:15 pm **Break**
- 4:15 pm – 5:45 pm **President's Panel:
*How to Produce Successful Researchers***
- ***Basic Science Research: Columbia University***
Charles W. Emala, MD
George Gallos, MD
 - ***Translational Research: University of Pennsylvania Health Systems***
Lee A. Fleisher, MD
Mark D. Neuman, MD
 - ***Clinical Research: Vanderbilt University Medical Center***
Warren S. Sandberg, MD, PhD
Frederic T. (Josh) Billings, MD, MSCI
 - ***Educational Research: Massachusetts General Hospital***
Jeanine P. Wiener-Kronish, MD
Rebecca D. Minehart, MD
- 6:00 pm – 7:30 pm ***British Journal of Anesthesia & Anaesthetic Research Society Reception***
Hilton San Francisco Union Square (333 O'Farrell Street)

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Program Schedule

Saturday, May 21— Aligned Meeting Day at the IARS 2016 Annual Meeting

The following sessions are part of the IARS 2016 Annual Meeting and International Science Symposium. AUA registered attendees are invited to attend these IARS sessions as part of their AUA registration fee.

- 7:30 am – 8:00 am** **Welcome to the Aligned Meeting Day at the IARS 2016 Annual Meeting**
- 8:00 am – 9:00 am** **T.H. Seldon Memorial Lecture:**
Reproducible Research: Impact in Evidence-Based Decision Making
John P. A. Ioannidis, DSc, MD
- 9:00 am – 9:30 am** **Break**
- 9:30 am – 12:00 pm** **Celebration of the Science of Anesthesiology Symposium:**
Protective Lung Ventilation in the Operating Room
Co-Moderators: Brian P. Kavanagh, MB, BSc, MRCP(I), FRCP and Marcos F. Vidal Melo, MD, PhD
- Panelists:
Holger K. Eltzschig, MD, PhD
Marcelo Gama de Abreu, MD, MSc, PhD, DESA
Brian P. Kavanagh, MB, BSc, MRCP(I), FRCP
Marcos F. Vidal Melo, MD, PhD
- 12:00 pm – 1:00 pm** **Lunch-On-Your-Own**
- 1:00 pm – 2:30 pm** **Scholars' Program Panel:**
Research in the 21st Century
- Panelists:
- ***Choosing A Scientific Research Question That Inspires Passion and Creates Impact***
Judith Hellman, MD
 - ***Opportunities on the Horizon: Current Trends in Academic Anesthesiology***
Alex S. Evers, MD
 - ***Collaborative Research: Tapping into the CTSA Network***
Jennifer Grandis, MD



Continued on Page 18

Program Schedule

Saturday, May 21—

Aligned Meeting Day at the IARS 2016 Annual Meeting *Continued*

1:00 pm – 4:00 pm **IARS, AUA, and SOCCA Science Symposium:**
State of the Art Review: Endothelial Glycocalyx Practice and Critical Care Medicine

Moderator: Randal Dull, MD, PhD

Panelists:

- ***Endothelial and Glycocalyx Damage in Trauma – Drivers of Coagulopathy***
Sisse R. Ostrowski, MD, PhD, DMSc
- ***The Glycocalyx, Barrier Regulation and Resuscitation***
Randal O. Dull, MD, PhD
- ***Hyaluronan and Circulating Tumor Cell Metastatic Potential***
Hans Vink, PhD
- ***Glomerular Glycocalyx Degradation in Septic Kidney Injury***
Eric Schmidt, MD
- ***The Glycocalyx in Acute Lung Injury***
Jean-Francois Pittet, MD

2:45 pm – 4:15 pm **Scholars' Program:**
Dynamic and Interactive Small Group Sessions

The Scholars' Education Program will break into small group sessions. Registrants may select the two group sessions they want to attend.

Presenters:

- ***Mock Study Session***
Max Kelz, MD, PhD
- ***Interactive Workshop on Designing a Clinical Trial***
Anke Winter, MD, MSc
- ***Independent Discussion for Scientific Manuscripts***
Ben Julian A. Palanca, MD, PhD, MSc
- ***Grant Writing Session***
Laure Aurelian, MSc, PhD

Continued on Page 19

Program Schedule

Saturday, May 21—

Aligned Meeting Day at the IARS 2016 Annual Meeting *Continued*

4:15 pm – 5:00 pm **Scholars' Program Panel:**
Showcasing Career Trajectory of Young Anesthesiology Leaders

Panelists:

- **Building A Career in Perioperative Comparative Effectiveness Research**
Mark D. Neuman, MD, MSc
- **How Alcohol and Hot Sauce Jump-started My Career as an Academic Anesthesiologist**
Eric R. Gross, MD
- **Building A Program of Research Using Secondary Data**
May Hua, MD

5:00 pm – 6:00 pm **Scholars' Program Reception**
AUA Attendees Invited
Hilton San Francisco Union Square (333 O'Farrell Street)

6:00 pm – 7:30 pm **IARS Alignment Reception**
AUA Attendees Invited
Hilton San Francisco Union Square (333 O'Farrell Street)

**As of press time and subject to change.*



Register Early and Save!

Early Registration Rates End Monday, April 18!

Register today to save on registration rates for the AUA 63rd Annual Meeting and guarantee a spot in the sessions you want to attend!

For more information, visit auahq.org/aua-annual-meeting.



Connect with the Thought Leaders in Academic Anesthesia

- 7 Innovative experts in academic anesthesia present two **Educational Advisory Board Panels** on *The Science of Communication* and *Publication of Education Research*.
- 6 Forward-looking researchers, including **Drs. Frederic T. (Josh) Billings, Charles W. Emala, Lee A. Fleisher, George Gallos, Rebecca D. Minehart, Mark D. Neuman, Warren S. Sandberg,** and **Jeanine P. Wiener-Kronish**, share their tips for producing successful researchers at the President's Panel.
- 5 Award winners reveal their thought-provoking original research during the **Scientific Advisory Board Oral Sessions**.
- 4 Areas of precision medicine explored by the leading minds at the AUA Host Institution Panel, University of California, San Francisco, moderated by **Dr. Michael A. Gropper**, and presented by **Drs. Joseph L. DeRisi, Diane Havlir, Stephen L. Hauser,** and **Talmadge E. King, Jr.**



- 2 **Days of Moderated Poster Discussion Sessions**, highlighting basic science and patient-oriented research in academic anesthesia.
- 1 **Day of a Dedicated Scholars' Program** for AUA attendees at no extra cost with 2 Panels on *Research in the 21st Century*, and *Showcasing Career Trajectories of Young Anesthesiology Leaders*, and 4 *Dynamic and Interactive Small Group Sessions* plus mentoring opportunities for scholars.
- 2 **Special Alignment Education Symposia:** *Celebration of the Science of Anesthesiology Symposium: Protective Lung Ventilation in the Operating Room*, moderated by **Drs. Brian Kavanagh** and **Marcos F. Vidal Melo**, and *IARS, AUA & SOCCA Symposium: State of the Art Review: Endothelial Glycocalyx in Anesthesia Practice and Critical Care Medicine*, moderated by **Dr. Randal Dull**.

For more information, visit auahq.org/aua-annual-meeting.org.

A Transformative Moment: Mission Accomplished



*Daniel J. Cole, MD
President, American Society of
Anesthesiologists
Professor of Clinical Anesthesiology,
Vice Chair for Professional Development,
David Geffen School of Medicine,
University of California, Los Angeles,
Los Angeles, California*

Healthcare is in the midst of a classic industry transformation, and academic anesthesiology will need to seriously consider a new strategy to align with the disruptive innovation that is occurring in academic health care systems.

Academic health care systems have traditionally been organized around the missions of the affiliated university; and are known as research intensive organizations that employ a business model built on tertiary and quaternary care, and education focused organizations that train the next generation of the healthcare workforce.

Healthcare is reorganizing around the next waves of disruptive innovation that are occurring with payment, and academic centers are not immune to this reorganization. The National Commission on Physician Payment Reform has called for an end to the fee-for-service model, and public and private payers are aligning with this call. There will be two disruptive waves of payment reform that we must consider to ensure that academic centers have a business model that supports the missions of research and education.

The first wave is fee for service linked to quality metrics and alternative payment models, that are being implemented with the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) legislation. MACRA begins in 2017 with full implementation in 2019. ASA has devoted considerable resources to develop the tools necessary for our specialty to successfully navigate these changes.

The second and more concerning wave is population health. Population health is simply defined as a healthcare system with the primary focus of longitudinally improving the health of a given population. Population health turns the incentives upside down for academic centers by emphasizing preventive and primary care and is in direct conflict with the current business model of tertiary/quaternary care.

It is essential that as we re-organize our business models that we not lose focus on our missions and that academia provide the necessary leadership to move the specialty forward. The foundation of medicine is the discovery of new knowledge and the application of that knowledge to our purpose – restoring

health, and alleviating pain and suffering. ASA has a core value of scientific discovery and we intend to go the extra mile to work with the scientific community to advance our research agenda. Our specialty has many unanswered questions (e.g. myocardial injury after non-cardiac surgery, perioperative brain health, pain management, precision medicine) that require significant research to fulfill our purpose.

“Population health turns the incentives upside down for academic centers by emphasizing preventive and primary care and is in direct conflict with the current business model of tertiary/quaternary care.”

Over the last year, we have reached out to actively listen to your concerns and have taken actions to provide a more collaborative foundation for the future of academia and our specialty. In strategic planning for 2016, we specifically included thought leaders from the academic community to ensure we addressed the interests of academic medicine, including:

- **Sustained support for our foundations**, including FAER. Innovation this year includes a plan of how ASA can collaborate with FAER to increase support for research with an enhanced program of voluntary contributions. An Ad Hoc Committee, composed of representatives of our foundations, is developing a business plan for such an effort. Also, ANESTHESIOLOGY 2016 will include a fundraising event, benefitting FAER, the Charitable Foundation and the Wood Library Museum.
- **Research Advocacy**: Over the last year, we have worked with IARS to determine how ASA might more effectively support advocacy for the IARS SmartTots initiative; moreover, we have allocated resources to advocate at the federal government for greater funding in research areas germane to our specialty. Recently, we have engaged Federal Science Partners, a leading Washington DC-based firm that specializes in research advocacy to work with ASA to investigate opportunities and develop an advocacy strategy.
- **Health Policy**: Academic thought leaders were actively engaged in ASA's first Health Policy Summit, convened in May 2015. Our goal was to look broadly at the health policy horizon to determine, ASA's health policy goals. The summit, which will be repeated in 2016, resulted in recommendations that will guide our specialty and provide a strategic “big” vision of how our specialty has greatest relevance to society with research and education key components.

Continued on Page 22

A Transformative Moment: Mission Accomplished

Continued from Page 21

- **Patient Safety:** Under the leadership of Dr. Lee Fleisher, we have launched a national patient safety initiative on brain health. The goal of this initiative is to reduce the incidence of delirium through education, research, and collaboration with other stakeholders in the health care community. Post-operative delirium is a 150 billion dollar healthcare problem in the United States. With less than a clear understanding of the mechanism(s) of post-operative delirium, and 40% of cases deemed preventable, delirium is a compelling patient safety target that relies heavily on research.
- **The Annual Meeting:** The ASA has worked to reinvigorate and emphasize science beginning with ANESTHESIOLOGY 2015. In addition to the Severinghaus lecture, science received added emphasis through new features including a major trials session and the best of basic and clinical research sessions. We have also worked to improve visibility for the electronic poster sessions.
- **Our Public Relations** staff has worked with academic anesthesiology to give greater profile within ASA and the public to both emerging science and individual accomplishments within our specialty.

“We have worked closely with the academic community to advocate on behalf of our specialty and the threats to financing graduate medical education.”

- **Academic Advocacy:** We have worked closely with the academic community to advocate on behalf of our specialty and the threats to financing graduate medical education.
- Finally, **ongoing communication** is key. ASA leadership have attended the AUA, SAAA, and IARS Annual Meetings and plan to do so on an ongoing basis to meet with leaders of the academic community to ensure alignment and synergies of our missions and common interests. One outcome of this outreach are plans for an Anesthesiology Research Summit, to be held in 2016.

Although we must all work collectively together as a specialty, no one is better positioned than academic medicine to accelerate the transformation that is necessary for future relevance of our specialty. Strong ties and close collaboration between academic medicine and the ASA are absolutely essential for a successful transformation of our specialty in these volatile times.

Beach Texter Comes In for Surgery

By Raven Horan



Of Music and Transformation: The Life Story of Dr. Masahiko “Luke” Kitahata



Lisa Wise-Faberowski, MD
Assistant Professor of Anesthesiology,
Perioperative and Pain Medicine,
Assistant Professor of
Pediatric Cardiac Anesthesia and Research,
Affiliated Faculty, Bio-X,
Stanford University,
Stanford, California

M*adame Butterfly: A Tragedy of Japan* was a one-act play based on an autobiographical novel. It was the inspiration for one of Puccini’s most famous opera, *Madame Butterfly*. The initial version of this two act opera written by Puccini was initially a failure. Puccini actually wrote five versions of this, now ranked 6th best opera in the world and the fifth version is the one most commonly performed.

The story of *Madame Butterfly* takes place in Nagasaki, Japan, a city torn by World War II. It is a story of trials and tribulations not unlike Puccini, who had to write five versions of the opera until it was a success. But it also represents the life story of Dr. Masahiko “Luke” Kitahata – a story of a man living in war torn Japan, of Christianity and of the many trials and tribulations in remaining true to his Japanese heritage while embracing an American way of life.

Puccini wrote his initial opera in 1904, and the fifth and final version was written in 1907. It was 18 years later that Masahiko Kitahata was born in Osaka, Japan to Chujiro and Yuki Kitahata. His mother was a woman of culture; she played several stringed instruments, the samisen and koto. His father was a brilliant mathematician who used this skill to build his business. Chujiro had worked in a fish company, Osaka Marine Products Company, which was the major fish supplier for the five million inhabitants of Osaka, Japan. Initially, he started as an apprentice and eventually became the general manager. His family was one of Buddhist tradition and Shinto rituals. His culture was one of emperor worship and group psychology with little respect to individuality. However, Masahiko was a person of individuality. Though acceptable for the women in his family to play stringed instruments and sing, and though he too, had a love for music, his desire to play a stringed instrument was not tolerated.

Act I: The Early Years (Caterpillar)

At the young age of two years old, Masahiko and his elder brother, Keisaku had to leave their home in Osaka and live with his paternal grandparents in Wakayama. His parents had typhoid fever and the only treatment at the time was isolation. Once cured of typhoid fever, his parents continued to live in Osaka with his newborn sister, Motoko. He and his brother continued to live with his grandparents in Wakayama until

college. This further distanced Masahiko from the culture and stringed instruments of his mother and maternal grandmother. His only solace was his brother Keisaku, who was three years older than he. Though his paternal grandparents, a fishing family, taught him the value of hard work, his brother taught him loyalty.

His family valued education. His brother, Keisaku went to law school at Keio University in Tokyo and Masahiko went to the Tokyo University Medical School. He chose a career in medicine because at an early age Masahiko had an infection of the eye, trachoma, which required silver nitrate treatment for 111 days. The treatment was painful, but the compassion and caring of his physician, Dr. Okamoto, was clearly recognized. He was a young boy at the time, who had been separated from his mother at a young age, in some ways alone without music to comfort him. It was this necessary component of his life, compassion, which led him to a career in medicine.

Though, Masahiko’s life had been led to a career of compassion, his brother faced a different fate. Medical students were exempt from the army draft, but not law students. In 1945, Keisaku was drafted into the Japanese army. Though, he was an expert in Kendo, Japanese sword fighting, he did not want to fight in a war. He was sent to the Philippines never to return. Though rumored to have died by the sword of an American in MacArthur’s army, for years Masahiko had hoped for his brother’s return.

When the war ended, Masahiko went to search for his brother, whom he hoped, was still alive. He was a sophomore in medical school. During that summer vacation, he offered to be a ship’s doctor that was to set sail for the Philippines to bring Japanese soldiers home. He hoped to find his brother, but the ship went to Manchuria instead and cholera erupted among soldiers who were returning from Manchuria. Masahiko returned to Japan without finding his brother. It was not until his junior year of medical school that the Japanese government informed his family that indeed the story was true, his brother died in combat against Douglas MacArthur’s troops.

Like his brother, he too almost lost his life as a result of the war. It was during the air raid by B29s in Tokyo. He was escaping from the Tokyo fire. He recalls a hissing sound that became louder and louder as he was standing on a hill near his aunt’s home. Unlike the pleasant sound of music, this sound was far more ominous. He felt a heavy pressure in his head, not that of a symphony playing loudly, but of hundreds of incendiary bombs that failed to separate but fell into a cluster. He slid down the hill. Though running for his life, the incendiary bombs landed at the very spot where he was standing a few seconds earlier. It could have been a very unpleasant finale. When he returned

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the next day, his aunt’s home, where he stayed, was burned to the ground. This occurred on the very day President Roosevelt died, April 12, 1945. The only thing he could save from the fire was his last remaining solace, his violin made in Germany, which he carried with him during the fire.

The first time he played violin was as an undergraduate at Osaka College. He joined a music club and played a violin which belonged to the music club. When he entered Tokyo University Medical School, he took lessons from a famous teacher, Saburo Sumi, the concertmaster of Tokyo Symphony Orchestra. It was Saburo who encouraged him to purchase the German-made violin, which was the only thing he could save from Tokyo fire. Several decades later, Mr. Sumi taught a famous violinist, Midori Goto who resides in Los Angeles at present.

Act II: Transformation (Butterfly)

At this time, his world was torn apart in many ways. Where can a young man find solace in a world that felt empty of compassion? At Mejiro Baptist Church in Tokyo, he met an American attorney, Thomas C. Fisher who served as prosecutor for the Allied Forces in Tokyo war tribunal. A “good man” whose efforts were to help rebuild Japan and reduce the penalties imposed on its people. During the summer vacation of 1949, he worked in a Christian work camp to rebuild Nagasaki, and Masahiko was converted to Christianity. He was given a Christian name “Luke” a biblical physician. At Mejiro Baptist Church, he met another American, James Satterwhite, from Bowman Gray School of Medicine. Luke decided to come to the United States, although his colleagues in the Surgical Department of Tokyo University Hospital were against his coming to a former enemy country. Japan was still under occupation, so a Southern Baptist organization provided funds to travel to the United States to take surgical residency training at Bowman Gray School of Medicine, if he would later return to Japan and work in the mission hospital in Kyoto.



Figure 1 – Luke as Student

In *Madame Butterfly*, the main character is Cho-Cho-San. Cho-Cho is Japanese for butterfly. The butterfly represents spiritual growth and transcendence from caterpillar to butterfly. In the opera, Cho-Cho-San is instrumental in the conversion of an American Naval officer, Lieutenant B.F. Pinkerton to Christianity. It represents a Japanese woman who was able to embrace the culture of an American and form a union for eternity while maintaining her true Japanese heritage.

In 1949, Luke Kitahata entered America for the first time on the S.S. Gordon in the port of San Francisco (of interest, as

this year’s AUA Annual Meeting is in San Francisco) with his only possession, the German violin. He first trained in general surgery and then completed a neurosurgery residency in 1955 at the Bowman Gray School of Medicine. It was in North Carolina, 1952, that he met his future wife, Carolyn Massey. Interestingly, at their first date, he gave Carolyn a choice of operas to hear; she chose *Madame Butterfly*, as her aunt Lucille Browning was singing the role of Suzuki in *Madame Butterfly*. Carolyn received a Masters of Divinity degree at Union Theological Seminary in New York City. Because of their love of music, value for education and Christian faith, a union was formed, September 3, 1955, between two individuals of two different cultures that would last more than five decades.



Figure 2 – Luke with Carolyn

Together they met the trials and tribulations of forming a union between two families whose countries were once at war. As Lt. Pinkerton returned to Nagasaki with an American wife, as did Luke Kitahata, but not to break the heart of a Japanese woman named Cho-Cho-, but to demonstrate that through love, not hate, people of two different cultures can benefit from each other. Prior to Luke’s return to Japan to be the Chief of Surgery at the Japan Hospital in Kyoto as per his agreement, Carolyn made the journey alone to meet Luke’s family in Japan. If Luke accompanied Carolyn, he could not return as he had only student visa. It was a 36-hour flight time by propeller plane journey to Japan as the jet engine was not yet invented. Then, it was an additional 10-hour journey by train to the Kitahata home in Wakayama. She was well accepted by the Kitahata family and she fell in love with the beauty of Kyoto, Japan.

Though both American and Japanese traditions and culture were adjusted, they both were able to make this union work and live for 5 years in Kyoto. During this time, Luke received a PhD in neuropharmacology.

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During the filming of the movie, *Sayanara*, actress Patricia Owen suffered from acute appendicitis and Dr. Kitahata operated on her. While she was in the hospital, her co-star, Marlon Brando, visited her and spoke with Dr. Kitahata each day. The Kitahata's were given parts in a film together, “*Escapade in Japan*,” so that Carolyn's parents could see them in the movie.

They both embraced their new life in Japan and for the first time, Luke was able to see the beauty of a country, which in his past was not present because of his own personal tragedies and the destruction as a result of the war. The caterpillar was no longer in a cocoon, shielding him from the past, but transformed into a butterfly. Two families of two different cultures were further united with the birth of Luke and Carolyn's two daughters Amy and Mari.

Act III: An American Identity

Luke blossomed in his surgical practice in Kyoto, as he was trained in the United States with up-to-date modern surgery. But anesthesia practice in Japan was very primitive. American and English anesthesiologists were invited to Japan to introduce modern anesthesiology. In 1957, Luke worked as an interpreter for Professor Joseph Artusio of Cornell University who offered Luke an anesthesia residency training position. However, Luke had to find an appropriate surgeon to fill his position while away for anesthesia training. The following year Luke met Sir Robert Macintosh of Oxford University, who also offered him an anesthesia residency in Oxford. When Luke informed Sir Robert that he had accepted an offer from Dr. Artusio earlier, Sir Robert said, “It is too bad that you are going to the colony!” In 1960, he and Carolyn left Japan to return to the United States.

When Luke completed anesthesiology training in 1964 at the age of 39, being unable to return to Japan, he had to seek an entirely new career in anesthesiology in the United States. Luke wanted to take a lucrative private practice job in Long Island, but Carolyn insisted he take a job at Yale University saying, “You are born educator rather than a general practitioner.” He became Instructor of Anesthesiology at Yale University. When they arrived in New Haven, Connecticut, their third child, Luther, was born.

When Luke joined Yale faculty, he applied and received NIH grants for three decades without interruption, including the time when he was a busy Chair of the Department. His research, though not well accepted initially, expanded tremendously. John Bonica gave Dr. Kitahata an impromptu, without preparation, opportunity to give a one hour lecture at the America Society of Anesthesiology's meeting, as Dr. Melzack who was scheduled to give a lecture on his famous “gate control of pain by Melzack and Wall” delayed his arrival. Luke gave a one hour lecture in Dr. Melzack's place and refuted the result of their research. Later, Melzack and Wall revised their famous theory. From that moment on, the career of Dr. Kitahata had a happy ending.

With the mentorship of Nicholas Greene and support of John Bonica, he became known for his expertise in mechanisms of pain.



Figure 3 – Chair of Anesthesiology at Yale University

He later became the second Chair of Anesthesiology at Yale University in 1973. He is the first Japanese born and Japanese educated Chair of a clinical department at a major American institution. During his career, he published 120 original articles in major American and European journals, 20 reviews and book chapters, 2 books and 94 abstracts. The major title of his NIH grant was “Surgical anesthesia and pain control-neuropharmacology.” During the decade, he served as Chair, a sizable increase in the Department's NIH funding contributed to the ten-fold increase in the departmental annual budget. More importantly, he was able to bring two cultures, previously torn apart by war, together not only in his personal, but in his professional life as well. Among several hundred fellows and residents he trained, 60 of them were from Japan, all of whom returned to Japan and 25 of them became Professors and Chairs in their own departments in Japan. Thus, Luke's dream of modernizing Japanese anesthesiology became a reality.



Figure 4 – Yale University Chairs

Though Dr. Kitahata made many visits to his native Japan, he retired to the home state of his beloved wife, Carolyn. In 1997, they retired in Brevard, North Carolina. Carolyn became gravely ill and passed away in 2003. Though Carolyn is now only with him in Christian spirit, Luke continues with his love for music. Since Carolyn's death, the German violin he played all his life and two violins he made of rough wood have provided a comfort. Luckily he met Kathryn Gibbons, a professional soprano singer in the choir of St. Philip's Episcopal Church in Brevard. They have enjoyed each other's company, performing and singing together, and were married in 2006. On November 15, 2012, Luke received the Distinguished Achievement Award from the New York Weill Cornell Medical Center Alumni Council in recognition of his outstanding achievements

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Figure 5 – Three Violins

as a medical educator, clinician and role model for physicians. The Japan Society of Anesthesiology gave him “Honorary” membership of the society. Yale University bestowed on him an honorary Master of Arts degree MAH. At the age of 91, instead of the sound of hissing bombs, the beautiful sound of music continues in the life of Luke M. Kitahata, MD, PhD, MAH.



Figure 6 – Kathy and Luke



Figure 7 – Luke Playing Violin

- “Careers in Anesthesiology-Autobiographical Memoirs” published in 2001 by Wood Library-Museum of Anesthesiology, Volume VI pp.45-93 entitled “Career as a Calling: A Life’s Course in Compassion.”
- An Autobiography Luke Masahiko Kitahata, MD, PhD and MAH (Honorary Master of Art Degree given by Yale University.) and:
- The Transylvania Times Luke Kitahata: A Modern Day Da Vinci-Brevard NC. March 21,2013 Vol. 127 No.23 edited by John Lanier

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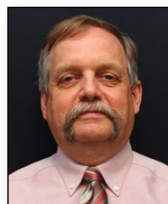


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