

Adapting the Medical Student Anesthesia Research Fellowship Program to a Virtual Environment

Harriet W. Hopf, MD, FASA

The 2020 SARS-CoV2 (COVID-19) pandemic has challenged the medical community in many ways, requiring rapid adjustments to patient care and, in some regions, overwhelming health systems. The requirement for physical distancing to “flatten the curve” and allow health systems to adapt and prepare has meant countless live events – including the in-person element of FAER’s Medical Student Anesthesia Research Fellowship (MSARF) Program – have been canceled. The need for alternatives to live events has driven rapid advances in and wholesale adoption of virtual platforms, such as Zoom, that facilitate effective connections and learning in a virtual environment.

The FAER MSARF Program is highly competitive and matches medical students with academic anesthesiology departments across the country. MSARF participants conduct eight weeks of focused research over the summer under the guidance of a dedicated mentor, learning about clinical anesthesiology and developing networks within the specialty. They then have the opportunity to present their findings as a scientific poster at the ANESTHESIOLOGY® annual meeting. In late March, after we made our initial match between students and host departments, FAER came to a painful decision. Given the disruptions to research operations and medical student education caused by the COVID-19 pandemic, it would be necessary to cancel the live MSARF Program. While the loss of research and learning opportunities offered by the program was unfortunate, we felt that FAER must first and foremost prioritize the safety of our program participants.

We did not want to let the pandemic eliminate opportunities for medical students in 2020, though. FAER is, after all, dedicated to *developing the next generation of physician-scientists in anesthesiology*, and that includes the medical students selected for the 2020 MSARF Program. I proposed that we create a virtual program focused on providing these talented students a window on research and practice in anesthesiology, as well as the opportunity to build networks. A planning committee was convened to assist

in executing this program, consisting of Monica Vavilala, MD, MSARF Mentor, Professor of Anesthesiology and Pediatrics at the University of Washington School of Medicine and Councilor-at-Large for the FAER Academy of Research Mentors in Anesthesiology; Megha Vipani, fourth year medical student at the University of Virginia; Olivia Stephens, FAER Programs Coordinator; and me. Megha, Olivia, and Dr. Vavilala each proved instrumental in bringing the V-MSARF Program to fruition. In short order, and often on the fly, the planning committee designed the structure and recruited speakers, mentors, and students, and launched V-MSARF on June 15. Constructed as an eight-week online program, each week featured three hour-long components: a panel presentation by leaders in academic anesthesiology and anesthesiology research, a journal club led by students in collaboration with a mentor, and small group mentoring and networking sessions (see below for details). Because of a generous grant from Cook Medical, we were able to make full use of Zoom technology and provide each student, mentor, and presenter a stipend.

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Virtual Panel Presentations

The purpose of the panel presentations was to expose students to leaders in our field and provide a high-level overview of anesthesiology research and careers – from the future of research in anesthesiology, to the practice of anesthesiology and pathways to a career in academic anesthesiology, to discussions of fundamental types of research in anesthesiology. Each panel included three brief presentations linked by a common theme, followed by what was planned to be a 15-minute question and answer session. Because of the multitude of outstanding

questions and the generosity of our presenters, the discussion session frequently lasted well beyond the scheduled time. Presenters were selected from MSARF mentors, leaders of ASA, and FAER’s Academy of Research Mentors in Anesthesiology. These presentations, including the question and answer sessions, were recorded and are now available on FAER’s website at <https://www.asahq.org/faer/programs/medicalstudentfellowships/virtual>.

Journal Club

The purpose of the journal clubs was to expose students to important research questions and research methods in anesthesiology and give them experience in critically reading and presenting the medical literature. Each week, two groups of three students volunteered to work with a faculty mentor to select, review, and present a journal article. During these journal clubs, each group presented their article to the full group and facilitated a discussion.

Mentoring Groups

MSARF mentors volunteered to lead small groups of two to three medical students who met weekly via Zoom. These groups were intended to encourage networking and provide opportunities for students to ask questions and engage in discussions related to a career in anesthesiology. FAER has seen time and time again how vital the mentor-mentee relationship is to physician-scientists as they grown in their career. We were thrilled to have the opportunity to continue fostering these critical relationships through the virtual environment.

V-MSARF could not have succeeded without the contributions of dedicated and inspiring mentors, as well as leaders in our specialty who gave generously of their time and wisdom. We would like to thank the following individuals for supporting promising young investigators through their participation in V-MSARF:

Megan Anders, MD; Katherine Arendt, MD; Steven Barker, MD, PhD, FACA; Julia Bohannon, PhD; Alex Butwick, MD, FRCA; Maxime Cannesson, MD, PhD; Miguel Cobas, MD; Deborah Culley, MD;



Harriet W. Hopf, MD, FASA
 Chair, FAER Board of Directors,
 and Professor of Anesthesiology
 and Adjunct Professor of
 Biomedical Engineering, University
 of Utah, Salt Lake City.

James Eisenach, MD; Charles Emala, MD, MS; Neal Fleming, MD, PhD; Pamela Flood, MD, MA; Julie Freed, MD, PhD; Eric Gross, MD, PhD; Kevin Hatton, MD; Boris Heifets, MD, PhD; Judith Hellman, MD; Rebecca Henry, PhD; May Hua, MD, MSc; Julie Huffmyer, MD; Evan Kharasch, MD, PhD; Sachin Kheterpal, MD, MBA; Vijay Krishnamoorthy, MD; Kai Kuck, PhD; Sadis Matalon, PhD; Mike Montana, MD, PhD; Mark Neuman, MD, MSCE; Ben Palanca, MD, PhD, MSc; Beverly Philip, MD, FACA, FASA; Lee Ann Reisenberg, PhD, RN; Daniel Sessler, MD; Vivianne Tawfik, MD, PhD; Patrick Tighe, MD, MS; Soban Umar, MD, PhD; Richard Urman, MD, MBA; Monica Vavilala, MD; Brant Wagener, MD, PhD; Art Wallace, MD, PhD; Emmett Whitaker, MD; Margaret Wood, MB, CHB, FACA, FRCA.

FAER strives to provide a meaningful, worthwhile experience to participants in our MSARF Program every summer. The pandemic challenged our ability to do so in 2020, but flexibility, contributions from myriad leaders and mentors in anesthesiology, the hard work of FAER and ASA staff (especially Olivia Stephens), generous support from Cook, and the evolution of the virtual environment allowed us to pivot to an online program that accomplished many of the goals of the in-person program. We are honored to be working with this talented group of students and look forward to seeing their future contributions to the medical community, and the specialty of anesthesiology.

For a full list of the medical students selected for the 2020 MSARF Program, we invite you to visit <https://www.asahq.org/faer/programs/medicalstudentfellowships>. ■