

James C. Eisenach, M.D., Recipient of the 2013 Excellence in Research Award

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EACH year since 1986, the American Society of Anesthesiologists requests nominations for the Excellence in Research Award. The award recognizes someone who has substantially contributed to the scholarly field of Anesthesiology throughout their career. The work product must “represent a body of original, mature, and sustained contribution to the advancement of science of anesthesiology.” I proffered Dr. James C. Eisenach’s nomination with great enthusiasm, and I am very gratified that Dr. Eisenach has been selected by the Awards Committee for 2013. Dr. Eisenach has been a mentor and colleague to me throughout my career, and he continues to evolve our scholarly understanding of mechanisms of spinal cord modulation of pain and an understanding/development of antinociceptive mechanisms and pathways.

Dr. Eisenach first pursued graduate training obtaining a Master of Science degree from the California Institute of Technology, and then he matriculated at the University of California, San Francisco School of Medicine. He completed residency training at the Mayo Clinic, followed by a fellowship in Obstetric Anesthesiology at Wake Forest University (then known as the Bowman Gray School of Medicine). He has remained on the faculty at the Wake Forest Department of Anesthesiology from completion of his fellowship until today. He is the *Francis M. James, III* Professor of Anesthesiology (endowed in 1995), Vice-Chairman for Research for the department, and Editor-in-Chief of *ANESTHESIOLOGY*. He has been the recipient of many prestigious and international awards, and he is currently a MERIT award recipient of the National Institutes of Health for the Systematic Study of Selective Spinal Analgesia in Humans.

Dr. Eisenach has been a prolific author since the early days of his academic career. His interests are wide, but he has remained focused on understanding the neurotransmission and modulation of pain. His early work focused on understanding α_2 -adrenergic contributions to antinociception.

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This included preclinical studies evaluating the physiologic effects of applying α_2 -adrenergic agents intrathecally and *via* the epidural space.¹ He launched phase I clinical trials first with clonidine,² later followed by cholinomimetics,^{3,4} opioids,⁵ nonsteroidal antiinflammatory agents, adenosine,⁶ and more recently with oxytocin.

Jim has not only been interested in the development of useful analgesic adjuncts for neuraxial use, but he has been pursuing an understanding of the complex architecture of spinal pain and nociceptive pathways under both normal and chronic pain conditions. He led pioneering work describing sex differences in response to intrathecal analgesics,⁷ and describing the sex hormone dependency of these observations.⁸

I first met Jim during my recruitment to the Department of Anesthesiology at Wake Forest. He was already a

well-established clinician scientist, and he continues as a great personal and professional mentor for these past 20 yr. We have collaborated in science and departmental leadership, and he has been the “destination” for an army of more than 50 international young physicians/scientists to come and work together in our departmental laboratories. Our work together involved cholinergic–nitric oxide interactions in the spinal cord and its participation in antinociceptive pathways. We examined the mechanisms of morphine-induced analgesia *via* descending pathways using positron emission tomography, among many newly advancing technologies still evolving to the molecular level.⁹

Next, his work focused on intrathecal adenosine and prostanoids and their contributions to processing of pain and antinociceptive activity. Each preclinical study indicated the possibility of translational utility of pharmacologic moieties *via* these systems, and phase I and II trials were designed and implemented. We have seen adoption of epidural clonidine, fentanyl, and neostigmine in clinical practice, but other agents are still in development.

Despite the rigors of being the Editor-in Chief of *ANESTHESIOLOGY* for the past 7 yr, he has maintained his effort in science and mentoring of tomorrow’s scientists and physicians by participation/leadership of 17 Ph.D. candidates’ dissertation committees and mentoring six more of our current faculty to successfully funded National Institutes of Health–sponsored research. He is accomplished in explaining challenging concepts to students of all disciplines and at any level of sophistication. Jim has been voted Teacher of the Year by our residency program. He has participated at the national level in Veterans Administration MERIT Reviews, National Institutes of Health Study Section, the International Anesthesia Research Society Frontiers Award Review Committee, U.S. Food and Drug Administration, multiple American Society of Anesthesiologists Committees, and as an Oral Examiner for the American Board of Anesthesiology.

Dr. Eisenach has been in an institutional leadership role defining our working relationships with industry. He has led multiple Conflict of Interest committees, as well as shared his experience with consultations for more than 30 pharmaceutical and technology firms. He has been awarded three patents, and he maintains a high profile in discussions on conflicts of interest.

The wealth of the body of Dr. Eisenach’s work is highly focused, mechanistic, and a model for future scientific leaders

in our field. He has been active in scholarly development not only in the laboratory, but also in work with the National Institutes of Health, the U.S. Food and Drug Administration, and numerous health agencies around the world. In what social time we have together, we enjoy dining, live theater and trading old movies. I have had the joy of not only knowing Jim professionally, but in knowing his wife Pat, his children Laurel and David, and we have occasionally been known to decorate holiday cookies together while enjoying a classic video. Jim is highly visible as he enjoys recumbent cycling in the community of Winston-Salem.

Jim is a modest but very perspicacious gentleman! He is an accomplished scientist, role model for scientists and residents, and an acknowledged thought leader in our field. I am honored to have been his colleague and friend these past 2 decades. I look forward to more to come. Jim, my sincerest praise and congratulations for all the great energy you bring to our specialty. This award is richly deserved, and I am proud to be a small part of this celebration.

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