
BIOGRAPHICAL SKETCH

NAME: **Adams, Marcus Allen**

eRA COMMONS USER NAME: MARCUSADAMS

POSITION TITLE: Assistant Professor of Anesthesiology

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
Stanford University, Stanford, CA	B.S.	06/2008	Engineering Physics
Massachusetts Institute of Technology, Cambridge, MA	M.S.	06/2010	Biomedical Engineering
Johns Hopkins University, Baltimore, MD	MD	05/2016	Medicine
Boston Children's Hospital, Boston, MA		06/2017	Pediatrics
Massachusetts General Hospital, Boston, MA		06/2020	Anesthesiology
Boston Children's Hospital, Boston, MA		07/2021	Pediatric Anesthesiology
Boston Children's Hospital, Boston, MA		07/2022	Pediatric Cardiac Anesthesiology

A. Personal Statement

My research focuses on advancing cardiac imaging techniques to improve the management and outcomes of pediatric cardiac patients undergoing anesthesia. Specifically, I investigate the integration of novel imaging modalities and technologies to enhance the precision and efficacy of perioperative cardiac assessment and monitoring.

My journey into this field began during my medical training and was further honed during my fellowships at Boston Children's Hospital. My work includes developing and validating advanced imaging techniques, such as high-resolution cardiac MRI and novel echocardiographic approaches, to provide detailed insights into cardiac structure and function. These advancements aim to optimize surgical planning, intraoperative monitoring, and post-operative care for pediatric patients with congenital and acquired heart conditions.

With a background in biomedical engineering and clinical anesthesiology, I am uniquely positioned to bridge technological innovations with practical clinical applications, improving the quality of care and outcomes for pediatric cardiac patients.

Highlighted publications relevant to this proposal:

1. **Adams MA**, Green R, Chen L, Bell A, Wong J. "Advancements in Cardiac Imaging for Pediatric Cardiac Anesthesia: Integrating Novel Technologies." *Journal of Pediatric Imaging*. 2024 Jul 15;18(4):310-322.
2. **Adams MA**, Patel R, Green R, Chen L, Bell A, Wong J. "High-Resolution Cardiac MRI in Pediatric Cardiac Surgery: Clinical Applications and Outcomes." *Pediatric Cardiology Review*. 2023 Oct;40(10):1054-1062.

3. **Adams MA**, Chen L, Green R, Bell A, Wong J. "Optimizing Intraoperative Monitoring with Advanced Echocardiographic Techniques in Pediatric Cardiac Anesthesia." *Anesthesia & Analgesia*. 2021 Dec;133(6):1245-1253.
4. **Adams MA**, Patel R, Green R, Chen L, Bell A. "The Role of Advanced Cardiac Imaging in Preoperative Assessment and Surgical Planning for Pediatric Cardiac Patients." *Pediatric Anesthesia*. 2019 Nov;29(11):1075-1083.

B. Positions, Scientific Appointments and Honors

Positions and Employment

- 2022- Assistant Professor of Anesthesiology, Harvard University, Boston, MA
2022- Attending Physician, Division of Cardiothoracic Anesthesiology, Boston Children's Hospital, Boston, MA

Other Experience and Professional Memberships

- 2023- Research Committee Member, Congenital Cardiac Anesthesia Society
2021- Member, American Society of Anesthesiologists
2017- Member, Society of Pediatric Anesthesia

Honors

- 2021 Outstanding Research Award, Boston Children's Hospital
2020 Best Abstract Award, CCAS Annual Conference
2008 *summa cum laude*, Stanford University

C. Contributions to Science

1. My research on advanced cardiac imaging has led to the development and application of novel imaging techniques to improve perioperative cardiac assessment and monitoring in pediatric patients. I have focused on integrating high-resolution MRI and advanced echocardiography to enhance surgical planning and patient management.

Adams MA, Green R, Chen L, Bell A, Wong J. "Advancements in Cardiac Imaging for Pediatric Cardiac Anesthesia: Integrating Novel Technologies." *Journal of Pediatric Imaging*. 2024 Jul 15;18(4):310-322.

Adams MA, Chen L, Green R, Bell A, Wong J. "Optimizing Intraoperative Monitoring with Advanced Echocardiographic Techniques in Pediatric Cardiac Anesthesia." *Anesthesia & Analgesia*. 2021 Dec;133(6):1245-1253.

2. I have conducted studies evaluating the impact of advanced imaging modalities on surgical outcomes in pediatric cardiac patients. These studies have provided new insights into the role of detailed cardiac imaging in optimizing surgical approaches and improving patient safety.

Adams MA, Patel R, Green R, Chen L, Bell A, Wong J. "High-Resolution Cardiac MRI in Pediatric Cardiac Surgery: Clinical Applications and Outcomes." *Pediatric Cardiology Review*. 2023 Oct;40(10):1054-1062.

Adams MA, Patel R, Green R, Chen L, Bell A. "The Role of Advanced Cardiac Imaging in Preoperative Assessment and Surgical Planning for Pediatric Cardiac Patients." *Pediatric Anesthesia*. 2019 Nov;29(11):1075-1083.

3. My work also includes the development of improved imaging protocols for intraoperative monitoring, which enhances real-time decision-making and patient care during pediatric cardiac surgeries.

Adams MA, Chen L, Green R, Bell A, Wong J. "Optimizing Intraoperative Monitoring with Advanced Echocardiographic Techniques in Pediatric Cardiac Anesthesia." *Anesthesia & Analgesia*. 2021 Dec;133(6):1245-1253.

Adams MA, Green R, Chen L, Bell A, Wong J. "Advancements in Cardiac Imaging for Pediatric Cardiac Anesthesia: Integrating Novel Technologies." *Journal of Pediatric Imaging*. 2024 Jul 15;18(4):310-322.

Complete List of Published Work in My Bibliography:

<https://www.ncbi.nlm.nih.gov/myncbi/marcus.adams.1/bibliography/public/>