

CURRICULUM VITAE

David Michael Axelrod, M.D.

Prepared: June 6, 2019

I. Personal Information

David M. Axelrod MD
Lucile Packard Children's Hospital Stanford
Betty Irene Moore Children's Heart Center
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Stanford University Profile: <https://profiles.stanford.edu/david-axelrod>
Lighthouse Inc.: www.lighthouse.us

II. Professional Employment/Appointments

2017-present	Stanford University, Department of Pediatrics (Cardiology)	Clinical Associate Professor
2016-present	Lighthouse, Inc.	Lead Medical Advisor, partner and shareholder
2015-2018	Stanford University, Department of Pediatrics (Cardiology)	Medical Director, CVICU Consult Service
2011-2017	Stanford University, Department of Pediatrics (Cardiology)	Clinical Assistant Professor
2008-2013	Astellas Pharmaceuticals	Consultant
2009-2011	Stanford University, Pediatric Critical Care Medicine	Fellow
2006-2009	Stanford University, Pediatric Cardiology	Fellow
2005-2006	University of California, San Francisco Neonatal Intensive Care Unit	Clinical Instructor
2005-2006	University of California, San Francisco Critical Care Transport Services Neonatal and Pediatric Intensive Care Units	Transport Pediatrician
2005-2006	Alta Bates Medical Center Neonatal Intensive Care Unit Berkeley, CA	Staff Pediatrician
2005-2006	Kaiser Permanente Medical Center San Francisco and Redwood City, CA	Staff Pediatrician

III. Education

2009-2011	Lucile Packard Children's Hospital at Stanford Palo Alto, CA	Fellow, Pediatric Critical Care
2006-2009	Lucile Packard Children's Hospital at Stanford Palo Alto, CA	Fellow, Pediatric Cardiology
2003-2005	University of California, San Francisco San Francisco, CA	Resident, Pediatrics
2002-2003	University of California, San Francisco San Francisco, CA	Intern, Pediatrics
1998-2002	The Ohio State University College of Medicine Columbus, OH	M.D.
1994-1998	Dartmouth College Hanover, NH	B.A., Psychology

IV. Licenses and Certification

2019	Certified, FEMA course IS-00700.b, An Introduction to the National Incident Management System
2019	Certified, FEMA course ICS-100 Introduction to Incident Command System
2019	Certified, FEMA course IS-200, ICS for Single Resources and Initial Action Incident

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2017, 2018	Recertified, Pediatric Advanced Life Support	
2015, 2017	Recertified, Basic Life Support	
2017, 2018	Recertified, Advanced Cardiac Life Support	
2013	Certified, Advanced Cardiac Life Support	
2012	Certified, American Board of Pediatrics, Pediatric Critical Care Medicine	
2010	Certified, American Board of Pediatrics, Pediatric Cardiology	
2009	Certified, Basic Life Support	
2006	Certified, Neonatal Advanced Life Support	
2005	Certified, American Board of Pediatrics, Pediatrics	
2005	Certified, Pediatric Advanced Life Support	
2003	Medical Licensure, California	A85299
2003	Drug Enforcement Agency Licensure	FA1677357

V. Other Education, Websites, and Career Development

2018	San Francisco Business Times: "Using Virtual Reality, Stanford opens up a complicated organ to doctors and patient families," http://bizj.us/1pmwvs ; video interview here .
2017	Seeker Media: Revolutionizing Heart Surgery With Virtual Reality ; (greater than two million combined views).
2017	CeBit 2017: Invited Keynote Speech, see: " The Stanford Virtual Heart--Educating Medical Professionals in the 21st Century "
2016	Producer: Mixed Reality Video: The Stanford Virtual Heart (on Vimeo)
2015	Junior Faculty Leadership Program, Lucile Packard Children's Hospital Stanford
2013	Completed Stanford HRP 225: Design and Conduct of Clinical and Epidemiologic Studies, HRP 223: Data Management and Statistical Programming (SAS Enterprise Guide), HRP 259: Introduction to Probability and Statistics for Epidemiology
2013	Completed Massive Online Open Course (MOOC): HRP 258: Introduction to Medical Statistics, Stanford University School of Medicine
2009	Center for Advanced Pediatric Education (CAPE) at Stanford Simulation Instructor Program
2008	Stanford University College of Medicine Health Policy, Finance and Economics for Physicians
2008	Lucile Packard Children's Hospital at Stanford Extracorporeal Membrane Oxygenation Certification Course
2007	Stanford/Packard Center for Translational Research (SPCTRM) Intensive Clinical Course in Research (ICCR)
2006	Becari, A.C. Spanish Language Immersion School, Oaxaca, Mexico Certification of Proficiency in Spanish
2005	University of California, San Francisco Extracorporeal Membrane Oxygenation Certification Course

VI. Honors and Awards

2019	2019 Stanford Inaugural Integrated Strategic Plan (ISP) Award winner: David M. Axelrod MD and David Sarno, for the development of The Stanford Virtual Heart
2018	Finalist: Breakthrough Auggie Award in Virtual Reality, Augmented World Expo conference, Munich, Germany
2014-2015	Winner: Stanford "Stole of Gratitude" for faculty member most influential to Stanford Pediatric Cardiology fellows' training
2014-2015	Winner: Clinical Award of Excellence: Junior Faculty; Lucile Packard Children's Hospital, Stanford Department of Pediatrics
2015	Code Committee Awards (2): Acknowledgement of Excellence in Code Events
2013-2014	Nominee: Feedback Award; Lucile Packard Children's Hospital Department of Pediatrics
2013	Cardiology Fellows' Lecture rated one of top 3 lectures of the year (Cyanotic Heart Disease)
2012-2013	Cardiology Fellows' Medical education Valuable Person (MVP) for outstanding contributions
2009	American College of Cardiology Scientific Sessions, Fellows In Training (FIT) Travel Award

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- 2003 Awarded Attendance to Baylor College of Medicine International Conference on Heart Failure in Children and Young Adults
- 2002-2005 Received Top Rank in Patient Satisfaction in Pediatric Continuity Clinic

VII. Scholarly Publications

a. Peer Reviewed Articles (Original Work)

1. Purkey NJ, **Axelrod DM**, McElhinney DB, Rigdon J, Qin F, Desai M, Shin AY, Chock VY, Lee HC. Birth Location of Infants with Critical Congenital Heart Disease in California. *Pediatr Cardiol*. 2018 Nov 10. doi: 10.1007/s00246-018-2019-0. [Epub ahead of print]
2. Roeleveld PP, **Axelrod DM**, Klugman D, Jones MB, Chanani NK, Rossano JW, Costello JM. Hypoplastic left heart syndrome: from fetus to Fontan. *Cardiol Young*. 2018 Sep 18:1-14. [Epub ahead of print].
3. Mah KE, Hao S, Sutherland SM, Kwiatkowski DM, **Axelrod DM**, Almond CS, Krawczeski CD, Shin AY. Fluid overload independent of acute kidney injury predicts poor outcomes in neonates following congenital heart surgery. *Pediatr Nephrol*. 2018 Mar;33(3):511-520.
4. Arunamata A, **Axelrod DM**, Bianco K, Balasubramanian S, Quirin A, Tacy T. Chronic antepartum maternal hyperoxygenation in a case of severe fetal Ebstein's anomaly with circular shunt physiology. *Ann Ped Card*. Aug 2017;10(3):284-287.
5. Kortz TB, **Axelrod DM**, Chisti MJ, Kache S. Clinical outcomes and mortality before and after implementation of a pediatric sepsis protocol in a limited resource setting: A retrospective cohort study in Bangladesh. *PLoS One*. 2017 Jul 28;12(7):e0181160. doi: 10.1371/journal.pone.0181160. eCollection 2017.
6. Ceresnak SR, **Axelrod DM***, Sacks LD, Motonaga KS, Johnson ER, Krawczeski CD. Advances in Pediatric Cardiology Boot Camp: Boot Camp Training Promotes Fellowship Readiness and Enables Retention of Knowledge. *Pediatr Cardiol*. 2017 Feb 4. doi: 10.1007/s00246-016-1560-y. [Epub ahead of print]. **I am a founding member of the Boot Camp, participated in study design, taught at the Boot Camp, assisted in manuscript review and editing.*
7. Algaze CA, Koth AM, Faberowski LW, Hanley FL, Krawczeski CD, **Axelrod DM**. Acute Kidney Injury in Patients Undergoing the Extracardiac Fontan Operation With and Without the use of Cardiopulmonary Bypass. *Pediatr Crit Care Med*. 2017, Jan 18(1):34-43.
8. Arunamata A, **Axelrod DM***, Kipps AK, McElhinney DB, Shin AY, Hanley FL, Olson IL, Roth SJ, Selamet Tierney ES. Practice Patterns in Postoperative Echocardiographic Surveillance after Congenital Heart Surgery in Children: A Single Center Experience. *J Pediatr*. 2016 Oct 28. **Contributed to study design, performed manuscript review and edits, assisted in writing final manuscript.*
9. Koth AM, **Axelrod DM***, Reddy S, Roth SJ, Tacy TA, Punn R. Institution of Venous-arterial Extracorporeal Membrane Oxygenation Does Not Lead to Increased Wall Stress in Patients with Impaired Myocardial Function. *Pediatr Cardiol*. 2016, Dec 22. **Contributed to study design, assisted in parameter selection for study, assisted in writing manuscript and performed extensive edits of final manuscript.*
10. Kwiatkowski DM, Price E, **Axelrod DM***, Romfh AW, Han BS, Sutherland SM, Krawczeski CD. Incidence, risk factors, and outcomes of acute kidney injury in adults undergoing surgery for congenital heart disease. *Cardiol Young*. 2016 Nov 21:1-8. **Designed the study from the initial idea to the parameters to measure, helped create the REDCap database for data collection, assisted in writing and editing of final manuscript, assisted in creation of poster for presentation of data.*
11. **Axelrod DM**, Anglemeyer A, Sutherland SM. The authors reply. *Pediatr Crit Care Med*. 2016 Aug; 17(8): 814-5. Reply to Editorial by McMahon and Zappitelli, *Pediatr Crit Care Med*. 2016 Feb; 17(2):170-1.
12. **Axelrod DM**, Frymoyer AR, Sutherland SM. Letter to the Editor regarding "Arrhythmias in the paediatric ICU: a prospective study of the rates and predictors of arrhythmias in children without underlying cardiac disease" by Cassel-Choudhury et al. *Cardiol Young*. 2016 Jul. 15:1-2.
13. Hollander SA, **Axelrod DM***, Bernstein D, Cohen HJ, Sourkes B, Reddy S, Magnus D, Rosenthal DN, Kaufman BD. Compassionate Deactivation of Ventricular Assist Devices in Pediatric Patients. *J Heart Lung Transplant*. 2016 May;35(5):564-7. **Discussed the clinical care of these patients with*

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- Dr. Hollander and encouraged the research team to describe our experience. Assisted in writing the manuscript and edited the final version.*
14. Hollander SA, Montez-Rath ME, **Axelrod DM***, Krawczeski CD, May LJ, Maeda K, Rosenthal DN, Sutherland SM. Recovery from Acute Kidney Injury and CKD Following Heart Transplantation in Children, Adolescents, and Young Adults: A Retrospective Cohort Study. *Am J Kidney Dis.* 2016 Aug;68(2):212-8.**Assisted in generation of the research hypothesis and plan, helped define the ICU parameters to measure, assisted in writing and extensively edited final manuscript.*
 15. Ceresnak SR, **Axelrod DM***, Motonaga KS, Johnson ER, Krawczeski CD. Pediatric Cardiology Boot Camp: Description and Evaluation of a Novel Intensive Training Program for Pediatric Cardiology Trainees. *Pediatr Cardiol.* 2016 Jun;37(5):834-44.**Helped form the Boot Camp Educational Experience with Dr. Ceresnak, developed major segments of the boot camp curriculum, wrote many of the questionnaire questions, helped write the manuscript, performed extensive edits.*
 16. **Axelrod DM**, Chock VY, Reddy VM. Management of the Preterm Infant with Congenital Heart Disease. *Clin Perinatol.* 2016 Mar;43(1):157-71.
 17. McCammond AN, **Axelrod DM***, Bailly DK, Ramsey EZ, Costello JM. Pediatric Cardiac Intensive Care Society 2014 Consensus Statement: Pharmacotherapies in Cardiac Critical Care Fluid Management. *Pediatr Crit Care Med.* 2016 Mar;17(3 Suppl 1):S35-48. **Wrote one segment (essentially ¼) of the manuscript in collaboration with other coauthors.*
 18. Kwiatkowski DM, **Axelrod DM***, Sutherland SM, Tesoro TM, Krawczeski CD. Dexmedetomidine Is Associated With Lower Incidence of Acute Kidney Injury After Congenital Heart Surgery. *Pediatr Crit Care Med.* 2016 Feb; 17(2):128-134.**Participated in research question generation, helped decide which parameters to collect data on, organized REDCap database, edited final manuscript.*
 19. Frymoyer A, Su F, Grimm PC, Sutherland SM, **Axelrod DM**. Theophylline Population Pharmacokinetics and Dosing in Children Following Congenital Heart Surgery with Cardiopulmonary Bypass. *J Clin Pharmacol.* 2016 Sept; 56(9):1084-93.
 20. **Axelrod DM**, Sutherland SM, Anglemyer A, Grimm PC, Roth SJ. A Double-Blinded, Randomized, Placebo-Controlled Clinical Trial of Aminophylline to Prevent Acute Kidney Injury in Children Following Congenital Heart Surgery With Cardiopulmonary Bypass. *Pediatr Crit Care Med.* 2015 Dec 11. Note: see related Editorial by McMahan and Zappitelli, *Pediatr Crit Care Med.* 2016 Feb;17(2):135-43.
 21. May LJ, Montez-Rath MD, Yeh J, **Axelrod DM***, Chen S, Maeda K, Almond CS, Rosenthal DN, Hollander SA, Sutherland SM. Impact of ventricular assist device placement on longitudinal renal function in children with end-stage heart failure. *J Heart Lung Transplant.* 2016; 35 (4): 449-456**Assisted in idea generation with Dr. Hollander and Sutherland, participated in ICU/renal parameter selection and data collection for manuscript, edited manuscript.*
 22. Motonaga KS, Punn R, **Axelrod DM***, Ceresnak SR, Hanisch D, Kazmucha JA, Dubin AM. Diminished Exercise Capacity and Chronotropic Incompetence in Pediatric Patients with Congenital Complete Heart Block and Chronic Right Ventricular Pacing. *Heart Rhythm.* 2015 Mar;12(3):560-5.**Formulated database of patient population, collected data on exercise tests and quality of life questionnaires, completed data entry for approximately 70% of the data, presented preliminary data in poster form, assisted in writing manuscript, edited final version.*
 23. Shin AY, Jin B, Hao S, Zhongkai H, Sutherland S, McCammond A, **Axelrod D***, Sharek PJ, Roth SJ, Ling XB. Utility of Clinical Biomarkers to Predict Central Line Associated Bloodstream Infections After Congenital Heart Surgery. *Pediatr Infect Dis J.* 2015 Mar;34(3):251-4. **Assisted Dr. Shin in generation of research question, edited final manuscript.*
 24. Bauser-Heaton H, Nguyen C, Tacy T, **Axelrod DM**. A novel approach to the management of critically ill neonatal Ebstein's anomaly: Veno-venous extra corporeal membrane oxygenation to promote right ventricular recovery. *Ann Pediatr Cardiology,* 2015 Jan-Apr;8(1):67-70.
 25. Punn R, **Axelrod DM***, Sherman-Levine S, Roth S, Tacy T. Predictors of Mortality in Pediatric Patients on Venous-arterial Extracorporeal Membrane Oxygenation. *Pediatr Crit Care Med.* 2014 Nov;15(9):870-7. **Participated in original idea generation with Dr. Punn, provided expert ICU opinion on parameters to measure on ECMO while ventilated in the ICU, consented and enrolled patients, collected data at the bedside, wrote the intensive care portion of the manuscript, edited the final manuscript.*

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26. Siehr S, Martin MH, **Axelrod DM***, Efron B, Peng L, Roth SJ, Perry S, Shin A. Outcomes Following Cardiac Catheterization After Congenital Heart Surgery. *Catheter Cardiovasc Interv.* 2014 Oct 1;84(4):622-8. *Assisted Dr. Siehr in hypothesis formulation, edited final manuscript.
27. **Axelrod DM**, Anglemeyer AT, Sherman-Levine SF, Zhu A, Grimm PC, Roth SJ, Sutherland SM. Initial Experience Using Aminophylline to Improve Renal Dysfunction in the Pediatric Cardiovascular Intensive Care Unit. *Pediatric Critical Care Medicine.* 2014 Jan;15(1):21-7.
28. **Axelrod DM** and Klugman DK, Wright GE, Chang A, Bronicki R, Roth SJ, Board Members of the Pediatric Cardiac Intensive Care Society. One Hundred Useful References in Pediatric Cardiac Intensive Care: The 2012 Update. *Pediatric Critical Care Medicine.* 2013 Oct;14(8):770-785.
29. **Axelrod DM**, Roth SJ. Pulmonary Atresia with Intact Ventricular Septum. In: UpToDate, Basow, DS (Ed), *UpToDate*, Waltham, MA, 2013.
30. Schroeder AR, **Axelrod DM**, Silverman NH, Rubesova E, Merkel E, Roth SJ. A Continuous Heparin Infusion Does Not Prevent Catheter-Related Thrombosis in Infants Following Cardiac Surgery. *Pediatric Critical Care Medicine*, 2010 Jul;11(4):489-95.

b. Invited Peer Reviewed Articles and Case Reports

1. Anand V, Kwiatkowski DM, Ghanayem NS, **Axelrod DM***, DiNardo J, Klugman D, Krishnamurthy G, Siehr S, Stromberg D, Yates AR, Roth SJ, Cooper DS. Training Pathways in Pediatric Cardiac Intensive Care: Proceedings From the 10th International Conference of the Pediatric Cardiac Intensive Care Society. *World J Pediatr Congenit Heart Surg.* 2016 Jan;7(1):81-8. *Supervisory organizer of Junior Faculty and Fellows' conference at PCICS meeting, followed by coordination of manuscript and served as advisor to Anand and Kwiatkowski, edited final manuscript.
2. **Axelrod DM**, Alten JA, Berger JT, Hall MW, Thaigarajan R, Bronicki RA. Immunologic and Infectious Diseases in Pediatric Cardiac Critical Care: Proceedings of the International Pediatric Cardiac Intensive Care Society Conference. *World J Pediatr Congenit Heart Surg.* 2015 Oct;6(4):575-87
3. Arunamata A, Perry S, Kipps AK, Vasanaawala S, **Axelrod DM**. Isolation of the right subclavian artery in a patient with d-transposition of the great arteries. *Ann Pediatr Cardiol.* 2015 May-Aug;8(2):161-3.
4. Presnell L, Maeda K, Griffin M, **Axelrod DM**. A child with purulent pericarditis and *Streptococcus intermedius* in the presence of a pericardial teratoma: An unusual presentation. *J Thorac Cardiovasc Surg.* 2014 Mar;147(3):e23-4

b. Non-Peer Reviewed Publications

1. Interview: Doximity.com: "What Do You Imagine the Future of VR Looks Like?" [Interview link here.](#)
2. Interview: American College of Cardiology: "Clinical Innovator: David M. Axelrod MD, Bringing the Heart to Life with Virtual Reality." *Cardiosource*, October 2017. [Interview link here.](#)
3. Interview: American Heart Association News: "How virtual reality is changing cardiovascular care." *AHA News*, August 2017. <https://news.heart.org/virtual-reality-changing-cardiovascular-care/>
4. Chapter Author: "Blood Pressure Support," in *Neonatology, Clinical Practice and Procedures*. Stevenson, Cohen, Sunshine. 1st edition. New York; 2015.
5. Section Editor: "D-Transposition of the Great Arteries" and "L-Transposition of the Great Arteries," in *Pediatric Cardiac Intensive Care Handbook*. Jones M, Klugman D, Fitzgerald R, Kohr LM, Costello JC, Berger JT, Bronicki R, 1st edition. Washington DC; 2014.
6. "Left Ventricular Non-compaction in Barth Syndrome," in Barth Syndrome Foundation Newsletter, 2012.

d. Other

1. Published photographer: Boston Children's Hospital, *Ab Initio International 2012*, NBO & the Home Visit

VIII. Mentoring

- a. Institute for Computational & Mathematical Engineering (ICME) Capstone project mentor, Jun Li (2018)
- b. Computer Science Graduate Student Research Mentor, Kyle Qian (2018)
- c. Co-Director, LPCHS Cardiology-Neonatology Combined Educational Conference (2016-2018)

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- d. Director, LPCHS Pediatric Cardiology Division Medical Case Conference (2015-2016)
- e. Pediatric Cardiology Fellow Mentor: Kenneth Mah (2014-present)
- f. Director, LPCHS Pediatric Cardiology Division Journal Club (2012-2018)
- g. Assistant Director, CVICU Advanced Training Fellowship (2012-2015)
- h. Resident Coach: LPCHS Pediatric Residency Program: (2013-2017)
 - 1. Serve as a coach for 10 residents for their three-year training; 10% salary support
- i. Resident Advisor: 2014-present, primary advisor for one pediatric resident interested in Cardiology
- j. Research Mentor:
 - 1. Teresa Bleakly, MD: “The effect of fluid resuscitation on cardiac function in malnourished pediatric patients in Bangladesh.” (2012-2014)
- k. Clinical Mentor:
 - 1. Kenneth Mah, MD, Pediatric Cardiovascular Intensive Care Unit Hospitalist (2012)
- l. Scholarship Oversight Committee (SOC) member
 - 1. Teresa Bleakly, MD, fellow in Pediatric Critical Care Medicine (2012-2014)
 - 2. Nicole Yamada, MD, fellow in Neonatal Intensive Care Medicine (2013-2015)

IX. Editorial Service

- 2019 “World Journal of Pediatric and Congenital Heart Surgery,” Ad Hoc reviewer
- 2018 “The Lancet,” Ad Hoc reviewer
- 2017 “Pediatric Hospitalist,” Ad Hoc reviewer
- 2017 “Pediatrics,” Ad Hoc reviewer
- 2016-present “PLOS One,” Ad Hoc reviewer
- 2016 “Critical Care Nursing,” Ad Hoc reviewer
- 2016 “European Journal of Anaesthesiology,” Ad Hoc reviewer
- 2015-present “Pediatric Critical Care Medicine,” Ad Hoc reviewer
- 2015 Ad Hoc reviewer for Pediatric Heart Failure Symposium Manuscripts (Author: Ronald Bronicki, MD), Ad Hoc reviewer
- 2014-present “Cardiology in the Young,” Ad Hoc reviewer
- 2013 Ad Hoc editor for the “Guidelines for training in pediatric cardiac intensive care during pediatric cardiology fellowship” (Authors: Peter Laussen MD and Stephen J. Roth MD, MPH), Ad Hoc reviewer
- 2010 “Congenital Heart Disease,” Ad Hoc reviewer
- 2011-present “Pediatric Anesthesia,” Ad Hoc reviewer

X. Grants/Directed Donations

- 06/19-11/19 NIH SBIR Grant Number:1R44GM133244-01, Visceral VR: Immersive Human Biology for the Study of Health and Disease; using virtual reality to pioneer an immersive new approach to teaching hands-on scientific investigation—starting with the science of nutrition. PI: David Sarno, Medical Advisor/Subject Matter Expert: David M. Axelrod MD.
- 2018-present Stanford Vice Provost for Teaching and Learning (VPTL) Innovation Grant (matched by Stanford Child Health Research Institute): Blending Virtual reality and Web-based Learning for Congenital Heart Disease Education.
- 2017-2018 Stanford Vice Provost for Teaching and Learning (VPTL) Teaching with technology for Online Course Development Workshop and Grant recipient.
- 2016-present Oculus/Facebook funding of virtual reality congenital heart disease program: Financial donation and in-kind gifts donated to LPFCH and the Children’s Heart Center under my direction.
- 2010-2014 Lucile Packard Children’s Hospital Stanford Heart Center Research Grant: Supporting the randomized, placebo-controlled, double blinded study of aminophylline to prevent acute kidney injury after cardiopulmonary bypass.

XI. University Administrative Service

a. Committee Service

- 2015-present Stanford Pediatric Critical Care Medicine Research Grant Reviewer

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2014-2015	Performance Improvement Panel for an LPCHS physician
2014-2017	Pediatric Cardiology Fellowship Program Milestone Committee Member
2013-present	Stanford University School of Medicine, Lane Library Clinical Liaison
2011-2016	Lucile Packard Children's Hospital Heart Center Simulation Program, Assistant Director
2010	Lucile Packard Children's Hospital Code Committee, Fellow Representative
2009	Lucile Packard Children's Hospital Heart Center Simulation Program Fellow Representative
2009-present	Lucile Packard Children's Hospital Cardiovascular Intensive Care Unit Nursing Orientation Simulation Instructor
2008-2009	Lucile Packard Children's Hospital Heart Center Education Committee Fellow Representative
2004-2005	University of California, San Francisco Pediatric Resident Chair, Curriculum Committee

b. Leadership Roles

2017-present	Creator and Director, The Stanford Virtual Heart Pilot Program : a consortium of 30+ international programs (on six continents) using the VR software for teaching, training, education, and patient care. See map of Pilot centers here .
2016-2018	Course Director: Stanford Pulmonary Artery Reconstruction and Right Ventricular Rehabilitation Symposium (Link to April 2018 CME Conference)
2015-present	Co-Director: Pediatric Cardiology Fellows' Boot Camp
2015-2018	Medical Director: LPCHS CVICU Consult Service
2014-2018	CVICU Liaison to the Fetal Heart Center at LPCHS
2015	Faculty Mentor: Med 223 Presentation by Stephanie Siehr, MD: "Cardiopulmonary Interactions"
2014	Lucile Packard Children's Hospital Pediatric CVICU Nurses' Lecture Series: Cyanosis
2013	Lucile Packard Children's Hospital Pediatric CVICU Nurses' Lecture Series: Cardiopulmonary interactions
2013-2014	Lucile Packard Children's Hospital Pediatric Cardiology Fellows' Lecture Series: Epidemiology of Congenital Heart Disease
2013-2014	Lucile Packard Children's Hospital Pediatric Cardiology Fellows' Lecture Series: Cyanosis
2012-2018	Journal Club Leader, Division of Pediatric Cardiology, Lucile Packard Children's Hospital
2010	Lucile Packard Children's Hospital Pediatric Intensive Care Unit, Fellow's Board Review: Renal Physiology, Pathophysiology, and Medications
2010	Lucile Packard Children's Hospital Pediatric Intensive Care Unit, Fellows' Orientation: Basic Electrocardiogram and Echocardiogram interpretation
2009	Lucile Packard Children's Hospital Pediatric Intensive Care Unit Education Series Cardiac Catheterization Basics
2009	Lucile Packard Children's Hospital Pediatric Cardiology Fellows' Research Series How to Write a Manuscript
2008	Pediatric Cardiology Fellow's Lecture: Epidemiology of Congenital Heart Disease
2008	Stanford Medical Student Journal Club, Med 223, Hypersensitization in Pediatric Heart Transplantation
2008	Stanford Pediatric Residency Morning Report: Pediatric Cardiac Procedures, I
2008	Stanford Pediatric Residency Morning Report: Pediatric Cardiac Procedures, II
2008	Stanford Cardiac Catheterization Laboratory Technicians/Staff: Pediatric Cardiac Procedures
2008	Lucile Packard Children's Hospital Heart Center Morbidity and Mortality: Patient O.Y.
2008	Lucile Packard Children's Hospital Heart Center Morbidity and Mortality: Patient D.M.
2007	Stanford Medical Student Journal Club, Med 223, Left Ventricular Assist Devices in Pediatrics
2007	Stanford Division of Pediatric Cardiology Journal Club, Adverse Effects of Dopamine on Systemic Hemodynamic Status and Oxygen Transport in Neonates After the Norwood Procedure
2007	Pediatric Cardiology Fellow's Lecture: Sudden Death in Children

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2006-2008 Facilitator for Medical Student Case Discussions in Pediatric Cardiology
1999-2002 Instructor, USMLE Board Review, The Ohio State University College of Medicine

XII. Service to Professional Organizations

a. Leadership

2019-2021 Track Chair: Artificial Intelligence, Technology, and Data Analytics, World Congress of Pediatric Cardiology and Cardiac Surgery, 2021
2019 Member, Program Committee for PCICS 2019 Conference
2018 Member, Program Committee for PCICS 2018 Conference
2017 Volunteer Physician and Supervisor: Standing Rock, North Dakota Medic Healers Council
2017 Member, Program Committee for PCICS 2017 Conference
2013-4 Member, Program Committee for PCICS 2014 Conference
2010-2013 Liaison to the Board, Pediatric Cardiac Intensive Care Society
2011-present Board Member, Barth Syndrome Foundation

b. Membership

2012-present Western Society of Pediatric Cardiology member
2011-present Stanford Cardiovascular Research Institute (CVRI)
2008-present Pediatric Cardiac Intensive Care Society
2006-present American College of Cardiology
2005-present American Academy of Pediatrics
2002-present Alpha Omega Alpha
2002-present American Medical Association

XIII. International and Regional Meetings

a. Invited Presentations

2019 American Association for Thoracic Surgery Annual Meeting: “Virtual Reality for Congenital Heart Disease: Present and Future,” Toronto, ON, Canada.
2019 Virtual Medicine (vMed) 2019: “Educating and Engaging Patients through Virtual Reality,” Cedars-Sinai Medical Center, Los Angeles, CA.
2019 PARC (Palo Alto Research Center) Forum presentation: “Creating a New Reality for Learning: VR and the Future of Healthcare and Science Education.” Palo Alto, CA.
2019 Congenital Cardiac Anesthesia Society (CCAS) 2019; “Virtual Reality and the Future of Healthcare.” Invited presentation and workshop leader. Houston, TX.
2018 ATXpo 2018, IdeaLab presentation. “The Stanford Virtual Heart: Blending Virtual Reality and Web-based Learning for Congenital Heart Disease Education.” University of San Francisco, San Francisco, CA.
2018 Stanford Center for Education and Professional Development Course Presentation. “Virtual Reality: A Smart New World,” Palo Alto, CA.
2018 Featured presentation and interview, Stanford Vice Provost of Teaching and Learning (VPTL) Teaching with Technology (TwT) course website: “How can we develop and teach a VR course in congenital heart disease?” ([link](#)). Stanford, CA.
2018 Invited presenter: Stanford Clinical Summer Internship (High School Students), “The Stanford Virtual Heart.” Palo Alto, CA.
2018 “Power up the Future/Teen Takeover.” Invited panelist at The Computer History Museum. #CHMTeenTakeover; ([link](#)).
2018 “How can we develop and teach a virtual reality course in congenital heart disease?” Stanford Vice Provost for Teaching and Learning (VPTL) Teaching with Technology (TwT) Spring Share Event: Stanford, CA.
2018 Pediatric Innovation Showcase: Lucile Packard Children’s Hospital Stanford; featured as a leading pediatric health entrepreneur.
2018 “I wish I had that when I was in med school”: VR Education and the Future of Healthcare, Pediatric Grand Rounds, Medical Center of Wisconsin/Herma Heart Institute, Milwaukee, WI

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- 2018 Engineering and Computer Science Developments: Virtual Reality and Healthcare Education, Institute for Computational and Mathematical Engineering (ICME) Capstone Presentation
- 2018 “I wish I had that when I was in med school”: VR Education and the Future of Healthcare, Pediatric Grand Rounds, University of Nebraska Medical Center, Omaha, NE
- 2018 “I wish I had that when I was in med school”: The Stanford Virtual Heart: 21st Century Education in Healthcare and Sciences, 11th Center for Immersive and Simulation-based Learning (CISL) Symposium, Palo Alto, CA
- 2018 The Stanford Center for Image System Engineering (SCIEN): Workshop on Medical VR and AR: Invited presentation on The Stanford Virtual Heart, Palo Alto, CA
- 2018 The Influencer Series: Session Roundtable Leader: “VR, Healthcare, and Education,” Menlo Park, CA.
- 2018 Panelist (3): Innovation in neonatal cardiac care—Virtual Reality; Cardiopulmonary Balancing Act; Hemodynamic Challenges in the Neonate
Speaker: “Cost of Pediatric Cardiac Care: Return on investment?”
Neoheart 2018, Fort Worth TX
- 2018 “I wish they had that when I was in med school: VR education and the future of healthcare,” VR in Healthcare Symposium, Harvard Medical School, Boston MA
- 2018 Workshop Facilitator: Surgical Training and Virtual Reality, VR in Healthcare Symposium, Harvard Medical School, Boston MA
- 2018 “Virtual Reality and Surgery” Breakout session, moderator, Wearable Tech + Digital Health + Neurotech Silicon Valley, Stanford University, Palo Alto CA
- 2018 “I wish I had that in med school: Virtual Reality Learning in Healthcare and the Sciences,” Speaker, ApplySci Wearable Tech + Digital Health + Neurotech Silicon Valley, Palo Alto CA; ([link](#)).
- 2017 “Improving Healthcare Education Through Virtual Reality,” Expert Panelist, Oculus Connect 4, San Jose, CA; [Panel weblink here](#).
- 2017 “The Stanford Virtual Heart: Educating Medical Professionals in the 21st Century,” VRBase, Amsterdam, Holland
- 2017 W2O Group (Healthcare Consulting): “The Stanford Virtual Heart: Educating Medical Professionals in the 21st Century,” San Francisco, CA
- 2017 Western Society of Pediatric Cardiology Conference: “Hands-on Demo: The Stanford Virtual Heart,” Seattle, WA
- 2017 Pediatric Grand Rounds: Department of Pediatrics, Lucile Packard Children’s Hospital Stanford. “Caring for the Resistance: Experiences at Standing Rock, North Dakota”
- 2017 Pediatric Academic Society Meeting, San Francisco, CA
Technology Innovation in Pediatrics: Virtual Reality Congenital Heart Disease Education
“The Stanford Virtual Heart: Educating Medical Professionals in the 21st Century”
- 2017 Pediatric Grand Rounds, Zuckerberg San Francisco General Hospital Department of Pediatrics “Caring for the Resistance: Experiences at Standing Rock, North Dakota”
- 2017 Stanford Big Data in Biomedicine Conference: featured demonstration and interview ([link](#)): “The Stanford Virtual Heart: Educating Medical Professionals in the 21st Century”
- 2017 Johns Hopkins Center for Talented Youth Science, featured speaker: “Pediatric Cardiology, a career with science, technology, and taking care of kids”
- 2017 Stanford MedX: Workshop presentation: “The Stanford Virtual Heart: A 3D Virtual Reality Congenital Heart Disease Atlas”; ([link](#)).
- 2017 CeBIT (International European Technology Conference): “The Stanford Virtual Heart: Educating Medical Professionals in the 21st Century.” See: [CeBIT](#)
- 2017 Pediatric Grand Rounds, University of California San Francisco, Benioff Children’s Hospital Department of Pediatrics: “Caring for the Resistance: Experiences at Standing Rock, North Dakota”
- 2016 8th World Congress on Pediatric Intensive and Critical Care, Toronto, ON
Speaker: “Cardiac Critical Care: Single Ventricle Norwood Management”
- 2015 Pediatric Grand Rounds, Kaiser Permanente Medical Center, Oakland, CA
“Pediatric Cardiac Emergencies”

CURRICULUM VITAE

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- 2013 Advances in Fetal and Neonatal Care: “Frontiers in Hypoplastic Left Heart Syndrome: The Fetus, the Child, and Beyond.” Stanford, CA.
- 2013 Clinical Concepts and Conundrums in Pediatric Hospital Medicine, Denver Children’s Hospital, Denver, CO. “Pediatric Cardiac Emergencies”
- 2012 Invited co-organizer and co-moderator: Junior Faculty/Fellow Reception, PCICS 2012, Miami, FL.
- 2012 Case presentation: “Arrhythmias in the CVICU,” PCICS 2012, Miami, FL.
- 2012 San Francisco Bay Area Pediatric Nurse Practitioner’s Conference (NAPNAP): “Combined PNP and Physician Care of Congenital Heart Disease,” Stanford, CA.
- 2012 Case Presentation for the 2012 Kovitz Lecture: ECMO for refractory atrial flutter and left atrial hypertension, Stanford, CA.
- 2012 Stanford Pediatric Cardiac Anesthesiology Academic Meeting: “Can Aminophylline Prevent Acute Kidney Injury in Children who Undergo Cardiopulmonary Bypass?”
- 2011 Astellas Pharmaceuticals, US; Investigator’s Meeting: Protocol Review, Miami, FL.
- 2011 Lecture: Duke Children’s Hospital: “A Continuous Heparin Infusion Does Not Prevent Catheter-Related Thrombosis in Infants Following Cardiac Surgery,” Durham, NC.
- 2011 Grand Rounds: Santa Clara Valley Medical Center: “Outpatient Management of Congenital Heart Disease; A Practical Approach,” San Jose, CA.
- 2010 Lecture: The Children’s Hospital of Philadelphia; “A Continuous Heparin Infusion Does Not Prevent Catheter-Related Thrombosis in Infants Following Cardiac Surgery,” Philadelphia, PA.
- 2010 Pediatric Cardiac Intensive Care Society; Moderator: Fellows and Junior Faculty Reception, Miami, FL.
- 2010 California Perfusion Society Symposium on Mechanical Support, Presentation: Pediatric Ventricular Assist Devices, Reno, NV.
- 2009 Astellas Pharmaceuticals United States (APUS) National Educational Lecture: Hyponatremia and Fluid Management in Pediatrics, webinar.
- 2009 Grand Rounds: “Pediatric Cardiology for the General Practitioner,” National College of Naturopathic Medicine, Portland, OR.

b. Other Presentations

- 2017 Pediatric Cardiac Intensive Care Society, Session Moderator: “Necessity is the Mother of Innovation”
- 2016 Pediatric Cardiac Intensive Care Society, Session Moderator: Single Ventricle Palliation
- 2016 Western Society of Pediatric Cardiology Conference, Panelist: Fellow Interesting Case Presentations
- 2014 Pediatric Cardiac Intensive Care Society, Session Moderator: Immunologic and Infectious Diseases in the CICU
- 2014 Pediatric Cardiac Intensive Care Society, Abstract Reviewer and Moderator for Poster Session
- 2014 Poster, Pediatric Cardiac Intensive Care Society: Advance Directives in Adult Congenital Heart Disease
- 2014 Poster, Pediatric Cardiac Intensive Care Society: Acute Kidney Injury in Patients Undergoing the Extracardiac Fontan Procedure
- 2014 Poster, Pediatric Cardiac Intensive Care Society: Dexmedetomidine is Associated with Lower Rates of Acute Kidney Injury in Congenital Heart Surgery
- 2014 Poster, Pediatric Cardiac Intensive Care Society: Interstage Nutritional Interventions Improve Growth and Shorten Length of Stay in Norwood Patients Undergoing Glenn at Four Months of Age
- 2014 Poster, Pediatric Cardiac Intensive Care Society: Case Study: A Novel Approach to the Management of Neonatal Ebstein’s Disease: Venovenous ECMO to Allow Right Ventricular Recovery
- 2014 Poster, Pediatric Cardiac Intensive Care Society: Case Study: The Borderline Left Heart
- 2013 Poster and Abstract: Initial Experience with Aminophylline to treat Acute Kidney Injury in

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Prepared: June 6, 2019

- the Cardiovascular Intensive Care Unit. Western Society of Pediatric Cardiology, Monterey, CA.
- 2013 Abstract: "Predictors of Mortality in Pediatric Patients on Venous-arterial Extracorporeal Membrane Oxygenation." American College of Cardiology, 2013
- 2012 Abstract Presentation, Professor Rounds: "Initial experience using aminophylline to modulate renal dysfunction in the pediatric cardiovascular intensive care unit," PCICS 2012
- 2009 Poster: Athlete's Heart, Cardiomyopathy, and Sudden Death Conference at Stanford
- 2009 Poster: American College of Cardiology Scientific Session
- 2007 California Pacific Medical Center, Bay Area Research Symposium, Poster
- 2006 Stanford Pediatric Cardiology Division Research Presentation

c. CME and Educational Courses Attended

- 2018 Oculus Connect 5, San Jose, CA
- 2018 Stanford Pulmonary Artery Reconstruction and Right Ventricular Rehabilitation Symposium (Course Director), Palo Alto, CA
- 2018 Neoheart, Fort Worth, TX
- 2017 Pediatric Cardiac Intensive Care Society, Washington, D.C.
- 2017 Oculus Connect 4, San Jose, CA
- 2017 World Congress of Pediatric Cardiology and Cardiac Surgery, Barcelona, Spain
- 2017 Pediatric Academic Society Meetings, San Francisco, CA
- 2017 Stanford Med-X Conference, Palo Alto, CA
- 2017 Western Society of Pediatric Cardiology, Seattle, WA
- 2017 CeBIT: European International Technology Conference, Hannover, Germany
- 2016 Pediatric Cardiac Intensive Care Society, Miami, FL
- 2016 Stanford Neuro-NICU Training Course, Stanford, CA
- 2016 8th World Congress on Pediatric Intensive and Critical Care, Toronto, ON
- 2016 Western Society of Pediatric Cardiology, Park City UT
- 2015 Pediatric Heart Failure Symposium, San Diego, CA
- 2014 Pediatric Cardiac Intensive Care Society, Miami, FL
- 2013 Western Society of Pediatric Cardiology, Monterey CA
- 2012 Pediatric Cardiac Intensive Care Society, Miami, FL
- 2012 Evolving Concepts in the Management of Complex Congenital Heart Disease, San Diego, CA
- 2011 Presenting Data and Information, Edward Tufte Seminar, Oakland, CA
- 2010 Pediatric Cardiac Intensive Care Society, Miami, FL
- 2009 American College of Cardiology Scientific Session, Orlando, FL
- 2008 Pediatric Cardiovascular Disease, Children's Hospital of Philadelphia, Scottsdale, AZ
- 2008 St. Jude Pediatric Cardiology Fellows Conference on Pacing, Boston, MA
- 2008 Pediatric Cardiac Intensive Care Society, Miami, FL
- 2006 American Heart Association Scientific Sessions, Chicago, IL
- 2005 American Academy of Pediatrics National Conference, San Francisco, CA
- 2003 International Conference on Heart Failure in Children & Young Adults, Houston, TX