

PROMOTION RECOMMENDATION  
THE UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF CARDIAC SURGERY  
DEPARTMENT OF PEDIATRICS

Jennifer Hirsch-Romano, M.D., M.S., associate professor of cardiac surgery, with tenure, Department of Cardiac Surgery, and associate professor of pediatrics, without tenure, Department of Pediatrics, Medical School, is recommended for promotion to professor of cardiac surgery, with tenure, Department of Cardiac Surgery, and professor of pediatrics, without tenure, Department of Pediatrics, Medical School.

Academic Degrees

M.S.	2008	University of Michigan
M.S.	1996	Harvard Medical School
B.S.	1991	University of Michigan

Professional Record

2015-present	Associate Professor of Cardiac Surgery, University of Michigan
2015-present	Associate Professor of Pediatrics, University of Michigan
2009-2015	Assistant Professor of Cardiac Surgery, University of Michigan
2009-2015	Assistant Professor of Pediatrics, University of Michigan
2005-2009	Clinical Lecturer of Pediatrics, University of Michigan

Summary of Evaluation:

Teaching: Dr. Romano has been involved in house officer and fellow education since joining the faculty in 2009. Her teaching is predominantly with fellows and residents in cardiothoracic surgery but also extends to the Pediatric Cardiothoracic Intensive Care Unit, Extracorporeal Membrane Oxygenation students, and researchers. In her role as the program director for the congenital residency program, she oversees the education of fellows and residents and has been widely recognized for the quality of the individuals that have graduated from the program. Dr. Romano is known as an extraordinary educator to multidisciplinary audiences internal and external to the organization with 35 extramural invited presentations. She is frequently asked to speak at professional medical society meetings, as well as courses organized by these organizations. She is a faculty mentor to eight programs including the University of Michigan Mentorship Program, the Undergraduate Research Opportunities Research Program and the American Medical Women's Association.

Research: Dr. Romano's research interests are focused in the areas of national quality and delivery of care, functional outcomes, improvements in perioperative care, and hybrid interventions for congenital heart disease patients. In the area of quality and delivery of care, she is the institutional lead for Michigan Medicine's Society of Thoracic Surgeons (STS) Congenital Database which is responsible for national reporting of our outcomes. Dr. Romano has been instrumental in her leadership of the congenital database in improving the quality of the data by leveraging national databases and registries. Her interest in functional outcomes led her to create

the Congenital Heart Assessment of Sensory and Motor Skills (CHASMS) tool to evaluate motor declines for infants after surgery, which allow these to be addressed, and thus prevent future developmental delays. This research has resulted in significant gains in development for our patients and increased parent satisfaction. Dr. Romano's research into perioperative care focuses on critical evaluation of neurologic monitoring modalities in the perioperative setting. She conducted a systematic review of literature of Near Infrared Spectroscopy which led to widespread publications and numerous invited presentations for her to speak on this topic. Her recognition for this work culminated in an invitation to lead an evidence-based medicine task force for the STS on intraoperative neuromonitoring. Other research efforts of Dr. Romano in this area resulted in publications on the development of a vasoactive inotrope score, the impact of tracheostomy, and management of junctional ectopic tachycardia to name a few. These studies have all positively impacted the delivery of care in the Michigan Congenital Center and have made significant contributions to the literature with frequent reference.

Dr. Romano also worked with the University of Michigan Congenital Heart Center to form the Michigan Congenital Center Hybrid Program in 2009. This program was a pioneering effort to allow patients an alternative course of care for single ventricle patients who were at too high of a risk for traditional surgery. The resulting hybrid procedures have been evaluated alongside traditional surgery and the results indicate a decline in perioperative morbidity. The success of this program has led other centers to seek the expertise of Dr. Romano and our congenital heart center in developing a similar program. Dr. Romano has published 125 peer-reviewed articles.

#### Recent and Significant Publications

Nelson JS, Maul TM, Wearden PD, Pasquali SK, Romano JC: National practice patterns and early outcomes of aortic valve replacement in children and teens. *Annals of Thoracic Surgery* 108(2):544-51, 2019.

Friedland-Little JM, Uzark K, Yu S, Lowery R, Aiyagari R, Hirsch-Romano JC: Functional status and quality of life in survivors of extracorporeal membrane oxygenation after the Norwood operation. *Annals of Thoracic Surgery* 103(6):1905-1955, 2017.

Uzark K, Smith C, Donohue J, Yu S, Romano JC: Infant motor skills after a cardiac operation: the need for developmental monitoring and care. *Annals of Thoracic Surgery* 104:681-7, 2017.

Whiteside W, Hancock HS, Pasquali SK, Armstrong AK, Menchaca A, Hadley A, Hirsch-Romano J: Recurrent coarctation after neonatal univentricular and biventricular Norwood-type arch reconstruction. *Annals of Thoracic Surgery* 102(6):2087-94, 2016.

Hickey PA, Pasquali S, Gaynor W, He X, Hill K, Connor JA, Gauvreau K, Jacobs ML, Jacobs JP, Hirsch-Romano: Critical care nursing's impact on pediatric patient outcomes. *Annals of Thoracic Surgery* 97(2):659-65, 2016.

Service: Dr. Romano has served in a number of administrative leadership positions during her career at the University of Michigan. Since 2007, she has been the surgical director of the Pediatric Cardiothoracic Intensive Care Unit and the co-director of Pediatric Extracorporeal Life Support. She is the program director for the Congenital Heart Surgery Residency. Extramurally,

Dr. Romano is active in a number of professional societies and has also served in leadership roles for several. She is a member of the editorial boards for the *World Journal for Pediatric and Congenital Heart Surgery*, and the *Annals of Thoracic Surgery*, and is the deputy editor for Congenital Heart Disease section of the *Annals of Thoracic Surgery*. Dr. Romano is the associate editor of *Cardiosource Review Journal*. She also serves as a director for the American Board of Thoracic Surgeons, is a member of the Board of Directors of the Society of Thoracic Surgeons, and the Treasurer-Elect for the Congenital Heart Surgeon's Society.

External Reviewers:

Reviewer A: "In speaking with many of those [faculty, residents and attendings] directly over the years, it is clear that she is not just a competent congenital heart surgeon, but a gifted one clinically...I am unaware of anyone with a more compelling CV and more comprehensive body of work at this stage of their career than Dr. Romano...The quantity, quality and focus of her publications is simply not exceeded by any one at a similar stage of their career. Many of her publications are truly landmark articles...She is a sought after thought leader...She serves on some 9 editorial boards...she is always a topic of discussion amongst Pediatric Hospitals and their leaders, and is always at the top of a list when looking for someone to lead a congenital heart program in our country and beyond...She is simply one of the absolute best academic congenital heart surgeon leaders, if not the best. As a package of maturity, technical excellence, life balance and hard work, she is simply unsurpassed."

Reviewer B: "...she has risen to be one of the leaders in our field which has been well earned through years of hard work and a commitment to collaboration...she has collaborated extensively with all disciplines involved in the care of these patients [children requiring congenital heart surgery]...her efforts and multiple publications to improve our congenital national database through improved modeling have been crucial...her commitment to mentoring junior faculty, fellows, and residents is clear...[she has] recently being awarded as the co-principal investigator for the next landmark randomized trial in the care of congenital heart patients...Dr. Romano has my highest level of endorsement for advancement to Professor at your institution."

Reviewer C: "Dr. Romano is nationally and internationally known in the field of congenital cardiac surgery. She is a respected clinical heart surgeon...she has successfully initiated, led and/or otherwise contributed to many of Michigan's single institution studies of the operative management of patients with complex congenital heart disease – specifically single ventricle anomalies. Her contributions are exemplified by many publications...she critically examined the evidence base for the use of particular perfusion and monitoring techniques in pediatric surgery...Dr. Romano has published 54 peer reviewed papers, which in my view is indicative of her sustained commitment to and success in scholarly activity...her contributions in the CHSS have been consistent and significant...I recommend without reservation the promotion of Dr. Jennifer Romano to the rank of Professor of Surgery with Tenure at its [the University of Michigan] Medical School."

Reviewer D: "Regarding the pillars of academic achievement Clinical surgery, Research and Education, and Professional leadership, Jennifer excels in all areas...At this point, she has become one of the clear leaders in our field nationally and internationally...she has demonstrated

unparalleled leadership within professional societies...she is active and outspoken and clearly passionate about clinical education...she has mentored several young congenital cardiac surgeons to successful clinical careers...she has made extremely valuable contributions to the care of children with congenital cardiac disease....I can say that Jennifer is known nationally as a top rate clinical congenital cardiac surgeon...In summary, I can think of no other candidate more deserving of promotion to Professor with Tenure at either of the two institutions that I have served in.”

Reviewer E: “Dr. Romano has been an outstanding contributor to our field, specifically in the areas of hypoplastic left heart syndrome and ECMO support of the infant...In comparing her to her colleagues of her same age group, Dr. Romano stands out among that group as an exceptional leader in the field of congenital heart surgery...Dr. Romano meets the described University of Michigan principles for her the proposed promotion...I look forward to her continued publications and contribution in the field of congenital surgery.”

Summary of Recommendation:

Dr. Romano has clearly established herself as an exemplary congenital heart surgeon both nationally and internationally. She is a pioneer in her profession demonstrating the full complement of clinical care, research and education in a renowned program that she has helped elevate to the highest standards. She continues to be successful, bringing forth instrumental ideas and innovative solutions to the treatment of congenital heart disease. I am pleased to recommend Jennifer Hirsch-Romano, M.D., M.S. for promotion to professor of cardiac surgery, with tenure, Department of Cardiac Surgery, and professor of pediatrics, without tenure, Department of Pediatrics, Medical School.



Marschall S. Runge, M.D.  
Executive Vice President of Medical Affairs  
Dean, Medical School

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