Biography
Dr. Stacey Rentschler M.D., Ph.D. joined the Department of Medicine, Division of Cardiology, in September 2012. As a cardiology fellow at the University of Pennsylvania under the mentorship of Dr. Jonathan Epstein, she received the prestigious Burroughs Wellcome Fund Career Award for Medical Scientists, which is given to physicians working in basic biomedical or disease-oriented research. While a cardiology fellow, Dr. Rentschler developed a mouse model for preexcitation syndromes such as Wolff-Parkinson-White syndrome (WPW). In addition, she developed strategies for reprogramming cardiomyocytes into conduction system cells.

Dr. Rentschler’s doctoral studies were conducted at Mount Sinai School of Medicine in the laboratory of Dr. Glenn Fishman. While at Mount Sinai, Dr. Rentschler developed a method to visualize the cardiac conduction system in mice, including the most distal Purkinje cell network. Using this tool, she studied the signaling pathways that govern formation and functional maturation of the mammalian cardiac conduction system, and demonstrated that neuregulin-1 induces Purkinje cell lineage specification.

Research
Dr. Rentschler’s laboratory is seeking to identify the signaling pathways that instruct cardiomyocytes to become conduction cells during development, which may ultimately provide insight into regenerative approaches towards development of a biologic pacemaker. The Rentschler laboratory uses genetically modified mouse models to study developmental processes leading to conduction cell specification and function, especially as it relates to congenital arrhythmias. Activation of Notch signaling in mice produces preexcitation resembling WPW syndrome, and current projects seek to identify developmental processes gone awry in preexcitation syndromes.