Anish Sanjay Shah

Cardiology Fellow

Curriculum Vitae

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Cardiology fellow with a clinical interest in neural regulation of cardiac physiology and cardiac electrophysiology, and a research interest in epidemiology/causality, harmonic regressions, recurrent event analysis, and digital signal processing.

Academic Qualifications and Positions

Education

2007-2011	Bachelor of Science	Emory University College of Arts and Sciences
	➤ Linguistics	
	Neuroscience & Behavioral Biology	
2012-2016	Doctor of Medicine	Texas A&M University College of Medicine
2019-2021	Master of Science	Emory University Laney Graduate School

Clinical Training

2016-2019	J. Willis Hurst Internal Medicine Residency	Emory University School of Medicine
	➤ Distinction in Teaching and Leadership	
2020-2024	Cardiology Fellowship	University of Illinois Chicago School of Medicine
	➤ T32 Physician-Scientist Track	

Academic Appointments

2022-2024	NIH-T32 Cardiology Research Fellow	University of Illinois Chicago School of Medicine
	 Research fellow in cardiac arrhythmias and 	d genetics
2020-2024	Clinical Cardiology Fellowship ➤ Research-track, clinical fellow at Universit VA Medical Center	University of Illinois Chicago School of Medicine ty of Illinois Hospital and Jesse Brown
2019-2020	Postdoctoral Fellow	Department of Epidemiology, Rollins School of Public Health
	Epidemiology/biostatistical research in au	tonomic dysfunction
2019-2020	Assistant Professor of Medicine	Division of Hospital Medicine, Emory University School of Medicine
	Hospital medicine attending	
2019-2020	NIH-TL1 Postdoctoral Scholar	Georgia Clinical and Translational Science Alliance
	 Research fellow in autonomic dysfunction 	
2016-2017	Internship➤ Internal medicine intern at Grady Memori and Atlanta VA Medical Center	Emory University School of Medicine ial Hospital, Emory University Hospital,
2016-2020	Internal Medicine Residency ➤ Internal medicine junior and senior reside University Hospital, and Atlanta VA Medic	

Honors and Awards

2023-2024	Atrial Fibrillation Genetics Fellow	Atrial Fibrillation Genetics Consortium
	 Genetics of atrial fibrillation research award 	
2019	TL1 Postdoctoral Scholar	Ruth L. Kirschtein National Research Service Award
	➤ Georgia Translational Science Alliance	

2018	Top Donors Meeting Presentation	American Heart Association Scientific Sessions
	Special invitation to discuss research with AHA leader thropists	rship and top philan-
2017	Emory Resident Team	Georgia ACP Conference
	➤ Doctor's Dilemma	
2015	Research Symposium	Texas A&M University College of Medicine
	➤ 1st Place Oral Presentation	
2013	Medical Student Research Program in Diabetes	Johns Hopkins University School of Medicine
	 National Insitute of Diabetes and Digestive and Kidney 	[,] Diseases
2009	Delores B. Aldridge Excellence in Service to a Diverse Comn Sciences	nunity Award Emory University College of Arts and
2009-2011	Nu Rho Psi Honor Society	Emory University College of Arts and Sciences
2009	Speaker to his Holiness the XIV Dalai Lama	Institute of Buddhist Dialectics
	Selected to represent Emory students in a meeting w MacLeod Gange, India.	ith the Dalai Lama in
2007	EMT-Basic National Competition	Health Occupation Students of America
	➤ 1st Place	

Professional Memberships

2020-Present	American College of Cardiology
2018-Present	American Heart Association
2012-2016	Texas Medical Association
2012-Present	American Medical Association
2012-Present	American College of Physicians

Teaching

Teaching Positions

2020-2022	Workshop Leader	University of Illinois Chicago School of Medicine
	 Critical Care and Resuscitation Committee 	
2019	Workshop Leader	Emory University School of Medicine
	 Physical Exam and Clinical Decision Making Course 	
2019-2020	Teaching Attending	Emory University School of Medicine
	➤ Point-of-Care Ultrasonography Elective	
2018-2019	Workshop Leader	Emory University School of Medicine
	➤ M3 Ultrasound Curriculum	
2017-2019	Faculty Preceptor	Emory University School of Medicine
	 Physician Assistant Didact Experiential Learning Program 	
2016	Session Leader	Texas A&M University College of Medicine
	➤ Internship Bootcamp	
2011-2012	Tutor	North Lake College
	➤ Biology, Chemistry, and Physics	
2010-2011	Teaching Assistant	Emory University College of Arts and Sciences
	➤ Cellular Biology	

Lectures

2023	Research Seminar	University of Illinois Chicago School of Medicine
	Vagolysis and Arrhythmogenesis	
2023	Mortality and Morbidity Conference	University of Illinois Chicago School of Medicine
	➤ Left Atrial Appendage Closure	
2022	Electrophysiology Conference	University of Illinois Chicago School of Medicine
	➤ Introduction to Typical AVNRT	
2021	Mortality and Morbidity Conference	University of Illinois Chicago School of Medicine
	➤ Mitral Valve Replacement in Rheumatic Heart Disease	
2021	Journal Club ➤ Cardiac Myosin Activation with Omemcamtiv Mecarbil i (GALACTIC-HF)	University of Illinois Chicago School of Medicine n Systolic Heart Failure
2020	Journal Club	University of Illinois Chicago School of Medicine
	➤ Early Rhythm-Control Therapy in Patients with Atrial Fibr	illation (EAST-AFNET)
2020	Clinical Case Conference	University of Illinois Chicago School of Medicine
	Restrictive Cardiomyopathy	
2019	Senior Grand Rounds ➤ The History of Sudden Cardiac Death: the Role of the Au System	Emory University School of Medicine atonomic Nervous
2018	 Bite-Sized Teaching Mode Conference ▶ Lotions and Ointments and Creams, Oh My! ▶ Ironing Out Transfusions in Sickle Cell 	Emory University School of Medicine
2018	Distinction in Teaching and Leadership Conference	Emory University School of Medicine
	➤ The Problem Learner: A history and physical for learners	with difficulties
2018	Journal Club ➤ Intervention of Ischemic Stroke: Thrombectomy in 6 to 1 by Perfusion Imaging	Emory University School of Medicine 6 Hours with Selection
2018	Ultrasound Workshop	Southern Hospital Medicine Conference
	Cardiac, IVC, Lung, and Abdominal Views	
2018	8 Minutes-To-Win-It	Southern Hospital Medicine Conference
	➤ Top Inpatient Teaching Sessions by Soon-To-Be-Leaders	
2017	Point-of-Care Ultrasound	Emory University School of Medicine
	➤ Parasternal Long Axis	

Mentorship

Students 2016–2019

Emory University School of Medicine

- ➤ Julie Sommer, PA-S
- ➤ John Ward, M3
- ➤ Deema Elchoufi, M3
- ➤ Hugo Cavalia, M4
- ➤ Brian Mott, M3
- ➤ Anna Coronata, M3
- ➤ Eli Mlaver, M3
- ➤ Grace Helen Frankel, PA-S

2020-2024

University of Illinois Chicago School of Medicine

- ➤ Alex Wind, M3
- ➤ Esther Kim, M4
- ➤ Kevin Kappenman, M4

Residents

2016-2019

Emory University School of Medicine

- ➤ Rebecca Engels, MD
- ➤ Mangala Patil, MD
- ➤ Rebecca Neustein, MD
- ➤ Kate Measom, MD
- ➤ Kevin Luk, MD
- ➤ Eric Yao, MD
- ➤ Ross Bittman, MD
- > Samuel Huxley, MD
- > Arjun Athreya, MD
- ➤ Lakshmi Katta, MD
- > Ryan Brown, MD

2020-2024

University of Illinois Chicago School of Medicine

- > Jeffrey Rehbun, MD
- ➤ Lena Carleton, MD
- ➤ Amir Khan, DO

Research

2019-2020

Department of Epidemiology, Rollins School of Public Health

- ➤ Shishir Gupta, M4
- ➤ Manasvi Sundar, BS
- ➤ Nimrit Kaur

Skills

Point-Of-Care Ultrasonography

- ➤ Assessing cardiac structure and function
- ➤ Identifying pleural and pulmonary disease
- ➤ Volume assessment
- ➤ Identifying hydronephrosis and bladder volume
- > Skin and soft tissue evaluation
- ➤ Liver and gallbladder disease

Procedures

- ➤ Arterial line placement (radial, brachial, dorsalis pedis, axillary)
- ➤ Arthrocentesis (knee, ankle, shoulder)
- ➤ Central line placement (internal jugular, femoral, subclavian)
- ➤ Lumbar puncture
- > Thoracentesis
- ➤ Paracentesis

Languages

- ➤ English
- ➤ Gujurati
- > Spanish

Technical

- ➤ R, RStudio scripting language and environment for statistical computing and graphics
- ➤ PERL high-level programming language for text processing and manipulation
- ➤ C++ low-level programming language for data processing
- ➤ Vim command line editing
- ➤ Markdown syntax for formatting of writing
- ➤ Git, Github version control system
- ➤ MATLAB matrix-oriented mathematical programming language

Certifications

Professional

2019-Present	American Board of Internal Medicine
2007-2010	Emergency Medical Technician Basic
2012-2016	Advanced Trauma Life Support
2012-Present	Advance Cardiovascular Life Support

Personal

2015-Present PADI Open Water Diver
2016-Present Wilderness First Responder
2017-Present ASA 101 Basic Keelboat

Research

Grant Funding

2022–2024 NIH-T32 University of Illinois Chicago School of Medicine

Chicago, IL

➤ Training in Personalized Cardiovascular Medicine [TPIPCVM]

2020–2023 NIH-F32 National Heart, Lung, Blood Institute

➤ The Association of Autonomic Dysfunction with the Relationship between Depression and Coronary Disease

➤ F32HL154707

2019-2020 **NIH-TL1**

Georgia Clinical and Translational Science Alliance

Atlanta, GA

- ➤ Disturbances of the Neurocardiac Axis: Using Heart Rate Variability to Measure Disease in the Brain and Heart
- ➤ TL1TR002382
- ➤ UL1TR002378

Conferences

- 1. Shah, A. S., & Sanchez, M. (2009). Cortisol Levels in Rhesus Monkeys with Maternal Separation Over Longitudinal Cohorts. Scholarly Inquiry and Research at Emory Research Partners Symposium.
- 2. Shah, A. S., & Li, Y. (2011). Influence of the Acoustic Parameter of Pitch on Emotion and Focus Location in Statements using Ditransitive Verb Manipulations. *Great Lakes Expo for Experimental and Formal Undergraduate Linguistics*.
- 3. Shah, A. S., & Blackman, S. M. (2013). Genetic Linkage Analysis for Cystic Fibrosis Related Diabetes. *National Institute of Diabetes and Digestive and Kidney Diseases Medical Student Research Symposium*.
- 4. Shah, A. S., Mrdutt, M., Sanders, E., Mallett, L., Perger, L., Mrdutt, M., Sanders, E., & Perger, L. (2016). Long-Term Outcomes of Newborns with Necrotizing Enterocolitis: A retrospective matched cohort study. *Texas A & M University College of Medicine Research Symposium*.
- 5. Shah, A. S., Clements, S. D., & Dudgeon, M. (2017). Three's company: Nocardiosis, neuroendocrine hyperplasia, and breast cancer. *Southern Hospital Medicine Conference*.

- 6. Shah, A. S., & Shah, A. J. (2018). Association of Ischemia with Heart Rate Variability. 2018 Georgia Chapter Scientific Meeting.
- 7. Shah, A. S., Alonso, A., & Shah, A. J. (2020). Autonomic Dysfunction as a Marker of Depression and Coronary Artery Disease. *Southeast Regional Clinical & Translational Science Conference*.
- 8. Hill, M. C., Chalazan, B., Tofovic, D., Chen, Y., Shah, A., Barney, M., Diaz, A., Konda, S., & Darbar, D. (2023, March). Prevalence Of Disease-Associated Cardiomyopathy Gene Variants In Ethnic Minorities With Atrial Fibrillation. *Journal of the American College of Cardiology*.

Software

1. Shah, A. S. (2020). *Card: Cardiovascular and Autonomic Research Design*. R package v0.1.0. https://cran.r-project.org/package=card

Publications

- 1. Shah, A. S. A. A. J., Lampert, R., Goldberg, J., Bremner, J. D., Vaccarino, V., & Shah, A. S. A. A. J. (2018). Abstract 15216: Circadian Autonomic Inflexibility: A Marker of Ischemic Heart Disease. *Circulation*, 138. https://doi.org/10.1161/circ.138.suppl_1.15216
- 2. Shah, A. S., Alonso, A., Whitsel, E. A., Soliman, E. Z., Vaccarino, V., & Shah, A. J. (2020). Abstract P542: Association of Psychosocial Factors With Heart Rate Variability: The Atherosclerosis Risk in Communities Study. *Circulation*, 141. https://doi.org/10.1161/circ.141.suppl_1.p542
- 3. Shah, A. S., Shah, A. J., Lampert, R., Goldberg, J., Bremner, J. D., Li, L., Thames, M. D., Vaccarino, V., & Shah, A. S. A. J. (2020). Alterations in heart rate variability are associated with abnormal myocardial perfusion. *International Journal of Cardiology*, 305. https://doi.org/10.1016/j.ijcard.2020.01.069
- 4. Shah, A. S. (2020). 4581 Autonomic Dysfunction as a Marker of Depression and Coronary Artery Disease. *Journal of Clinical and Translational Science*, 4(s1). https://doi.org/10.1017/cts.2020.291
- 5. Shah, A. S., Alonso, A., Whitsel, E. A., Soliman, E. Z., Vaccarino, V., & Shah, A. J. (2021). Association of Psychosocial Factors With Short-Term Resting Heart Rate Variability: The Atherosclerosis Risk in Communities Study. *Journal of the American Heart Association*, 10(5). https://doi.org/10.1161/JAHA.120.017172
- Vaccarino, V., Almuwaqqat, Z., Kim, J. H., Hammadah, M., Shah, A. J. A., Ko, Y. A., Elon, L., Sullivan, S., Shah, A. J. A., Alkhoder, A., Lima, B. B., Pearce, B., Ward, L., Kutner, M., Hu, Y., Lewis, T. T., Garcia, E. V., Nye, J., Sheps, D. S., ... Quyyumi, A. A. (2021). Association of Mental Stress-Induced Myocardial Ischemia with Cardiovascular Events in Patients with Coronary Heart Disease. JAMA Journal of the American Medical Association, 326(18). https://doi.org/10.1001/jama.2021.17649
- 7. Shah, A. S., Vaccarino, V., Ko, Y.-A., Almuwaqqat, Z., Garcia, M., Moazzami, K., Wang, M., Levantsevych, O., young, an, Ward, L., Nye, J., Raggi, P., Sheps, D. S., Lampert, R. J., Bremner, D., Sun, Y., Garcia, E. V., Quyyumi, A. A., & Shah, A. J. (2023). Mental Stress-Induced Autonomic Dysfunction Is Associated With Cardiovascular Mortality. *Journal of the American College of Cardiology*, 81(8). https://doi.org/10.1016/s0735-1097(23)01590-5
- 8. Wang, M., Liu, C., Shah, A. S., Ko, Y.-A., Sun, Y., Lampert, R. J., Garcia, M., Moazzami, K., Almuwaqqat, Z., Ward, L., Sullivan, S., Raggi, P., Bremner, D., Quyyumi, A. A., Vaccarino, V., Morris, A. A., & Shah, A. J. (2023). Heart Rate Variability During Mental Stress Predicts Heart Failure Outcomes In Patients With Stable Coronary Artery Disease. *Journal of the American College of Cardiology*, 81(8). https://doi.org/10.1016/s0735-1097(23)00913-0