

ANISH S. SHAH, MD, MS

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Updated December 02, 2024

PERSONAL INFORMATION

PHYSICAL ADDRESS

Office

University of Utah
Division of Cardiology
30 North Mario Capecchi Drive
3rd Floor North
Salt Lake City, UT 84112

Clinic

George E. Wahlen VA Medical Center
500 Foothill Drive
Building 1, 2nd Floor
Salt Lake City, UT 84148

CITIZENSHIP

United States of America

EDUCATION

ACADEMIC TRAINING

Bachelor of Science – Linguistics | Neuroscience 2007 – 2011
Emory University College of Arts and Sciences

Doctor of Medicine 2012 – 2016
Texas A&M University College of Medicine

Master of Science – Clinical Research 2019 – 2020
Emory University Laney Graduate School

CLINICAL TRAINING

Residency – Internal Medicine 2016 – 2019
J. Willis Hurst Internal Medicine Residency, Emory University School of Medicine

- Distinction in Teaching and Leadership

Fellowship – Cardiovascular Medicine 2020 – 2024
University of Illinois Chicago College of Medicine

- Physician-Scientist Track
- Primary Mentor: Dawood Darbar, MD

Fellowship – Clinical Cardiac Electrophysiology 2024 – 2026
University of Utah School of Medicine

SKILLS

CLINICAL SKILLS

Point-of-care ultrasonography
Arterial line placement (radial, brachial, dorsalis pedis)
Arthrocentesis (knee, ankle, shoulder)
Central line placement (internal jugular, femoral, subclavian)
Lumbar puncture
Thoracentesis
Paracentesis
Coronary angiography
Temporary/permanent pacemaker implantation
Echocardiography - 2D/3D, transthoracic and transesophageal

LANGUAGES

- English – fluent

- Gujarati – fluent
- Spanish – fluent

TECHNICAL SKILLS

R - programming language for statistical computing
 PERL - high-level programming language for text processing and manipulation
 C++ - low-level programming language for data processing
 Vim - command line editing
 Git - version control system
 MATLAB - matrix-oriented mathematical programming language
 Python - high-level programming language for data analysis

CERTIFICATIONS

Emergency Medical Technician Basic <i>National Registry of Emergency Medical Technicians</i>	2007 – 2010
Basic Life Support <i>American Heart Association</i>	2012 – Present
Advanced Cardiovascular Life Support <i>American Heart Association</i>	2012 – Present
Advanced Trauma Life Support <i>American College of Surgeons</i>	2012 – 2016
Open Water Diver <i>Professional Association of Diving Instructors</i>	2015 – Present
Wilderness First Responder <i>National Outdoor Leadership School</i>	2016 – Present
Basic Keelboat 101 <i>American Sailing Association</i>	2017 – Present
Internal Medicine <i>American Board of Internal Medicine</i>	2019 – Present
Adult Echocardiography <i>National Board of Echocardiography</i>	2023 – Present
Cardiovascular Medicine <i>American Board of Internal Medicine</i>	2023 – Present

APPOINTMENTS

Postdoctoral Research Fellow – Epidemiology <i>Emory University Rollins School of Public Health</i>	2019 – 2020
<ul style="list-style-type: none"> • NIH-TL1 Scholar • Primary Mentor: Amit J. Shah, MD, MS 	
Assistant Professor of Medicine <i>Division of Hospital Medicine, Emory University School of Medicine</i>	2019 – 2020
<ul style="list-style-type: none"> • Service Lines: Hospital Medicine, Procedure Service • Locations: Grady Memorial Hospital, Emory University Midtown Hospital 	
Instructor of Medicine <i>College of Medicine, University of Illinois Chicago</i>	2020 – 2024

HONORS AND AWARDS

LOCAL

Delores B. Aldridge Excellence in Service to a Diverse Community Award <i>Emory University</i>	2009
Speaker to His Holiness the XIV Dalai Lama <i>Emory-Tibet Science Initiative</i>	2009
<ul style="list-style-type: none"> • Selected to represent Emory students in a meeting with the 14th Dalai Lama in MacLeod Gange, India. 	
Nu Rho Psi Honor Society <i>Emory University</i>	2009 – 2011

College of Medicine Research Symposium Texas A&M University	2015
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- 1st Place Oral Presentation

REGIONAL

Doctor's Dilemma (Medical Jeopardy) Georgia American College of Physician Conference	2017
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NATIONAL

EMT-Basic National Competition <i>Health Occupation Students of America</i>	2007
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- 1st Place

Medical Student Research Program in Diabetes <i>National Institute of Diabetes and Digestive and Kidney Diseases</i>	2013
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American Heart Association Scientific Sessions - Top Donors Meeting Presentation	2018
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- Special invitation to discuss research with AHA leadership and top philanthropists

NIH-TL1 Postdoctoral Fellow <i>Ruth L. Kirschstein National Research Service Award</i>	2019-2020
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NIH-T32 Postdoctoral Fellow <i>Ruth L. Kirschstein National Research Service Award</i>	2019-2020
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NIH-F32 Postdoctoral Fellow <i>Ruth L. Kirschstein National Research Service Award</i>	2021-2024
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INTERNATIONAL

Atrial Fibrillation Genetics Consortium Fellow <i>Atrial Fibrillation Genetics Consortium</i>	2023 – 2024
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PROFESSIONAL ACTIVITIES

PROFESSIONAL SOCIETIES

Texas Medical Association <i>Student Member</i>	2012 – 2016
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American College of Physicians <i>Member</i>	2012 – Present
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American Medical Association <i>Member</i>	2012 – Present
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American Heart Association <i>Fellow-In-Training</i>	2018 – Present
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American College of Cardiology <i>Fellow-In-Training</i>	2020 – Present
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Heart Rhythm Society <i>Fellow-In-Training</i>	2023 – Present
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SERVICE

Ad-Hoc Reviewer:

BMJ Open Diabetes Research & Care	2019
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Journal of Electroconvulsive Therapy	2020
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Journal of Cardiovascular Electrophysiology	2021
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BMJ Open	2021
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Circulation: Arrhythmia and Electrophysiology	2023
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American Journal of Cardiology	2022-2023
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Applied Psychophysiology and Biofeedback	2024
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BMC Global and Public Health	2024
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Scientific Reports	2024
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TEACHING AND MENTORING ACTIVITIES

PRECEPTORSHIP

Teaching Assistant – Cellular Biology <i>Department of Biology, Emory University College of Arts and Sciences</i>	2010
Tutor – Biology, Chemistry, Physics <i>Department of Physics, North Lake College</i>	2011 – 2012
Tutor – Histology <i>Texas A&M University College of Medicine</i>	2013
Faculty Preceptor – Physician Assistant Program <i>Didactic Experiential Learning Program, Emory University School of Medicine</i>	2017 – 2019
Teaching Attending – Point-of-Care Ultrasound Elective <i>J. Willis Hurst Internal Medicine Residency Program, Emory University School of Medicine</i>	2019 – 2020

WORKSHOPS

Session Leader – Internship Bootcamp <i>Texas A&M University College of Medicine</i>	2016
Workshop Leader – M3 Ultrasound Workshop <i>Emory University School of Medicine</i>	2018 – 2019
Workshop Leader – Physical Exam and Clinical Decision Making <i>Emory University School of Medicine</i>	2019
Workshop Leader – Point-of-Care Ultrasound Workshop <i>Southern Hospital Medicine Conference</i>	2018

CLINICAL PRESENTATIONS

Emory University:

Bite-Sized Teaching Mode: Lotions, Ointments, and Creams, Oh My!	February 28, 2018
Journal Club: Intervention for Ischemic Stroke	March 21, 2018
Bite-Sized Teaching Mode: Ironing Out Transfusions in Sickle Cell	September 26, 2018

University of Illinois Chicago:

Clinical Case Conference: Restrictive Cardiomyopathy	December 20, 2020
Journal Club: GALACTIC-HF	February 1, 2021
Cardiac Catheterization Conference: Antiplatelet Agents	November 16, 2021
Electrophysiology Conference: Typical AVNRT	December 7, 2022
Echocardiography Conference: Hypertrophic Cardiomyopathy	February 23, 2023
Clinical Case Conference: Dilated Cardiomyopathy	April 8, 2024

MENTORSHIP

Shishir Gupta <i>Medical Student at Department of Epidemiology, Rollins School of Public Health, Emory University</i>	2019 – 2020
• Research mentorship	
Shashank Sadhu <i>Medical Student at College of Medicine, University of Illinois Chicago</i>	2022 – Present
• Mentor for James Cook Scholarship	
Darren Seaney <i>Medical Student at College of Medicine, University of Illinois Chicago</i>	2023 – Present
• Mentor for Craig Scholarship Mentor for NIDDK-T35 on Diabetes and Atrial Fibrillation	
Angela Hussain <i>Medical Student at College of Medicine, University of Illinois Chicago</i>	2023 – 2024
• Mentor for Urban Health Scholarship Mentor for James Cook Scholarship	

INVITED PRESENTATIONS

LOCAL

Point-of-Care Ultrasound: Parasternal Long Axis November 16, 2017
Division of General Medicine and Geriatrics
Emory University School of Medicine

The Problem Learner: A History and Physical for Learners with Difficulties March 15, 2018
J. Willis Hurst Internal Medicine Residency Program
Emory University School of Medicine

The History of Sudden Cardiac Death: the Role of the Autonomic Nervous System February 18, 2019
J. Willis Hurst Internal Medicine Residency Program
Emory University School of Medicine

- Senior Grand Rounds

Vagolysis and Arrhythmogenesis February 12, 2023
University of Illinois Chicago Department of Medicine

Autonomic and Structural Mechanisms in Atrial Fibrillation December 18, 2023
University of Illinois Chicago Department of Medicine

REGIONAL

“8 Minutes-to-Win-It”: Top Inpatient Teaching Sessions by Soon-To-Be-Leaders October 4, 2018
Southern Hospital Medicine Conference

NATIONAL

Circadian Autonomic Inflexibility: A Marker of Ischemic Heart Disease November 6, 2018
American Heart Association Scientific Sessions

- Top Donors Meeting Presentation

ECG Prediction of Loss-of-Function TTN Variants March 27, 2024
AFGen Consortium Fellowship Meeting

Mendelian Randomization in Practice April 24, 2024
AFGen Consortium Fellows Meeting

FUNDING

NIH-T32 Postdoctoral Scholar 2019 – 2020
Disturbances of the Neurocardiac Axis: Using Heart Rate Variability to Measure Disease in the Brain and Heart
NHLBI Training Grant

- TL1-TR002382
- UL1-TR002378

NIH-T32 Postdoctoral Fellow 2022 – 2024
Training Program in Personalized Cardiovascular Medicine (TPIPCVM)
NHLBI Training Grant

- T32-HL139439

NIH-F32 Principal Investigator *Association of Autonomic Dysfunction with the Relationship between Depression and Coronary Disease* 2021 – 2024
NHLBI Training Grant

- F32-HL154707

PUBLICATIONS

PEER-REVIEWED PUBLICATIONS

1. **Shah, AS**, Lampert, R, Goldberg, J, Bremner, JD, Li, L, Thames, MD, Vaccarino, V, Shah, AJ (2020). Alterations in heart rate variability are associated with abnormal myocardial perfusion. *International Journal of Cardiology* 305, 99-105. doi:[10.1016/j.ijcard.2020.01.069](https://doi.org/10.1016/j.ijcard.2020.01.069)
2. **Shah, AS**, Alonso, A, Whitsel, EA, Soliman, EZ, Vaccarino, V, Shah, AJ (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), e017172. doi:[10.1161/JAHA.120.017172](https://doi.org/10.1161/JAHA.120.017172)
3. Vaccarino, V, Almuwaqqat, Z, Kim, JH, Hammadah, M, Shah, AJ, Ko, YA, Elon, L, Sullivan, S, **Shah, AS**, Alkhoder, A, Lima, BB, Pearce, B, Ward, L, Kutner, M, Hu, Y, Lewis, TT, Garcia, EV, Nye, J, Sheps, DS, Raggi, P, Bremner, JD, Quyyumi, AA (2021). Association of Mental Stress–Induced Myocardial Ischemia With Cardiovascular Events in Patients With Coronary Heart Disease. *JAMA* 326(18), 1818-1828. doi:[10.1001/jama.2021.17649](https://doi.org/10.1001/jama.2021.17649)
 4. Moazzami, K, Cheung, B, Sullivan, S, **Shah, AS**, Almuwaqqat, Z, Alkhoder, A, Mehta, PK, Pearce, BD, Shah, AJ, Martini, A, Obideen, M, Nye, J, Bremner, JD, Vaccarino, V, Quyyumi, AA (2023). Hemodynamic Reactivity to Mental Stress in Patients With Coronary Artery Disease. *JAMA Network Open* 6(10), e2338060. doi:[10.1001/jamanetworkopen.2023.38060](https://doi.org/10.1001/jamanetworkopen.2023.38060)
 5. Huang, M, Shah, AJ, Lampert, R, Bliwise, DL, Johnson, DA, Clifford, GD, Sloan, R, Goldberg, J, Ko, YA, Da Poian, G, Perez-Alday, EA, Almuwaqqat, Z, **Shah, AS**, Garcia, M, Young, A, Moazzami, K, Bremner, JD, Vaccarino, V (2024). Heart Rate Variability, Deceleration Capacity of Heart Rate, and Death: A Veteran Twins Study. *Journal of the American Heart Association* 13(7), e032740. doi:[10.1161/JAHA.123.032740](https://doi.org/10.1161/JAHA.123.032740)
 6. **Shah, AS**, Ongtengco, A, Qiao, V, Chen, Y, Diaz, A, Hill, M, Bhan, A, Tofovic, DS, Darbar, D (2024). Association Between Family History and Early-Onset Atrial Flutter Across Racial and Ethnic Groups. *Journal of the American Heart Association* 13(10), e032320. doi:[10.1161/JAHA.123.032320](https://doi.org/10.1161/JAHA.123.032320)
 7. Osei, J, Vaccarino, V, Wang, M, **Shah, AS**, Lampert, R, Li, LY, Ko, YA, Pearce, BD, Kutner, M, Garcia, EV, Piccinelli, M, Raggi, P, Bremner, JD, Quyyumi, AA, Sun, YV, Ahmed, H, Haddad, G, Daaboul, O, Roberts, T, Stefanos, L, Correia, L, Shah, AJ (2024). Stress-Induced Autonomic Dysfunction is Associated With Mental Stress-Induced Myocardial Ischemia in Patients With Coronary Artery Disease. *Circulation. Cardiovascular Imaging* NA, e016596. doi:[10.1161/CIRCIMAGING.124.016596](https://doi.org/10.1161/CIRCIMAGING.124.016596)
 8. **Shah, AS**, Vaccarino, V, Moazzami, K, Almuwaqqat, Z, Garcia, M, Ward, L, Elon, L, Ko, YA, Sun, YV, Pearce, BD, Raggi, P, Bremner, JD, Lampert, R, Quyyumi, AA, Shah, AJ (2024). Autonomic Reactivity to Mental Stress is Associated with Cardiovascular Mortality. *European Heart Journal Open* NA, oae086. doi:[10.1093/ehjopen/oeae086](https://doi.org/10.1093/ehjopen/oeae086)

WORKING MANUSCRIPTS

1. Shah, AJ, **Shah, AS** (2020). Cardiotoxic Effects of Diabetes Mellitus in South Asians.
2. **Shah, AS**, Alonso, A, Sweis, J, Chen, Y, Griza, S, Barney, M, Diaz, A, Al-Azzam, B, Ornelas-Loredo, A, Ziccardi, MR, Darbar, FA, Shah, AJ, Benjamin, EJ, Darbar, D (2024). Association of Atrial Fibrillation Symptom Burden with Social Determinants of Health.

RESEARCH-IN-PROGRESS

1. **Shah, AS**, Poian, GD, Shah, AJ (2020). Psychological Effects on Autonomic Variability in Circadian Rhythm.
2. **Shah, AS**, Shah, AJ, Choi, SH, Benjamin, E, Darbar, D (2024). Electrical Phenotypes of Genetic Risk for Atrial Fibrillation.

MONOGRAPHS

1. **Shah, AS** (2021). 'Stress Reactivity: Disturbances of the Neurocardiac Axis'. Master's Thesis. Emory University. <https://etd.library.emory.edu/concern/etds/tx31qj818>

SOFTWARE

1. **Shah, AS** (2020). card: Cardiovascular Applications in Research Data, Version: 0.1.0. <https://cran.r-project.org/package=card>
2. **Shah, AS** (2024). rmdl: Language to Manage Many Models, Version: 0.1.0. <https://cran.r-project.org/package=rmdl>
3. **Shah, AS** (2024). EGM: Evaluating Cardiac Electrophysiology Signals, Version: 0.1.0. <https://cran.r-project.org/package=EGM>

CONFERENCE PROCEEDINGS

1. Shah, A, Lampert, R, Goldberg, J, Bremner, JD, Vaccarino, V, Shah, A (2018). Circadian Autonomic Inflexibility: A Marker of Ischemic Heart Disease. AHA Scientific Sessions 2018, 2018-11-06, NA. In: *Circulation* 138, A15216-A15216. doi:[10.1161/circ.138.suppl_1.15216](https://doi.org/10.1161/circ.138.suppl_1.15216)
2. Shah, A, Alonso, A, Whitsel, EA, Soliman, EZ, Vaccarino, V, Shah, AJ (2020). Association of Psychosocial Factors With Heart Rate Variability: The Atherosclerosis Risk in Communities Study. AHA Scientific Sessions 2020, 2020-03-03, Chicago, IL. In: *Circulation* 141, AP542-AP542. doi:[10.1161/circ.141.suppl_1.P542](https://doi.org/10.1161/circ.141.suppl_1.P542)

3. **Shah, AS** (2020). Autonomic Dysfunction as a Marker of Depression and Coronary Artery Disease. *Translational Science* 2020, 2020-06-01, Virtual. In: *Journal of Clinical and Translational Science* 4, 93-93. doi:doi:[10.1017/cts.2020.291](https://doi.org/10.1017/cts.2020.291)
4. Hill, MC, Chalazan, B, Tofovic, D, Chen, Y, Shah, A, Barney, M, Diaz, A, Konda, S, Darbar, D (2023). Prevalence of disease-associated cardiomyopathy gene variants in ethnic minorities with atrial fibrillation. ACC.23, 2023-03-07, New Orleans, LA. In: *Journal of the American College of Cardiology* 81, 21-21. doi:doi:[10.1016/S0735-1097\(23\)00465-5](https://doi.org/10.1016/S0735-1097(23)00465-5)
5. **Shah, AS**, Vaccarino, V, Ko, YA, Almuwaqqat, Z, Garcia, M, Moazzami, K, Wang, M, Levantsevych, O, young, a, Ward, L, Nye, J, Raggi, P, Sheps, DS, Lampert, RJ, Bremner, D, Sun, Y, Garcia, EV, Quyyumi, AA, Shah, AJ (2023). Mental stress-induced autonomic dysfunction is associated with cardiovascular mortality. ACC.23, 2023-03-07, New Orleans, LA. In: *Journal of the American College of Cardiology* 81, 1146-1146. doi:doi:[10.1016/S0735-1097\(23\)01590-5](https://doi.org/10.1016/S0735-1097(23)01590-5)
6. Wang, M, Liu, C, **Shah, AS**, Ko, YA, Sun, Y, Lampert, RJ, Garcia, M, Moazzami, K, Almuwaqqat, Z, Ward, L, Sullivan, S, Raggi, P, Bremner, D, Quyyumi, AA, Vaccarino, V, Morris, AA, Shah, AJ (2023). Heart Rate Variability During Mental Stress Predicts Heart Failure Outcomes In Patients With Stable Coronary Artery Disease. ACC.23, 2023-03-07, New Orleans, LA. In: *Journal of the American College of Cardiology* 81, 469. doi:doi:[10.1016/S0735-1097\(23\)00913-0](https://doi.org/10.1016/S0735-1097(23)00913-0)
7. Osei, J, Vaccarino, V, Wang, M, **Shah, AS**, Lampert, RJ, Ko, YA, Pearce, B, Kutner, M, Garcia, EV, Piccinelli, M, Raggi, P, Bremner, J, Quyyumi, AA, Sun, Y, Haddad, G, Li, L, Correia, L, Roberts, TE, Stefanos, L, Ahmed, H, Shah, AJ (2024). Stress-Induced Autonomic Dysfunction is Associated With Mental Stress-Induced Myocardial Ischemia in Patients With Coronary Artery Disease. AHA EPI|Lifestyle Scientific Sessions 2024, 2024-03-19, Chicago, IL. In: *Circulation* 149, AP241-AP241. doi:doi:[10.1161/circ.149.suppl_1.P241](https://doi.org/10.1161/circ.149.suppl_1.P241)