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| **Anish Sanjay Shah**  Cardiology Fellow  **Curriculum Vitae**  December 12/10/23, 2023 | +  Ñ    #    § | Division of Cardiology, University of Illinois Chicago, Chicago, IL, 60607 [asshah4.github.io](http://asshah4.github.io/) 773-222-5619 ashah282@uic.edu [@shah\_in\_boots](https://twitter.com/shah_in_boots) [asshah4](https://github.com/asshah4) |

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

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| --- | --- | --- |
| 2007–2011 **Bachelor of Science**  ➤ Linguistics  ➤ Neuroscience & Behavioral Biology | | Emory University College of Arts and Sciences |
| 2012–2016 **Doctor of Medicine** | | Texas A&M University College of Medicine |
| 2019–2021 **Master of Science**  **Clinical Training** | | Emory University Laney Graduate School |
| 2016–2019 **J. Willis Hurst Internal Medicine Residency**  ➤ Distinction in Teaching and Leadership | | Emory University School of Medicine |
| 2020–2024 **Cardiology Fellowship**  ➤ T32 Physician-Scientist Track  **Academic Appointments** | | University of Illinois Chicago School of Medicine |
| 2024–2026 | **Clinical Cardiac Electrophysiology Fellowship** | University of Utah |
| ➤ Clinical fellow at the University of Utah Hospital and VA Medical Center | |
| 2022–2024 | **NIH-T32 Cardiology Research Fellow** University of Illinois Chicago School of Medicine  ➤ Research fellow in cardiac arrhythmias and genetics | |
| 2020–2024 | **Clinical Cardiology Fellowship** University of Illinois Chicago School of Medicine  ➤ Research-track, clinical fellow at University of Illinois Hospital and Jesse Brown  VA Medical Center | |
| 2019–2020 | **Postdoctoral Fellow** Department of Epidemiology, Rollins School of Public Health  ➤ Epidemiology/biostatistical research in autonomic 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** Emory University School of Medicine  ➤ Internal medicine intern at Grady Memorial Hospital, Emory University Hospital, and Atlanta VA Medical Center | |
| 2016–2020 | **Internal Medicine Residency** Emory University School of Medicine  ➤ Internal medicine junior and senior resident at Grady Memorial Hospital, Emory  University Hospital, and Atlanta VA Medical Center | |

# Honors and Awards

2023–2024 **Atrial Fibrillation Genetics Fellow** Atrial Fibrillation Genetics Consortium

➤ Genetics of atrial fibrillation research award

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| 2019 | **TL1 Postdoctoral Scholar**  ➤ Georgia Translational Science Alliance | Ruth L. Kirschtein National Research Service Award |
| 2018 | **Top Donors Meeting Presentation** | American Heart Association Scientific Sessions |

➤ Special invitation to discuss research with AHA leadership and top philanthropists

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 Community Award** Emory University College of Arts and

Sciences

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 with the Dalai Lama in MacLeod Gange, India.

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

➤ Cardiac Myosin Activation with Omemcamtiv Mecarbil in Systolic Heart Failure (GALACTIC-HF)

2020 **Journal Club** University of Illinois Chicago School of Medicine

➤ Early Rhythm-Control Therapy in Patients with Atrial Fibrillation (EAST-AFNET)

2020 **Clinical Case Conference** University of Illinois Chicago School of Medicine

➤ Restrictive Cardiomyopathy

2019 **Senior Grand Rounds** Emory University School of Medicine

➤ The History of Sudden Cardiac Death: the Role of the Autonomic Nervous System

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| 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** Emory University School of Medicine

➤ Intervention of Ischemic Stroke: Thrombectomy in 6 to 16 Hours with Selection by Perfusion Imaging

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| 2018 | **Ultrasound Workshop**  ➤ Cardiac, IVC, Lung, and Abdominal Views | Southern Hospital Medicine Conference |
| 2018 | **8 Minutes-To-Win-It**  ➤ Top Inpatient Teaching Sessions by Soon-To-Be-Leaders | Southern Hospital Medicine Conference |
| 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

2022–2024

University of Illinois Chicago School of Medicine

➤ Shashank Sadhu, M2 (James Scholar)

2023–2024

University of Illinois Chicago School of Medicine

➤ Darren Seaney, M1 (Craig Scholar)

➤ Angela Hussain, M1 (Urban Health Scholar, James Scholar)

## 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  **Personal** | **Advance Cardiovascular Life Support** |  |
| 2015–Present | **PADI Open Water Diver** |  |
| 2016–Present | **Wilderness First Responder** |  |
| 2017–Present  **Research**  **Grant Funding** | **ASA 101 Basic Keelboat** |  |
| 2022–2024 | **NIH-T32**  Chicago, IL | University of Illinois Chicago School of Medicine |
| ➤ 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*.

1. 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*.
2. 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*.
3. Shah, A. S., Clements, S. D., & Dudgeon, M. (2017). Three’s company: Nocardiosis, neuroendocrine hyperplasia, and breast cancer. *Southern Hospital Medicine Conference*.
4. Shah, A. S., & Shah, A. J. (2018). Association of Ischemia with Heart Rate Variability. *2018 Georgia Chapter Scientific Meeting*.
5. 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*.
6. 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.rproject.org/package=card](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](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>

1. 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>
2. 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>
3. 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>
4. 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>

1. 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>
2. 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>