

Sohail Zahid

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Summary

I am a cardiology fellow at Johns Hopkins Hospital. My clinical and research interests are treating patients with cardiometabolic diseases and applying advances in biomedical engineering and multi-omics to improve our understanding of how obesity affects cardiovascular health.

I obtained my Ph.D. in biomedical engineering at Johns Hopkins University, where I developed machine learning algorithms for atrial fibrillation ablation. I completed medical school at Harvard University, during which I worked in Dr. Sekar Kathiresan's group at the Broad Institute to build genetic cardiometabolic risk scores and as an engineer at SpectraWAVE to create photonics catheters that identify vulnerable atherosclerotic plaques. I completed internal medicine residency at NYU Langone Health and Bellevue Hospital, where I worked in Dr. Sean Heffron's lab to study how bariatric surgery affects the lipid proteome and improves cardiovascular function.

I am now working with Dr. Alexis Battle and Dr. Michael Blaha to investigate the genetic determinants of clinical obesity and obesity-related cardiovascular diseases.

Skills: Biomedical Engineering, Artificial Intelligence, Genomics, Proteomics, Metabolomics, Statistics, Python, MATLAB, Java, R

Experience

2025-	Postdoctoral Fellow for Dr. Alexis Battle and Dr. Michael Blaha at Johns Hopkins
2024-	Cardiology Fellow at Johns Hopkins Hospital
2022-2024	Research Fellow for Dr. Sean Heffron at NYU Langone Health
2021-2024	Internal Medicine Resident Physician at NYU Langone and Bellevue Hospital
2020-2021	Engineering Consultant for SpectraWAVE Inc.
2018-2019	Research Fellow for Dr. Sekar Kathiresan at Broad Institute of Harvard and MIT
2013-2017	Graduate Research Assistant for Dr. Natalia Trayanova at Johns Hopkins University
2012-2013	Founder of Archon Medical Technologies, LLC

Education

2017-2021	M.D. at Harvard Medical School
2013-2017	Ph.D. in Biomedical Engineering at Johns Hopkins University
2009-2012	B.S. in Biomedical Engineering; Applied Math & Statistics at Johns Hopkins University

Peer-Reviewed Publications

1. Xu F,* **Zahid S**,* Silva T, Nanda V. Computational design of a collagen A:B:C-type heterotrimer. *J Am Chem Soc* 2011;133:15260-15263. (*equal contribution)

2. Nanda V, **Zahid S**, Xu F, Levine D. Computational design of intermolecular stability and specificity in protein self-assembly. *Methods Enzymol* 2011;487:575-593.
3. Xu F, Silva T, Joshi M, **Zahid S**, Nanda V. Circular permutation directs orthogonal assembly in complex collagen peptide mixtures. *J Biol Chem* 2013;288:31616-31623.
4. Trayanova NA, Boyle PM, Arevalo HJ, **Zahid S**. Exploring susceptibility to atrial and ventricular arrhythmias resulting from remodeling of the passive electrical properties in the heart: a simulation approach. *Front Physiol* 2014;5:435.
5. Parmar AS, **Zahid S**, Belure SV, Young R, Hasan N, Nanda V. Design of net-charged abc-type collagen heterotrimers. *J Struct Biol* 2014;185:163-167.
6. McDowell KS, **Zahid S**, Vadakkumpadan F, Blauer J, MacLeod RS, Trayanova NA. Virtual electrophysiological study of atrial fibrillation in fibrotic remodeling. *PloS One* 2015;10:e0117110.
7. Chrispin J, Gucuk Ipek E, **Zahid S**, Prakosa A, Habibi M, Spragg D, Marine JE, Ashikaga H, Rickard J, Trayanova NA, Zimmerman SL, Zipunnikov V, Berger RD, Calkins H, Nazarian S. Lack of regional association between atrial late gadolinium enhancement on cardiac magnetic resonance and atrial fibrillation rotors. *Heart Rhythm* 2016;13:654-660.
8. Fukumoto K, Habibi M, Ipek EG, **Zahid S**, Khurram IM, Zimmerman SL, Zipunnikov V, Spragg D, Ashikaga H, Trayanova N, Tomaselli GF, Rickard J, Marine JE, Berger RD, Calkins H, Nazarian S. Association of Left Atrial Local Conduction Velocity With Late Gadolinium Enhancement on Cardiac Magnetic Resonance in Patients With Atrial Fibrillation. *Circ A&E* 2016;9:e002897.
9. Roney CH, Bayer JD, **Zahid S**, Meo M, Boyle PM, Trayanova NA, Haissaguerre M, Dubois R, Cochet H, Vigmond EJ. Modelling methods of atrial fibrosis affects rotor dynamics and electrograms. 2016. *Europace*. 18 (suppl 4): 146-155.
10. Boyle PM, **Zahid S**, Trayanova NA. Towards Personalized Computational Modelling of the Fibrotic Substrate for Atrial Arrhythmia. 2016. *Europace*. 18 (suppl 4): 136-145.
11. Zghaib T, Ipek EG, **Zahid S**, Balouch MA, Misra S, Ashikaga H, Berger RD, Marine JE, Spragg DD, Zimmerman SL, Zipunnikov V, Trayanova N, Calkins H, Nazarian S. Association of left atrial epicardial adipose tissue with electrogram bipolar voltage and fractionate: Electrophysiological substrates for atrial fibrillation. *Heart Rhythm* 2016. 13:2333-2339.
12. **Zahid S**, Whyte KN, Schwarz EL, Blake RC, 3rd, Boyle PM, Chrispin J, Prakosa A, Ipek EG, Pashakhanloo F, Halperin HA, Calkins H, Berger RD, Nazarian S, Trayanova NA. Feasibility of Using Patient-Specific Models and the "Minimum Cut" Algorithm to Predict Optimal Ablation Targets for Left Atrial Flutter. *Heart Rhythm* 2016. 13:1687-1698.
13. **Zahid S**, Cochet H, Boyle PM, Schwarz EL, Whyte KN, Vigmond EJ, Dubois R, Hocini M, Haissaguerre M, Jais P, Trayanova NA. Patient-derived models link re-entrant driver localization in atrial fibrillation to fibrosis spatial pattern. *Cardiovas Res* 2016. 110;443-454.
14. Boyle PM, **Zahid S**, Trayanova NA. Using personalized computer models to custom-tailor ablation procedures for atrial fibrillation patients: are we there yet? *Expert Rev Cardiovasc Ther* 2017;15:339-341
15. Deng D, Murphy MJ, Hakim JB, Franceschi WH, **Zahid S**, Pashakhanloo F, Trayanova NA, Boyle PM. Sensitivity of Reentrant Driver Localization to Electrophysiological

- Parameter Variability in Image-Based Computational Models of Persistent Atrial Fibrillation Sustained by a Fibrotic Substrate. *Chaos* 2017; 27:093932.
16. **Zahid S.** Predicting Arrhythmia Dynamics and Ablation Targets in Persistent Atrial Fibrillation. Doctoral Dissertation, Johns Hopkins University, 2017.
 17. Cochet H, Dubois R, Yamashita S, Al Jefairi N, Berte B, Sellal JM, Hooks D, Frontera A, Amroui S, Zmoura A, Denis A, Derval N, Sacher F, Corneloup O, Latrabe V, Clement-Guinaudeau S, Meillet V, Relan J, **Zahid S**, Boyle PM, Trayanova NA, Bernus O, Montaudon M, Laurent F, Hocini M, Haissaguerre M, Jais P. Characterization of Atrial Fibrosis and Reentrant Driver Activity in Human Persistent Atrial Fibrillation: A Combined Magnetic Resonance and Non-Invasive Electrocardiographic Mapping Study. *JACC EP* 2018; 4:17-29.
 18. Boyle PM, Murphy MJ, Karathanos TV, **Zahid S**, Blake RC, Trayanova NA. Termination of reentrant atrial tachycardia via optogenetic stimulation with optimized spatial targeting: insights from computational models. *J Physiol* 2018; 596:181-196
 19. Boyle PM, Hakim JB, **Zahid S**, Franceschi WH, Murphy MJ, Dubois R, Haisaguerre M, Hocini M, Jais P, Trayanova NA, Cochet H. Comparing Reentrant Drivers Predicted by Image-Based Computational Modeling and Mapped by Electrocardiographic Imaging in Persistent Atrial Fibrillation. *Front Physiol* 2018;9:414.
 20. Misra S, **Zahid S**, Prakosa A, Saju N, Tandri H, Berger RD, Marine JE, Calkins C, Zipunnikov V, Trayanova NA, Nazarian S. The Field of View of Mapping Catheters Quantified by Electrogram Associations with Radius of Myocardial Attenuation on Contrast-Enhanced Cardiac Computed Tomography. *Heart Rhythm* 2018;15:1617-1625.
 21. Boyle PM, Hakim JB, **Zahid S**, Franceschi WH, Murphy MJ, Prakosa A, Aronis KN, Zghaib T, Balouch M, Ipek EG, Chrispin J, Berger RD, Ashikaga H, Marine JE, Calkins H, Nazarian S, Spragg DD, Trayanova NA. The Fibrotic Substrate in Persistent Atrial Fibrillation Patients: Comparison Between Predictions From Computational Modeling and Measurements from Focal Impulse and Rotor Mapping. *Front Physiol* 2018;9:1151.
 22. Ustunkaya T, Desjardins B, Liu B, **Zahid S**, Park J, Saju N, Trayanova N, Zimmerman SL, Marchlinksi FE, Nazarian S. Association of regional myocardial conduction velocity with the distribution of hypoattenuation on contrast-enhanced perfusion computed tomography in patients with post-infarct ventricular tachycardia. *Heart Rhythm* 2019;16:588-594.
 23. Ustunkaya T, Desjardins B, Wedan R, Anwar C, Chahal A, Zimmerman SL, Saju N, **Zahid S**, Sharma A, Han Y, Trayanova NA, Marchlinski FE, Calkins H, Tandri H, Nazarian S. Epicardial Conduction Speed, Electrogram Abnormality, and Computed Tomography Attenuation Associations in Arrhythmogenic Right Ventricular Cardiomyopathy. *JACC Clin Electrophysiol* 2019;9:61.
 24. Ali RL, Hakim JB, Boyle PM, **Zahid S**, Sivasambu B, Marine JE, Calkins H, Trayanova NA, Spragg DD. Arrhythmogenic Propensity of the Fibrotic Substrate after AF Ablation: A Longitudinal Study using MRI-Based Atrial Models. *Cardiovasc Res* 2019;115(12):1757-1765.
 25. Khera AV, Chaffin M, Wade KH, **Zahid S**, Brancale J, Xia R, Distefano M, Senol-Cosar O, Haas M, Bick A, Aragam KG, Lander ES, Smith GD, Mason-Suares H, Fornage M, Lebo M, Timpson NJ, Kaplan LM, Kathiresan S. Polygenic prediction of weight and obesity trajectories from birth to childhood. *Cell* 2019;177:587-596.

26. Boyle PM, Zhgaib T, **Zahid S**, Ali RL, Deng D, Franceschi WH, Hakim JB, Murphy MJ, Prakosa A, Zimmerman S, Ashikaga H, Marine JE, Kolaindaivelu A, Nazarian S, Spragg DD, Calkins H, Trayanova H. Computationally guided personalized targeted ablation of persistent atrial fibrillation. *Nat Biomed Eng* 2019;1:1-10.
27. Ritchie SC, Liu Y, Lambert SA, Teo SM, Scepianovic P, Marten J, **Zahid S**, Chaffin M, Abraham G, Soranzo N, Burgess S, Drew BG, Kathiresan S, Calkin A, Khera AV, Danesh J, Butterworth AS, Inouye M. Integrative analysis of the plasma proteome and polygenic risk of cardiometabolic diseases. *Nat Metab* 2021;3:1476-1483.
28. **Zahid S**. The Danger of Genetic Risk Scores for Worsening Race-Based Disparities in Healthcare. *HMSR* 2022;6:25-29.
29. Babbar S, Galati J, Corona J, **Zahid S**. Acute Hemiplegia and Ataxia from Lyme Disease. *CRMJ* 2022;1:1-5.
30. Tarabanis C, Klapholz J, **Zahid S**, Jankelson L. A systemic review of the use of 3D printing in left atrial appendage occlusion procedures. *JACC EP* 2022;11:2367-2374.
31. Paranjpe M, Chaffin M, **Zahid S**, Ritchie S, Rotter JJ, Rich SR, Gerszten R, Guo X, Hekcbert S, Tracy R, Danesh J, Lander ES, Inouye M, Kathiresan S, Butterworth AS, Khera AV. Neurocognitive trajectory and proteomic signature of inherited risk for Alzheimer's disease. *PLoS Genet* 2022;18:e1010294.
32. Xu L, **Zahid S**, Khoshknab M, Moss J, Berger RD, Chrispin J, Callans D, Marchlinski FE, Zimmerman SL, Han Y, Trayanova NA, Nazarian S. Lipomatous Metaplasia Prolongs Repolarization and Increases Repolarization Dispersion within Post Infarct Ventricular Tachycardia Circuit Sites. *Europace* 2023;25:496-505.
33. Xu L, **Zahid S**, Khoshknab M, Moss J, Berger RD, Chrispin J, Callans D, Marchlinski FE, Zimmerman SL, Han Y, Trayanova NA, Nazarian S. Lipomatous Metaplasia Facilitates Slow Conduction in Critical Ventricular Tachycardia Corridors within Post-Infarct Myocardium. *JACC EP* 2023;9:1235-1245.
34. Xu L, **Zahid S**, Khoshknab M, Moss J, Berger RD, Chrispin J, Callans D, Marchlinski FE, Zimmerman SL, Han Y, Trayanova NA, Nazarian S. Conduction Velocity Dispersion Predicts PostInfarct Ventricular Tachycardia Circuit Sites and Associates with Lipomatous Metaplasia. *JACC EP* 2023;9:1464-1474.
35. **Zahid S**, Haque W. Obesity-Related HFpEF Exacerbation: A Diagnostic Challenge. *Clinical Correlations* 2023;1-5.
36. Haque W, Rana I, **Zahid S**, Hsiehchen D. Lengthy and Variable Delays in Oncology Drug Coverage Determination. *JAMA Oncology* 2023;9(12):1728-1729.
37. **Zahid S**, Malik T, Peterson C, Tarabanis C, Dai M, Katz M, Bernstein SA, Barbhaiya C, Park DS, Knotts RJ, Holmes DS, Kushnir A, Aizer A, Chinitz LA, Jankelson L. Conduction Velocity is Reduced in the Posterior Wall of Hypertrophic Cardiomyopathy Patients with Normal Bipolar Voltage Undergoing Ablation for Paroxysmal Atrial Fibrillation. *JICE* 2024;67(1):203-210.
38. Markman TM, Xu L, **Zahid S**, Patel D, Marchlinski FE, Callans D, Nazarian S. Augmentation of Atrial Conduction Velocity with Pharmacological and Direct Electrical Sympathetic Stimulation. *JACC EP* 2024; 10(12):2635-2643.
39. Tarabanis C*, **Zahid S***, Mamalis M, Zhang K, Kalampokis E, Jankelson L. Performance of Publicly Available Large Language Models on Internal Medicine Board-style Questions. *PLoS Digit Health* 2024;3(9):e0000604. (*equal contribution)

40. **Zahid S**, Schlamp F, Gildea MA, Lin BX, Chaloehtoom A, Falis M, Parikh M, Fisher EA, Hornemann T, Vaisar T, Heffron SP. High-Density Lipoprotein Lipid and Protein Cargo and Cholesterol Efflux Capacity before and after Bariatric Surgery. *ATVB* 2024;45(2):e48-62.
41. **Zahid S**, Peng AW, Razavi AC, Yao Z, Blumenthal RS, Blaha MJ. Center Stage: The Lancet Commission Places Obesity Staging Systems into the Spotlight. *CDC: Prev Chronic Dis* 2025;(22):e55.
42. **Zahid S**, Peng AW, Razavi AC, Yao Z, Blumenthal RS, Blaha MJ. Does the New Clinical Obesity Definition Address the Obesity Paradox in Cardiovascular Health? *Mayo Clin Proc* 2025;100(11):P1879-1882.
43. **Zahid S**, Peng AW, Razavi AC, Yao Z, Blumenthal RS, Blaha MJ. B is for body fat: a practical implementation of the new clinical obesity definition into preventive cardiology clinic. *AJPC* 2025:e101281.
44. Peng AW, Gianos E, Shapiro MD, Navar AM, **Zahid S**, Marvel FA, Blaha MJ, Rodriguez F, Soffer DE, Morris PB, Blumenthal RS, Martin SS. Prevalence of Apolipoprotein B and LDL-Cholesterol Discordance: Insights From the Very Large Database of Lipids (VLDL) and the National Health and Nutrition Examination Survey (NHANES). *Circulation* 2026;153(4):290-293.
45. **Zahid S**, Yao Z, Grimes SN, Kim, A, Peng AW, Blumenthal RS, Arvanitis M, Battle A, Blaha MJ. Epidemiology and Cardiovascular Implications of Preclinical and Clinical Obesity: Insights from the UK Biobank. *Obesity* 2026;34(3)738-747.
46. **Zahid S**, Yao Z, Blumenthal RS, Blaha MJ. Translating New Obesity Definitions into Clinical Practice. *JAMA* 2026;335(6):483-484.
47. **Zahid S**, Yao Z, Peng AW, Blumenthal RS, Blaha MJ. A Call for a Universal Diagnosis of Obesity Framework. *Obesity* 2026;1-2.
48. Peng AW, Plott CF, **Zahid S**, Kassamali AA, Jones LK, Campbell-Salome G, Davis E, Head L, Kalich BA, Spitz JA, Farbaniec M, Schott SL, Martin SS, Marvel FA. Rationale and design of the Corrie Lipids Program: impact of a digital health-enabled implementation initiative to improve lipid management. *Am Heart J* 2026: 107440.
49. Peng AW, * **Zahid S**, * Zhang S, Bhatla A, Martin SS, Blumenthal RS, Blaha MJ. Cardiovascular Risk Reclassification with the 2026 Dyslipidemia Guideline. *JAMA* 2026;336(7):608-611. (*equal contribution)
50. Garba DL, **Zahid S**, Zhang S, Blumenthal RS, Barouch LA. Dyslipidemia Management in Athletes: A Comparative Commentary on the 2026 ACC/AHA/Multisociety Guideline and Contemporary Sports Cardiology Recommendations. *AJPC* 2026;101735.
51. **Zahid S**, Ozkan B, Blumenthal RS. Implementing the 2026 CKM Guideline into Clinical Practice. *Mayo Clin Proc* 2026;(26)18636-4.
52. **Zahid S**, Yao Z, Grimes SJ, Peng AW, Awol K, Blumenthal RS, Battle A, Martin SS, Blaha MJ. Wearable-Derived Physical Activity Patterns in Preclinical and Clinical Obesity. *Obesity* 2026. Accepted.
53. Yao Z, Blaha MJ, **Zahid S**. Preparing for the Full ZEUS Results and the Unfinished Questions of IL-6 Inhibition. *AJPC* 2026: 101799.
54. Yao Z, Dardari, Z, **Zahid S**, Silver N, Razavi AC, Erhabor J, Jelwan Y, Burka S, Blaha MJ. Transition from preclinical obesity to clinical obesity among US adults: incidences and risk factors. *Int J Obes* 2026; 1-10.

55. Jelwan Y, **Zahid S**, Burka S, Silver N, Dzaye O, Blaha MJ. Early Uptake of Oral Semaglutide for Obesity Treatment After Regulatory Approval. *Ann Intern Med* 2026; In press.
56. **Zahid S**, Brown E, MacCarick G, Goes FS, Battle A, Kidorf M, Blumenthal RS, Stone NJ, Lowenstein CJ. A Framework for Cardiovascular Disease Polygenic Risk Score Counseling. *JACC Adv* 2026; Accepted.
57. **Zahid S**, Blaha MJ. The signal before the syndrome: Cardiac biomarkers for pre-HF diagnosis. *AJPC* 2026; 102559.
58. Xu L, Galal B, Liao TWE, **Zahid S**, Callans D, Marchlinski FE, Witschey W, Desjardins B, Nazarian S. Association of Left ventricular Epicardial Adipose Tissue and Lipomatous Metaplasia with Ventricular Tachycardia Circuitry and Recurrence Following Ablation in Patients with Non-Ischemic Cardiomyopathy. *JACC EP* 2026; Accepted.

Patents

- Systems and methods for atrial fibrillation treatment and risk assessment. US 10687898. June 6, 2020. Trayanova NA, Boyle PM, **Zahid S**.
- Simulation prediction of targets for catheter ablation of left atrial flutter in patients with atrial structural remodeling. US 10842401. Nov. 24, 2020. Trayanova NA, Boyle PM, **Zahid S**.
- Systems and methods for patient-specific modeling of the heart for prediction of targets for catheter ablation of ventricular tachycardia in patients with implantable cardioverter defibrillators. US 10363100. Jul. 30, 2019. Trayanova NA, Prakosa A, **Zahid S**.

Awards

2026	National Lipid Association Scholar
2024	Physician Scientist Training Program Scholar
2015	ARCS Scholar
2013	1 st Place in PolyU Global Health Challenge
2012	Tau Beta Pi
2012	Richard Johns Award for Academic Excellence
2012	1 st Place in ASME Innovation Showcase
2012	1 st Place in NIH DEBUT Challenge for Therapeutic Medical Devices
2012	1 st Place in Collegiate Inventor Competition
2012	1 st Place in UC Irvine Venture Competition
2012	1 st Place in Maryland Venture Competition
2012	2 nd Place in Columbia Venture Competition
2012	2 nd Place in VentureWell BMEdstart Competition

Grants

2025-2026	Grasmick Research Fellowship Grant
2025-2026	Physician Scientist Training Program Grant
2014-2017	NSF Graduate Research Fellowship
2015	ARCS Research Grant
2012	VentureWell E-Team Research Grant
2012	Maryland Innovation Initiative Grant

Oral Talks

1. Highlights from the 2026 ESC Congress: Clinical Trials and Emerging Definitions. Johns Hopkins University. Baltimore, MD. September 2026.
2. Interpreting the New Clinical Obesity Definition Through Epidemiological and Genomic Evidence. Ciccarone Center Research & Methods Conference. Johns Hopkins University. Baltimore, MD. August 2025.
3. Genome-wide Association of Clinical Obesity. Institute for CardioScience. Johns Hopkins University. Baltimore, MD. April 2026.
4. Interpreting the New Clinical Obesity Definition Through Epidemiological and Genomic Evidence. Ciccarone Center Research & Methods Conference. Johns Hopkins University. Baltimore, MD. August 2025.
5. High-Density Lipoprotein Lipid and Protein Cargo and Cholesterol Efflux Capacity Before and After Bariatric Surgery. American Heart Association. Philadelphia, PA. November 2023.
6. A Virtual Electrophysiology Lab to Treat Persistent Atrial Fibrillation. Aesculapian Club, Harvard Medical School. Boston, MA. October 2018.
7. Predicting Arrhythmia Dynamics and Ablation Targets in Persistent Atrial Fibrillation. Dissertation Defense. Johns Hopkins University. Baltimore, MD. July 2017.
8. Rotors in Atrial Fibrillation: Insights from Inverse Electrocardiographic Imaging. Institute for CardioScience. Johns Hopkins University. Baltimore, MD. March 2017.
9. Rotors in Atrial Fibrillation: Insights from Patient-Specific Models. L'Institut de Rythmologie et Modélisation Cardiaque. University of Bordeaux. Bordeaux, France. August 2015.

Peer-Reviewed Conference Abstracts and Presentations

1. **Zahid S**, Boyle PM, Malamas P, et al. Reentrant Sources in Persistent AF Are Located in Regions with Specific Spatial Patterns of Fibrosis. *Circulation*. 2014;130(Suppl 2):A13235.
2. Cochet H, Dubois R, Relan J, et al. Relationship between rotor activity and fibrosis in persistent atrial fibrillation: a combined noninvasive mapping and MRI study. *Heart Rhythm*. 2015;12(5 Suppl):S512.
3. **Zahid S**, Whyte KN, Schwarz EL, et al. Feasibility of Using MRI-based, Patient-Specific Simulations to Predict Ablation Targets in Human Left Atrial Flutter. *Heart Rhythm*. 2015;12(5 Suppl):S113.
4. **Zahid S**, Boyle PM, Schwarz E, et al. Stability of Reentrant Sources and Ablation Targeting in Fibrotic Human Atria with Persistent Atrial Fibrillation. *Heart Rhythm*. 2015;12(5 Suppl):S116.
5. Boyle PM, Karathanos TV, Wang D, et al. Spatial Distribution of Light-Sensitive Cells and Density of Illumination Sources Determine Effectiveness of Optogenetics-Based Termination of Atrial Fibrillation in a Simulation Study. *Heart Rhythm*. 2015;12(5 Suppl):S407-408.
6. Boyle PM, **Zahid S**, Schwarz E, et al. Prevalence of Regions with Highly Intermingled Fibrotic and Non-Fibrotic Tissue is a Better Predictor of Arrhythmia Inducibility Than

- Total Fibrosis Burden: Analysis of Patient-Specific Models of Persistent Atrial Fibrillation. *Heart Rhythm*. 2015;12(5 Suppl):S80.
7. Boyle PM, **Zahid S**, Schwarz E, et al. Local Complexity of the Fibrosis Spatial Pattern Determines the Locations of Stable Reentrant Sources in Persistent Atrial Fibrillation: Analysis from Patient-Specific Models. *Heart Rhythm*. 2015;12(5 Suppl):S7.
 8. Ipek EG, Fukumoto K, **Zahid S**, et al. Association of Left Atrial Late Gadolinium Enhancement with Regional Electrogram Fractionation During Sinus Rhythm. *Journal of Cardiovascular Electrophysiology*. 2016 May 1;27(5):632-3.
 9. Ipek EG, Zghaib T, Balouch MA, et al. The Ablation Index of a Point Lesion is Associated With Lesion Formation Via Measurements of the Regional Change in Late Gadolinium Enhancement and T2 Intensity Following Atrial Fibrillation Ablation. *Circulation*. 2016;134(Suppl 1), A19831-A19831.
 10. Prakosa A, Nikolov P, **Zahid S**, et al. Prediction of Optimal Ventricular Tachycardia (VT) Ablation Targets in Patients With ICD Artifact Burden. *Circulation*. 2016;134(Suppl 1), A19049-A19049.
 11. Zghaib T, **Zahid S**, Gucuk EI, et al. Role of Left Atrial Epicardial Adipose Tissue in the Electrophysiologic Substrate for Atrial Fibrillation. *Circulation*. 2016;134(Suppl 1), A14623-A14623.
 12. Zghaib T, **Zahid S**, Ipek EG, et al. Differential Left Atrial Posterior Wall Remodeling With Proximity to the Thoracic Descending Aorta. *Circulation*. 2016;134(Suppl 1), A14250-A14250.
 13. Misra S, **Zahid S**, Prakosa A, et al. Local Myocardial Intensity on Cardiac Computed Tomography is Associated With Scar Substrate in Post-Infarct Ventricular Tachycardia. *Circulation*. 2016;134(Suppl 1), A19831-A19831.
 14. Boyle PM, Murphy MJ, Karathanos TV, et al. Pulse Duration Determines Efficacy of Arrhythmia Termination via Targeted Optogenetic Stimulation. *Biophys J*. 2016;110(3):585a.
 15. Boyle PM, Murphy MJ, Blake RC, 3rd, et al. Optogenetic Termination Of Reentrant Atrial Arrhythmia Could Be Enabled By Localized, Long--Duration, Low Energy Light Pulses Applied Endocardially: A Computational Study. *Heart Rhythm*. 2016;13(5 Suppl):S176-177.
 16. **Zahid S**, Whyte KN, Schwarz EL, et al. Prediction of Optimal Ablation Targets for Left Atrial Flutter in Patient-Specific Models using the 'Minimum Cut' Algorithm. *Heart Rhythm*. 2016;13(5 Suppl):S121-122.
 17. **Zahid S**, Boyle PM, Schwarz E, et al. Reentrant Drivers simulated from MRI-based patient-specific models correlate to drivers mapped clinically with ECGI. *Heart Rhythm*. 2016;13(Suppl 5):S297-298.
 18. **Zahid S**, Boyle PM, Schwarz E, et al. Machine Learning Identifies Relationship between Reentrant Driver Locations and Fibrosis Spatial Patterns in Patient-Specific Models of Human Atria. *Heart Rhythm*. 2016;13(Suppl 5):S370.
 19. Boyle PM, **Zahid S**, Schwarz E, et al. Emergent Mechanisms Of AF Sustenance After Failed Reentrant Driver (RD) Ablation: Insights From MRI-Based Personalized Atrial Models. *Heart Rhythm*. 2016;13(5 Suppl):S405-406.
 20. Boyle PM, **Zahid S**, Schwarz E, et al. Cell- And Tissue-Level Changes Resulting From Fibrosis Need To Be Represented In Personalized Atrial Models To Correctly Reproduce Clinical Outcomes In AF Patients. *Heart Rhythm*. 2016;13(5 Suppl):S541-542.

21. Boyle PM, **Zahid S**, Franceschi WH, et al. Reentrant Drivers of Persistent Atrial Fibrillation Identified by Personalized Computational Modeling Correlate to Rotors Observed Clinically by Intracardiac Mapping: A Pilot Study. *Heart Rhythm*, 2017;14(5 Suppl):S260.
22. Misra S, Ipek EG, **Zahid S**, et al. The Field of View of High Density versus Point-by-Point Mapping Catheters. *Circulation*. 2017;136(Suppl 1), A18448-A18448.
23. Ali RL, Boyle PM, Hakim JB, et al. Computational Atrial Models Derived from Late Gadolinium Enhanced MRI Predict Which Atrial Fibrillation Patients are More Likely to Benefit From Substrate Modification in Addition to Pulmonary Vein Isolation. *Circulation*. 2018;138(Suppl 1), A16015-A16015.
24. Iskandar C, **Zahid S**, Chitkara N. Burkholderia Bacteremia Presenting as Septic Shock and Massive Hemoptysis in Sickle Cell Patient. *CHEST*. 2022. Nashville, TN.
25. **Zahid S**, Malik T, Peterson C, et al. Reduced Left Atrial Conduction Velocity in Patients with Hypertrophic Cardiomyopathy and Normal Left Atrial Voltage Presenting for Paroxysmal Atrial Fibrillation Ablation. *Circulation*. 2022;146(Suppl 1), A14068-A14068.
26. Xu L, **Zahid S**, Khoshknab M, et al. Conduction Velocity is Slower in Corridors Traversing Lipomatous Metaplasia than in Corridors Traversing Scar in Chronic Infarcts. *Circulation*. 2022;146(Suppl 1), A12655-A12655.
27. Xu L, **Zahid S**, Khoshknab M, et al. Lipomatous Metaplasia in Chronic Infarcts is Associated with Prolonged Activation Recovery Interval within Ventricular Tachycardia Corridors and Increased Activation Recovery Interval Dispersion. International Symposium on Ventricular Arrhythmias. 2022. New York, NY.
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