Stanford

Mahmood Alhusseini

Masters Student in Management Science and Engineering, admitted Spring 2015

Publications

PUBLICATIONS

- **Machine Learning-Enabled Multimodal Fusion of Intra-Atrial and Body Surface Signals in Prediction of Atrial Fibrillation Ablation Outcomes.** *Circulation. Arrhythmia and electrophysiology*
  Tang, S., Razeghi, O., Kapoor, R., Alhusseini, M. I., Fazal, M., Rogers, A. J., Rodrigo Bort, M., Clopton, P., Wang, P., Rubin, D., Narayan, S. M., Baykaner, T.
  2022: 101161CIRCEP122010850

- **Atrial fibrillation signatures on intracardiac electrograms identified by deep learning.** *Computers in biology and medicine*
  Rodrigo, M., Alhusseini, M. I., Rogers, A. J., Krittanawong, C., Thakur, S., Feng, R., Ganesan, P., Narayan, S. M.
  2022; 145: 105451

- **VALIDATING NON-INVASIVE INDICES OF AF COMPLEXITY AGAINST INTRACARDIAC MEASUREMENTS**
  Rodrigo, M., Alhusseini, M., Rogers, A., Narayan, S.
  ELSEVIER SCIENCE INC.2021: 1354

- **CLASSIFICATION OF INDIVIDUAL ATRIAL INTRACARDIAC ELECTROGRAMS BY DEEP LEARNING**
  Rodrigo, M., Rogers, A., Ganesan, P., Krittanawong, C., Alhusseini, M., Narayan, S.
  ELSEVIER SCIENCE INC.2021: 3217

- **PROBING MACHINE LEARNING TO SEPARATE ATRIAL FIBRILLATION FROM OTHER ARRHYTHMIAS**
  Rodrigo, M., Rogers, A., Ganesan, P., Alhusseini, M., Krittanawong, C., Narayan, S.
  ELSEVIER SCIENCE INC.2021: 3410

- **MACHINE LEARNING CLASSIFIES INTRACARDIAC ELECTROGRAMS OF ATRIAL FIBRILLATION FROM OTHER ARRHYTHMIAS**
  Rodrigo, M., Rogers, A., Ganesan, P., Krittanawong, C., Alhusseini, M., Narayan, S.
  ELSEVIER SCIENCE INC.2021: 279

- **Non-invasive Spatial Mapping of Frequencies in Atrial Fibrillation: Correlation With Contact Mapping** *FRONTIERS IN PHYSIOLOGY*
  Rodrigo, M., Waddell, K., Magee, S., Rogers, A. J., Alhusseini, M., Hernandez-Romero, I., Costoya-Sanchez, A., Liberos, A., Narayan, S. M.
  2021; 11

- **Three dimensional reconstruction to visualize atrial fibrillation activation patterns on curved atrial geometry.** *PloS one*
  Abad, R., Collart, O., Ganesan, P., Rogers, A. J., Alhusseini, M. I., Rodrigo, M., Narayan, S. M., Rappel, W.
  2021; 16 (4): e0249873

- **Deep Neural Network Trained on Surface ECG Improves Diagnostic Accuracy of Prior Myocardial Infarction Over Q Wave Analysis**
  Yildirim, O., Baloglu, U. B., Talo, M., Ganesan, P., Tung, J. S., Kang, G., Tooley, J., Alhusseini, M., Baykaner, T., Wang, P. J., Perez, M., Tereshchenko, L., Narayan, et al
  IEEE.2021

- **Machine Learned Cellular Phenotypes Predict Outcome in Ischemic Cardiomyopathy.** *Circulation research*
  Rogers, A. J., Selvalingam, A., Alhusseini, M. I., Krummen, D. E., Corrado, C., Abuzaid, F., Baykaner, T., Meyer, C., Clopton, P., Giles, W. R., Bailis, P., Niederer, S. A., Wang, et al
  2020

- **Machine Learning to Classify Intracardiac Electrical Patterns during Atrial Fibrillation.** *Circulation. Arrhythmia and electrophysiology*

Alhusseini, M. I., Abuzaid, F., Rogers, A. J., Zaman, J. A., Baykaner, T., Clopton, P., Bailis, P., Zaharia, M., Wang, P. J., Rappel, W., Narayan, S. M.
2020

- **PREDICTING SUDDEN CARDIAC DEATH BY MACHINE LEARNING OF VENTRICULAR ACTION POTENTIALS**
  Selvalingam, A., Alhusseini, M., Rogers, A. J., Krummen, D., Abuzaid, F. M., Baykaner, T., Clopton, P., Bailis, P., Zaharia, M., Wang, P., Narayan, S.
  ELSEVIER SCIENCE INC.2020: 427

- **LARGER ORGANIZED AREAS IN PERSISTENT ATRIAL FIBRILLATION PREDICTS TERMINATION DURING ABLATION**
  Ravi, N., Rogers, A. J., Bhatia, N., Tung, J. S., Krummen, D., Sauer, W., Alhusseini, M., Baykaner, T., Wang, P., Rappel, W., Narayan, S.
  ELSEVIER SCIENCE INC.2020: 279

- **Non-invasive Spatial Mapping of Frequencies in Atrial Fibrillation: Correlation With Contact Mapping.** *Frontiers in physiology*
  Rodrigo, M., Waddell, K., Magee, S., Rogers, A. J., Alhusseini, M., Hernandez-Romero, I., Costoya-Sánchez, A., Liberos, A., Narayan, S. M.
  2020; 11: 611266

- **Termination of persistent atrial fibrillation by ablating sites that control large atrial areas.** *Europace : European pacing, arrhythmias, and cardiac electrophysiology : journal of the working groups on cardiac pacing, arrhythmias, and cardiac cellular electrophysiology of the European Society of Cardiology*
  Bhatia, N. K., Rogers, A. J., Krummen, D. E., Hossainy, S. n., Sauer, W. n., Miller, J. M., Alhusseini, M. I., Peszek, A. n., Armenia, E. n., Baykaner, T. n., Brachmann, J. n., Turakhia, M. P., Clopton, et al
  2020

- **Non-Invasive Assessment of Complexity of Atrial Fibrillation: Correlation with Contact Mapping and Impact of Ablation.** *Circulation. Arrhythmia and electrophysiology*
  Rodrigo, M. n., Climent, A. M., Hernández-Romero, I. n., Liberos, A. n., Baykaner, T. n., Rogers, A. J., Alhusseini, M. n., Wang, P. J., Fernández-Avilés, F. n., Guillem, M. S., Narayan, S. M., Atienza, F. n.
  2020

- **Electrographic flow mapping in persistent atrial fibrillation**
  Baykaner, T., Alhusseini, M., Rogers, A., Sauer, W., Ruppersberg, P., Narayan, S.
  WILEY.2019: 1745–46

- **Wavefront Field Mapping Reveals a Physiologic Network Between Drivers Where Ablation Terminates Atrial Fibrillation.** *Circulation. Arrhythmia and electrophysiology*
  Leef, G., Shenasa, F., Bhatia, N. K., Rogers, A. J., Sauer, W., Miller, J. M., Swerdlow, M., Tamboli, M., Alhusseini, M. I., Armenia, E., Baykaner, T., Brachmann, J., Turakhia, et al
  2019; 12 (8): e006835

- **MACHINE LEARNING IDENTIFIES SITES WHERE ABLATION TERMINATES PERSISTENT ATRIAL FIBRILLATION**
  Alhusseini, M., Abuzaid, F., Clopton, P., Rogers, A., Rodrigo, M., Baykaner, T., Wang, P., Rappel, W., Narayan, S.
  ELSEVIER SCIENCE INC.2019: 301

- **SITES THAT CONTROL LARGER AREAS DURING ATRIAL FIBRILLATION MAY DETERMINE TERMINATION DURING ABLATION**
  Bhatia, N. K., Hossainy, S., Rogers, A., Alhusseini, M., Brodt, C., Moosvi, N., Baykaner, T., Wang, P., Rappel, W., Narayan, S.
  ELSEVIER SCIENCE INC.2019: 400

- **INTRACLASS CORRELATIONS OF VOLTAGE, FRACTIONATED ELECTROGRAMS, AND DOMINANT FREQUENCY IN PATIENTS WHERE LOCALIZED ABLATION TERMINATED PERSISTENT ATRIAL FIBRILLATION**
  Rogers, A. J., Moosvi, N., Singh, A., Alhusseini, M., Baykaner, T., Clopton, P., Rappel, W., Wang, P., Narayan, S.
  ELSEVIER SCIENCE INC.2019: 521

- **Online webinar training to analyse complex atrial fibrillation maps: A randomized trial.** *PloS one*
  Mesquita, J. n., Maniar, N. n., Baykaner, T. n., Rogers, A. J., Swerdlow, M. n., Alhusseini, M. I., Shenasa, F. n., Brizido, C. n., Matos, D. n., Freitas, P. n., Santos, A. R., Rodrigues, G. n., Silva, et al
  2019; 14 (7): e0217988

- **AF Drivers Where Ablation Terminates Persistent AF Fluctuate Due to Competing Drivers but Remain Anchored in Specific Locations**
  Meckler, G. L., Kowalewski, C. A., Rogers, A. J., Rodrigo, M., Clopton, P., Shenasa, F., Alhusseini, M., Swerdlow, M., Joshi, V., Hossainy, S., Zaman, J., Baykaner, T., Brachmann, et al
  LIPPINCOTT WILLIAMS & WILKINS.2018

- **Electrode Density is Greater at Sites Where Ablation Acutely Terminates Atrial Fibrillation**
  Rogers, A. J., Juan, R. C., Collart, O., Swerdlow, M., Alhusseini, M., Rodrigo, M., Kowalewski, C., Baykaner, T., Zaman, J., Wang, P. J., Rappel, W., Narayan, S. M.
  LIPPINCOTT WILLIAMS & WILKINS.2018

- **Comparing Multiple Mapping Methods at Sites of AF Termination: The COMPARE-AF Registry.**
  Zaman, J. A., Baykaner, T., Meckler, G., Clopton, P., Alhusseini, M., Shenasa, F., Kowalewski, C., Rogers, A., Vidmar, D., Krummen, D., Viswanathan, M., Rappel, W., Brachmann, et al
  LIPPINCOTT WILLIAMS & WILKINS.2018

- **Sites Where Ablation Terminated Atrial Fibrillation Identified by Machine Learning Models**
  Alhusseini, M., Abuzaid, F., Swerdlow, M., Meckler, G., Clopton, P., Rogers, A., Rodrigo, M., Baykaner, T., Zaman, J., Kowalewski, C., Shenasa, F., Atienza, F., Mohan, et al
  LIPPINCOTT WILLIAMS & WILKINS.2018

- **Machine Learning Reveals That Drivers for Persistent Atrial Fibrillation at Termination Sites Show Irregular Rotational Cycles and Domain Size**
  Alhusseini, M., Abuzaid, F., Swerdlow, M., Clopton, P., Meckler, G. L., Maniar, N. M., Rogers, A., Rodrigo, M., Baykaner, T., Zaman, J., Kowalewski, C., Shenasa, F., Tamboli, et al
  LIPPINCOTT WILLIAMS & WILKINS.2018

- **Procedural and Clinical Determinants of Acute Success of Driver Ablation for Persistent Atrial Fibrillation**
  Baykaner, T., Rogers, A. J., Rodrigo, M., Alhusseini, M., Zaman, J. A., Wang, P. J., Narayan, S. M., Spitzer, S., Szili-Torok, T.
  LIPPINCOTT WILLIAMS & WILKINS.2018

- **Localized Driver Regions That Control Larger Regions of the Atria May Be Critical to Sustaining Atrial Fibrillation: Analyses From Novel Vector Mapping**
  Leef, G., Shenasa, F., Sauer, W., Miller, J. M., Vidmar, D., Swerdlow, M. A., Tomboli, M., Rogers, A. J., Alhusseini, M., Armenia, E., Baykaner, T., Brachmann, J., Atienza, et al
  LIPPINCOTT WILLIAMS & WILKINS.2018

- **Characterizing Electrogram Signal Fidelity and the Effects of Signal Contamination on Mapping Human Persistent Atrial Fibrillation** *FRONTIERS IN PHYSIOLOGY*
  Vidmar, D., Alhusseini, M., Narayan, S. M., Rappel, W.
  2018; 9

- **Characterizing Electrogram Signal Fidelity and the Effects of Signal Contamination on Mapping Human Persistent Atrial Fibrillation.** *Frontiers in physiology*
  Vidmar, D., Alhusseini, M. I., Narayan, S. M., Rappel, W. J.
  2018; 9: 1232

- **Interaction of Localized Drivers and Disorganized Activation in Persistent Atrial Fibrillation: Reconciling Putative Mechanisms Using Multiple Mapping Techniques** *CIRCULATION-ARRHYTHMIA AND ELECTROPHYSIOLOGY*
  Kowalewski, C. A. B., Shenasa, F., Rodrigo, M., Clopton, P., Meckler, G., Alhusseini, M. I., Swerdlow, M. A., Joshi, V., Hossainy, S., Zaman, J. A. B., Baykaner, T., Rogers, A. J., Brachmann, et al
  2018; 11 (6): e005846

- **Clinical Implications of Ablation of Drivers for Atrial Fibrillation A Systematic Review and Meta-Analysis** *CIRCULATION-ARRHYTHMIA AND ELECTROPHYSIOLOGY*
  Baykaner, T., Rogers, A. J., Meckler, G. L., Zaman, J., Navara, R., Rodrigo, M., Alhusseini, M., Kowalewski, C. A. B., Viswanathan, M. N., Narayan, S. M., Clopton, P., Wang, P. J., Heidenreich, et al
  2018; 11 (5)

- **Clinical Implications of Ablation of Drivers for Atrial Fibrillation: A Systematic Review and Meta-Analysis.** *Circulation. Arrhythmia and electrophysiology*
  Baykaner, T. n., Rogers, A. J., Meckler, G. L., Zaman, J. n., Navara, R. n., Rodrigo, M. n., Alhusseini, M. n., Kowalewski, C. A., Viswanathan, M. N., Narayan, S. M., Clopton, P. n., Wang, P. J., Heidenreich, et al
  2018; 11 (5): e006119

- **Identification and Characterization of Sites Where Persistent Atrial Fibrillation Is Terminated by Localized Ablation** *CIRCULATION-ARRHYTHMIA AND ELECTROPHYSIOLOGY*

Zaman, J. A. B., Sauer, W. H., Alhusseini, M. I., Baykaner, T., Borne, R. T., Kowalewski, C. A. B., Busch, S., Zei, P. C., Park, S., Viswanathan, M. N., Wang, P. J., Brachmann, J., Krummen, et al

2018; 11 (1): e005258

- **Spatial relationship of organized rotational and focal sources in human atrial fibrillation to autonomic ganglionated plexi.** *International journal of cardiology*

  Baykaner, T., Zografos, T. A., Zaman, J. A., Pantos, I., Alhusseini, M., Navara, R., Krummen, D. E., Narayan, S. M., Katritsis, D. G.

  2017

- **Two Independent Mapping Techniques Identify Rotational Activity Patterns at Sites of Local Termination during Persistent Atrial Fibrillation.** *Journal of cardiovascular electrophysiology*

  Alhusseini, M., Vidmar, D., Meckler, G. L., Kowalewski, C., Shenasa, F., Wang, P. J., Narayan, S. M., Rappel, W.

  2017

- **Spatial relationship of sites for atrial fibrillation drivers and atrial tachycardia in patients with both arrhythmias.** *International journal of cardiology*

  Baykaner, T. n., Zaman, J. A., Rogers, A. J., Navara, R. n., AlHusseini, M. n., Borne, R. T., Park, S. n., Wang, P. J., Krummen, D. E., Sauer, W. H., Narayan, S. M.

  2017; 248: 188–95