January 2023

CURRICULUM VITAE

Name:	Salah Al-Zaiti, PhD, RN, CRNP, ANP-BC, FAHA
Current Title:	Associate Professor of Nursing, Emergency Medicine, Cardiology, and Electrical & Computer Engineering, and Vice Chair for Research
Mailing Address:	Work - 3500 Victoria St., 336 VB, Pittsburgh, PA 15261 Home -
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EDUCATION

Undergraduate Degrees

2002–2006 **BSN, Nursing**
The Hashemite University, Amman, Jordan

Graduate Degrees

2008–2010 **MSN, Adult Nurse Practitioner**
State University of New York, Buffalo, NY

2010–2013 **Ph.D., Cardiovascular Nursing**
State University of New York, Buffalo, NY

Postgraduate Certificates

2019 **Machine Learning**
Department of Electrical Engineering, MIT Professional Education Unit
Massachusetts Institute of Technology (MIT), Boston, MA

2020–2021 **Applied Machine Learning**
The Data Science Institute, Executive Education Unit
Columbia University, New York, NY

APPOINTMENTS AND POSITIONS

Academic Appointments

2013–2019 **Assistant Professor**
Department of Acute & Tertiary Care Nursing (Primary)
Department of Emergency Medicine (Secondary)
University of Pittsburgh, Pittsburgh, PA

2019– **Associate Professor with Tenure**
Department of Acute & Tertiary Care, School of Nursing (Primary)
Division of Cardiology, School of Medicine (Secondary)
Department of Emergency Medicine (Secondary)
University of Pittsburgh, Pittsburgh, PA

Administrative Appointments

2018–2020 **Director of Interprofessional Education**
School of Nursing, University of Pittsburgh, Pittsburgh PA

2019–2021 **Director of Nursing Honors Program**
School of Nursing, University of Pittsburgh, Pittsburgh PA

2020– **Director, Data Science Core, eHealth Hub**
School of Nursing, University of Pittsburgh, Pittsburgh PA

2020– **Co-Director, T32 Technology in Acute & Chronic Illness**
School of Nursing, University of Pittsburgh, Pittsburgh PA

2021– **Vice Chair for Research**
Department of Acute & Tertiary Care (ATC)
Department of Nurse Anesthesia (DNA)
University of Pittsburgh School of Nursing, Pittsburgh, PA

Clinical Experience

2006–2008 **Registered Nurse, Bone Marrow Transplantation**
King Hussein Cancer Center, Amman, Jordan

2010–2011 **Nurse Practitioner, Diabetes Outpatient Clinic**
Diabetes and Endocrinology Center of WNY, Kaleida Health, Buffalo, NY

2018–2019 **Nurse Practitioner (per diem)**
Braddock Health Clinic, Swissvale, PA

Adjunct Positions

2020– **Affiliated Translational Researcher**
Center for Physiologic Research, UCSF, San Francisco CA

PROFESSIONAL LICENSURE

2009– Registered Nurse, RN #612022 (New York)
2010– Nurse Practitioner, NP #F305328 (New York)
2010– Board Certified Adult Nurse Practitioner, ANCC, ANP-BC #2010002855
2013– Registered Nurse, RN #648240 (Pennsylvania)
2013– Nurse Practitioner, CRNP #013039 (Pennsylvania)

HONORS & AWARDS

University-Level Awards

2006 **Chancellor's Award for Student Excellence** (highest GPA, class of 2006)
Hashemite University, Jordan
2009 **Woodburn Presidential Fellowship**
State University of New York, Buffalo NY
2010 **Anne Sengbusch Award for Excellence in Leadership**
State University of New York, Buffalo NY
2012 **Graduate Student Excellence in Teaching Award**

State University of New York, Buffalo NY

2013 **Ruth G. Elder Award for Excellence in Research**
State University of New York, Buffalo NY

2018 **Dean's Distinguished Teaching Award** (school-wide highest teaching honor)
University of Pittsburgh, Pittsburgh PA

2020 **Chancellor's Distinguished Teaching Award** (University-wide highest teaching honor)
University of Pittsburgh, Pittsburgh PA **[link]**

2020 **Featured on Pittwire for Innovation and Research News:**
"New AI Research Looks to Better Diagnose Heart Attacks Before Hospital Arrival"
University of Pittsburgh, Pittsburgh PA **[link]**

2021 **Senior Vice Chancellor Research Seminar Series** (university-wide keynote presentation)
Topic: "Intelligent ECG Methods for Myocardial Ischemia Detection" **[link]**
University of Pittsburgh, Pittsburgh PA

2023 **Chancellor's Distinguished Research Award** (University-wide highest research honor)
University of Pittsburgh, Pittsburgh PA **[link]**

Regional Awards

2020 **Nurse Researcher of the Year**
Pittsburgh Magazine **[link]**

2020 **Excellence in Nursing Research** (state-wide highest nursing research honor)
Nightingale Awards of Pennsylvania **[link]**

National & International Awards

2009 **Sigma Theta Tau**, Gamma Kappa Chapter
The Honor Society of Nursing

2011 **Jos Willems Young Investigator Finalist**
International Society of Computerized ECG (ISCE), San Jose, CA

2012 **Best Poster Award**
International Society of Computerized ECG (ISCE), Birmingham, AL

2013 **Jos Willems Young Investigator Finalist**
International Society of Computerized ECG (ISCE), San Jose, CA

2014 **Martha N. Hill New Investigator Award**
CVSN Council, American Heart Association (AHA) **[link]**

2015 **Marie Cowan Promising Young Investigator Award**
CVSN Council, American Heart Association (AHA) **[link]**

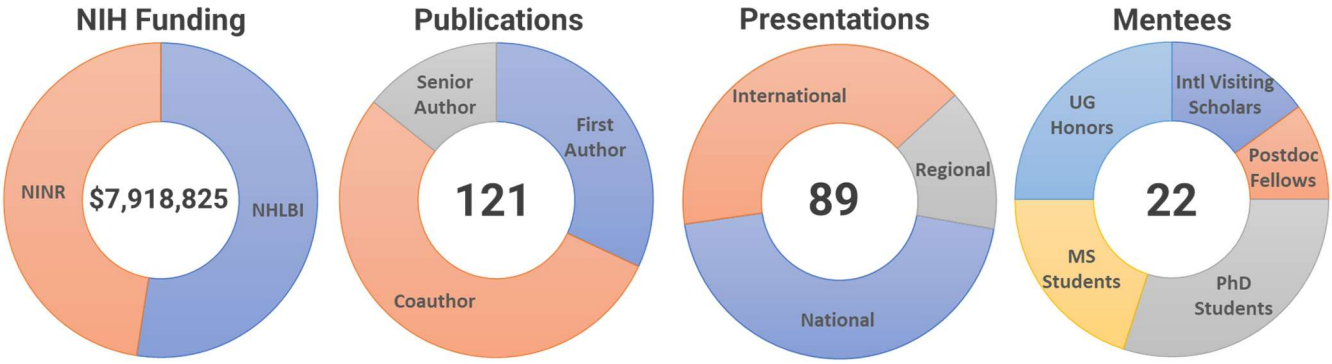
2017 **Fellow of the American Heart Association (FAHA)**
CVSN council, American Heart Association

2020 **U.S. Patent** # 10,820,822 (ECG identification of non-STE ischemia)
US Patenting and Trademark Office **[link]**

2021 **Research Article of the Year Award**
CVSN Council, American Heart Association
(Article published in *Nature Communications* **[link]**)

2022 **Podcast: "Emerging ECG Methods for Ischemia Detection" [link]**
Mayo Clinic ─ Cardiovascular CME Podcast Series: "ECG: Making Waves"

RESEARCH



Principal Investigator

Ongoing

NIH/NHLBI **Al-Zaiti** (PI) 7/1/22–6/30/26
2R01HL137761-5 *Impact score = 18 (1st percentile)* $2,676,069
ECG Detection of Non-ST Elevation Myocardial Events – Two (ECG-SMART-2)
This is a multi-site clinical trial between UPITT and UNC-Chapel Hill to design and deploy a machine-learning-based graphical user interface for real-time identification of coronary events.

NIH/NINR **Al-Zaiti** & Clermont (Co-PI's) 2/23/22–11/30/25
2R01NR013912-8 *Impact score = 24 (7th percentile)* $3,105,315
Predicting Patients Instability Noninvasively for Nursing Care –Three (PPINNC-3)
This is a multi-site clinical trial to design and pilot test an intelligent alerting system at stepdown and telemetry units. Collaboration sites are Carnegie Mellon University (CMU), UCSF, and UCLA.

Completed

NIH/NHLBI **Al-Zaiti** (PI) 4/15/18–6/30/22
1R01HL137761-1 *Impact score = 20 (3rd percentile)* $1,479,372
Electrocardiographic Detection of Non-ST Elevation Myocardial Events for Accelerated Classification of Chest Pain Encounters (ECG-SMART)
This prospective cohort study aims to develop machine-learning-based ECG analysis tools to allow real-time identification of acute coronary syndrome in the prehospital setting.

NIH/NINR **Al-Zaiti** & Pinsky (Co-PI's) 9/27/16–6/30/22
R01 NR 013912-7 $658,069
Predicting Patients Instability Noninvasively for Nursing Care –Two (PPINNC-2)
This prospective cohort study aims to develop an intelligent alerting system based on multi-channel vital signs physiological data to alert nurses to ongoing (and future) hemodynamic instability.

University of Pittsburgh **Al-Zaiti** (PI) 9/1/20 – 4/30/22
Ruth Perkins Kuehn Award $30,000
Vessel-Specific ECG Leads (VSEL): A Novel Solution for Myocardial Ischemia Detection
This sub-study aims to evaluate the clinical utility of three novel ECG leads that are optimized for detecting ischemia caused by the occlusion of each of the three main coronary arteries.

Oracle for Research **Al-Zaiti** (PI) 9/1/20 – 8/31/22
Cloud Credit Award $50,000
A Deep–Learning Based Clinical Decision Support Tool for Detecting Acute Coronary Lesions
This sub-study aims is to develop a deep-learning-based ECG interpretation system that is fully interpretable and can visually display ACS prediction in clinical practice.

University of Pittsburgh **Al-Zaiti** (PI) 7/1/2016–6/30/2019
Momentum Fund $16,000
Non-ST Elevation Myocardial Ischemia: The Role of Cell Survival Genes
This sub-study examined the molecular genetic basis of apoptosis, autophagy, and ischemic preconditioning during the evolution of acute ischemic in STEMI versus NSTEMI patients.

NIH/NCATS Reis (PI) 2/1/2017–9/30/2017
1 UL 1TROO1857-01 **Al-Zaiti** (sub-award # 0050952) $25,000
Modeling Repolarization Lability on ECG Signals to Detect Myocardial Injury in Chest Pain
This pilot study aimed to develop a tool to analyze beat-to-beat repolarization lability from the standard 12-lead ECG and test its clinical value in detecting myocardial ischemia in chest pain.

University of Pittsburgh **Al-Zaiti** (PI) 7/1/2014–6/30/2016
Momentum Fund $15,000
Redefining the Pretest Probability of Ischemia Prior to Nuclear Stress Testing
This study aimed to validate the diagnostic accuracy of spatial ECG metrics and their dynamic changes against SPECT scans as a gold standard of subclinical myocardial ischemia in chest pain.

UPMC **Al-Zaiti** (PI) 7/1/2015–12/31/2016
Medical Research Fund $24,000
ECG Methods for Prehospital Detection of NSTEMI: Feasibility Study
This pilot study aimed to establish the feasibility of collecting high-quality, reliable, prehospital 12-lead ECGs from our local UPMC Prehospital Network and Pittsburgh EMS agencies.

Emergency Nurses Foundation **Al-Zaiti** (PI) 1/1/2015–12/31/2015
Technology Research Award $6,000
Redefining ECG Interpretation in Emergency Departments: Novel Methods for ACS Detection
This pilot study aimed to test the feasibility of performing real-time advanced analyses of 12-lead ECG signals in the field to harvest novel signatures of ischemia that can be used during patient care.

University of Pittsburgh **Al-Zaiti** (PI) 7/1/2014–12/31/2015
Center for Medical Innovation $12,000
Stratifying Prehospital ECGs for Treatment Decisions at Emergency Departments (SPEED)
This pilot study developed the necessary infrastructure for the acquisition, transmission, and signal processing of prehospital ECG data from Pittsburgh EMS network.

Co-Investigator

Ongoing

UCSF Center for Physiologic Research Pelter (PI) 1/1/20−12/31/22
Algorithm Based Strategies to Reduce False and Non-Actionable ECG Alarms

This study aims to create the largest, multi-expert, ground-truth labeled repository of ventricular tachycardia (VT) alarms in ICU patients (n = 25,298) for FDA use prior to 510(k) clearances.

Completed

NIH/NINR	Hravnak & Pinsky (Co-PI's)	9/27/16–6/30/22
R01 NR 013912	**Al-Zaiti** (Co-I)	$2,659,686

Predicting Patients Instability Noninvasively for Nursing Care –Two (PPINNC-2)
This prospective cohort study aims to develop an intelligent alerting system based on multi-channel vital signs physiological data to alert nurses to ongoing (and future) hemodynamic instability.

Training Grants

Ongoing

NIH/NINR	Dabbs & **Al-Zaiti** (Co-PI)	7/1/22–6/30/27
T32 NR008857	*Impact score = 23*	$1,551,425

Technology Research in Chronic and Critical Illness (Years 15-20)
This grant provides rigorous research training and interdisciplinary culturalization to aid nurse scientists in adopting technology to promote health, manage illness, and reduce disability.

Completed

NIH/NINR	Dabbs & **Al-Zaiti** (Co-PI)	7/1/17–6/30/22
T32 NR 008857-12		$956,224

Technology Research in Chronic and Critical Illness (Years 10-15)
This grant provides rigorous research training and interdisciplinary culturalization to aid nurse scientists in adopting technology to promote health, manage illness, and reduce disability.

Mentor and Sponsor

Ongoing

NIH/NINR	Helman (PI)	7/1/21–6/30/24
F31 NR018589	**Al-Zaiti** (Sponsor)	$203,877

Use of Predictive Analytics to Quantify Neonatal Hypothermia Burden After Cardiac Surgery
This mentored research project aims to evaluate temporal trends of unintentional hypothermia burden (temperature depth and duration) in neonates after cardiopulmonary bypass surgery.

NIH/NINR	Koleck (PI)	6/1/18–5/30/23
K99/R00 NR017651	**Al-Zaiti** (Clinical Advisory Panel)	$912,612

Advancing Chronic Condition Symptom Cluster Science Through Use of HER and Data Science
This mentored research project aims to develop a data-driven pipeline for the characterization of symptom clusters from EHRs using a cohort of adult patients diagnosed with wide range of chronic comorbidities, including cancer, heart failure, T2DM, and COPD.

Completed

NIH/NINR	Frisch (PI)	7/1/19–12/31/21
F31 NR 018589	**Al-Zaiti** (Sponsor)	$112,831

Modernizing Emergency Department Nurse Triage via Big Data Analytics
This retrospective cohort study aimed to develop a machine-learning decision support system to triage patients presenting to the emergency department using data available at initial triage.

Pending

NIH/NCATS Dierkes (PI) 1/1/23–12/31/24
TL1TR001858 (KL2 Scholars Program) **Al-Zaiti** (Primary Mentor)
Intelligent Methods for Optimizing Nursing Staff Allocation to Improve Patient Outcomes
This KL2 training grant aims to use 4.5 million patient admissions from Medicare data to leverage the large and omnipresent nursing workforce through dyad optimization and help address a range of workforce and clinical outcomes efficiently using existing staff resource.

PUBLICATIONS

ORCID: 0000-0002-6862-0658, citations 1217, h-index 15, i10-index 23

Scientific Statements & Guidelines

2023 **1.** Armoundas A, Narayan S, **Al-Zaiti SS**, Lett E, Spector-Bagdady K, Friedman P, Kwitek A, Gollob M, Celi L, Arnett D, Menon B, & Bennett D. Use of Artificial Intelligence in Improving Outcomes in Heart Disease: A Scientific Statement from the American Heart Association. *Circulation*, 2023; *under review*

2022 **2.** **Al-Zaiti SS**, Alghwiri A, Hu X, Clermont G, Peace A, et al. A Clinician's Guide to Understanding and Critically Appraising Machine Learning Studies: A Checklist for Ruling Out Bias Using Standard Tools in Machine Learning (ROBUST-ML). *European Heart Journal Digital Health*, Vol 3(2):125-40.

2020 **3.** Franklin BA, Thompson PD, **Al-Zaiti SS**, Albert CM, Hivert M-F, Levine BD, Lobelo F, Madan K, Sharrief AZ, and Eijsvogels TMH. Exercise-related acute cardiovascular events and potential deleterious adaptations following long-term exercise training: placing the risks into perspective–an update: a scientific statement from the American Heart Association. *Circulation*. 2020;141(13): e705–e736.

Data-Based Manuscripts

2023 **4.** Bouzid Z, Faramand Z, Martin-Gill C, Sereika S, Callaway C, Saba S, Gregg R, Badilini F, Sejdić E, & **Al-Zaiti SS**. Incorporation of Serial 12-Lead ECG with Machine Learning to Augment the Prehospital Diagnosis of Non-ST Elevation Acute Coronary Syndrome. *Annals of Emergency Medicine,* Vol. 81(1):57-69

2022 **5.** **Al-Zaiti SS.**, Macleod, M. R., Van Dam, P. M., Smith, S. W., & Birnbaum, Y. Emerging ECG Methods for Acute Coronary Syndrome Detection: Recommendations & Future Opportunities. *J of Electrocardiology*, Vol. 74:65-72.

6. Peace A, **Al-Zaiti SS**, Dewar F, McGilligan V, Bond R. Exploring decision making 'noise' when interpreting the electrocardiogram in the context of cardiac CATH lab activation. *J of Electrocardiology*, Vol. 73:157-161.

7. Bouzid Z, **Al-Zaiti SS**, Bond R, & Sejdić E. Remote and Wearable ECG Devices with Diagnostic Abilities in Adults: A State-of-the-Science Scoping Review. *Heart Rhythm*, Vol. 19(7):1192-1201.

8. Faramand Z, Alrawashdeh M., Helman S, Martin-Gill C, Callaway C, & **Al-Zaiti SS**. Your Neighborhood Matters: A Machine-Learning Approach to the Geospatial and Social Determinants of Health in 9-1-1 Activated Chest Pain. *Research in Nursing and Health*, Vol. 45(2):230-239.

9. Helman, S., Terry, M.A., Pellathy, T., Williams, A., Dubrawski, A., Clermont, G., Pinsky, M.R., **Al-Zaiti, SS**. & Hravnak, M. Engaging Clinicians Early During the Development of a Graphical User Display of An Intelligent Alerting System at the Bedside. *International Journal of Medical Informatics*, Vol. 159:104643.

10. Schwimer, D., **Al-Zaiti, SS**., & Beach, M. (2022). Improving Corrected QT Interval Monitoring in Critical Care Units: A Single Center Report. *Critical Care Nurse*, 42(1), 33-43.

2021

11. Bouzid Z, Faramand Z, Gregg R, Helman S, Martin-Gill C, Saba S, Callaway C, Sejdić E, & **Al-Zaiti SS**. Novel ECG Features and Machine Learning to Optimize Culprit Lesion Detection in Patients with Suspected Acute Coronary Syndrome. *Journal of the Electrocardiology*, Vol. 69:31-37.

12. Helman, S., Herrup, E., Christopher, A., & **Al-Zaiti, SS**. (2021). The role of machine learning applications in diagnosing and assessing critical and non-critical CHD: A scoping review. *Cardiology in the Young*, 31(11), 1770-1780.

13. Faramand Z, Helman S, Ahmad A, Martin-Gill C, Saba S, Callaway C, Gregg R, Wang J, & **Al-Zaiti SS**. Performance and Limitations of Automated ECG Interpretation Statements in Patients with Suspected Acute Coronary Syndrome. *Journal of the Electrocardiology*, Vol. 69:45-50.

14. Finlay D, Bond R, Jennings M, McCausland C, Guldenring D, Kennedy A, Biglarbeigi P, **Al-Zaiti SS**, McLaughlin J. Overview of featurization techniques used in traditional versus emerging deep learning-based algorithms for automated interpretation of the 12-Lead ECG. *Journal of the Electrocardiology*, Vol. 69:7-11.

15. Bond R, Finlay D, **Al-Zaiti SS**, Macfarlane P. Machine learning with ECGs: A call for guidelines and best practices for 'stress testing' algorithms. *Journal of the Electrocardiology*, Vol. 69:1-6.

16. Faramand Z., Martin-Gill C; Callaway CW; & **Al-Zaiti SS**. Modified HEART score to optimize risk stratification in cocaine-associated chest pain. *Am J of Emergency Medicine*, Vol. 47:307-308.

17. Bouzid Z, Faramand Z, Frisch S, Martin-Gill C, Gregg R, Saba S, Callaway C, Sejdić E, & **Al-Zaiti SS**. In Search of Optimal Subset of ECG Features to Augment the Diagnosis of Acute Coronary Syndrome at the Emergency Department. *Journal of the American Heart Association (JAHA)*, Vol. 10(3): e017871.

18. Faramand Z., Hongjin Li; Al-Rifai N, Frisch SO; Abu-Jaradeh O, Mahmoud A, & **Al-Zaiti SS**. Association between history of cancer and major adverse cardiovascular events in patients with chest pain presenting to the emergency department: a secondary analysis of a prospective cohort study. *European Journal of Emergency Medicine*, Vol. 28(1):64-69.

19. Faramand Z., Martin-Gill C; Frisch S; Callaway CW; & **Al-Zaiti SS**. The Prognostic Value of HEART score in Patients with Cocaine Associated Chest Pain: An Age-and-Sex Matched Cohort Study. *Am J of Emerg Med*, Vol. 45:303-308.

2020

20. Frisch SO; Faramand Z., Leverknight B.; Martin-Gill C., Sereika S., Sejdic E., Callaway C., & **Al-Zaiti SS**. The Association Between Patient Outcomes and the Initial Emergency Severity Index Triage Score in Patients with Suspected Acute Coronary Syndrome. *Journal of Cardiovascular Nursing;* Vol. 35(6):550-557.

21. Khraim F; Alhamaydeh M; Faramand Z; Saba S; **Al-Zaiti SS**. A Novel Non-invasive Assessment of Cardiac Hemodynamics in Patients with Heart Failure and Atrial Fibrillation. *Cardiology Research*, Vol. 11(6):370-375.

22. **Al-Zaiti SS,** Besomi L, Bouzid Z, Faramand Z, Frisch S, Martin-Gill C, Gregg R, Saba S, Callaway C, & Sejdić E. Machine Learning-Based Prediction of Acute Coronary Syndrome Using Only the Pre-Hospital 12-Lead Electrocardiogram. *Nature Communications*, Vol. 11: 3966 (doi.org/10.1038/s41467-020-17804-2)

23. Frisch SO; Brown J; Faramand Z., Stemler J, Sejdic E, Martin-Gill C., Callaway CW; Sereika S.; & **Al-Zaiti SS**. Exploring the Complex Interactions of Baseline Patient Factors to Improve Nursing Triage of Acute Coronary Syndrome. *Research in Nursing and Health*, Vol. 43: *356–364* (doi.org/10.1002/nur.22045)

24. Alhamaydeh M, Gregg R, Ahmad A, Faramand Z, Saba S, and **Al-Zaiti SS**. Identifying the most important ECG predictors of reduced ejection fraction in patients with suspected acute coronary syndrome. *Journal of Electrocardiology*, Vol. 61 (4): *81–85.*

2019

25. Frisch SO; Faramand Z., Abu-Jaradeh O.; Martin-Gill C., Callaway C., & **Al-Zaiti SS**. Prevalence and Predictors of Delay in Seeking Emergency Care in Patients Who Call 9-1-1 for Chest Pain. *Journal of Emergency Medicine*, Vol. 57(5):603-610.

26. Faramand Z., Frisch SO; Al-Robaidi K., Alrawashdeh M., Alhamaydeh M., Callaway C., Martin-Gill C., & **Al-Zaiti SS**. The Diurnal, Weekly, and Seasonal Variations of Chest Pain in Patients Transported by Emergency Medical Services. *Emergency Medicine Journal*, 36(10):601-607.

27. **Al-Zaiti SS**, Pietrasik G., Carey MG, Alhamaydeh M., Canty JM & Fallavollita JA. The Role of Heart Rate Variability, Heart Rate Turbulence, and Deceleration Capacity in Predicting Cause-Specific Mortality in Chronic Heart Failure. *Journal of Electrocardiology.* Vol. 52(1):70-74.

28. Faramand Z., Frisch SO; DeSantis A., Alrawashdeh M., Martin-Gill C., Callaway C., **Al-Zaiti SS**. Lack of Significant Coronary History and ECG Misinterpretation Are the Strongest Predictors of Undertriage in Prehospital Chest Pain. *Journal of Emergency Nursing*, Vol. 45(2):161-168.

29. Rivero D., Alhamaydeh M., Faramand Z., Martin-Gill C., Callaway C., Drew B., and **Al-Zaiti SS**. Nonspecific Electrocardiographic Abnormalities Are Associated with Increased Length of Stay and Adverse Cardiac Outcomes in Prehospital Chest Pain. *Heart & Lung: Journal of Acute and Critical Care*, Vol. 48(2):121-125.

30. **Al-Zaiti SS**, Faramand Z., Alrawashdeh M., Sereika S., Martin-Gill C., Callaway C. Comparison of Clinical Risk Scores for Triaging High-Risk Chest Pain Patients at the Emergency Department. *American J of Emergency Medicine*, Vol 37(3):461-67.

2018 **31.** **Al-Zaiti SS**, Sejdic E, Nemec J, Callaway C, Soman P, Lux R. Spatial Indices of Repolarization Correlate with Non-ST Elevation Myocardial Ischemia in Patients with Chest Pain. *Medical & Biological Engineering & Computing*, 56(1):1-12.

2017 **32.** **Al-Zaiti SS**, Alrawashdeh, M., Martin-Gill, C., Callaway, C., Mortara, D., & Nemec, J. Evaluation of Beat-to-Beat Ventricular Repolarization Lability from Standard 12-Lead ECG during Acute Myocardial Ischemia. *Journal of Electrocardiology*, 50(6):717-724

33. **Al-Zaiti SS**, Saba, S., Pike, R., Williams, J., & Khraim, F. Arterial Stiffness is Associated with QTc Interval Prolongation in Patients with Heart Failure. *Biological Research for Nursing*, 20(3):255-263.

2016 **34.** **Al-Zaiti, S. S.**, & Magdic, K. S. Paroxysmal Supraventricular Tachycardia: Pathophysiology, Diagnosis, and Management. *Critical Care Nursing Clinics of North America*, 28(3), 309-316.

2015 **35.** **Al-Zaiti SS**, Martin-Gill C, Sejdic E, Al-Rawashdeh M, and Callaway CW. Rationale, Development, and Implementation of Electrocardiographic Methods for the Prehospital Identification of Non-ST Elevation Myocardial Infarction (EMPIRE). *Journal of Electrocardiology,* Vol. 48(6):*921-6*.

36. **Al-Zaiti SS**, Callaway CW, Kozik TM, Carey MG, & Pelter MM. Clinical Utility of Ventricular Repolarization Dispersion for Real-Time Detection of Non-ST Elevation Myocardial Infarction in Emergency Departments. *Journal of the American Heart Association,* Vol. 4(7). pii: e002057.

37. **Al-Zaiti SS**, Rittenberger JC, Reis SE, & Hostler D. Electrocardiographic responses during fire suppression and recovery among experienced firefighters. *Journal of Occupational and Environmental Medicine,* Vol. 57(9):938-42.

38. **Al-Zaiti SS**, Carey MG, Canty Jr. JM, & Fallavollita JA. The Prognostic Value of Discordant T waves in Lead aVR: A Simple Risk Marker of Sudden Cardiac Arrest in Ischemic Cardiomyopathy. *Journal of Electrocardiology,* Vol. 48(5):*887-92*.

2014 **39.** Liao L, **Al-Zaiti SS**, and Carey MG. Depression and heart rate variability in firefighters. *SAGE Open Medicine*; Vol. 2: pii: e2050312114545530.

40. **Al-Zaiti SS**, Fallavollita JA, Wu YW, Tomita MR, & Carey MG. Electrocardiogram-Based Predictors of Clinical Outcomes: A Meta-Analysis of the Prognostic Value of Ventricular Repolarization. *Heart & Lung. Vol. 43(6):516-26.*

41. **Al-Zaiti SS** & Carey MG. The Prevalence of Clinical and Electrocardiographic Risk Factors of Cardiovascular Death among On-Duty Professional Firefighters. *Journal of Cardiovascular Nursing, Vol. 44(1):59-62.*

42. **Al-Zaiti SS**, Carey MG, Fallavollita JA, & Canty JM. Electrocardiographic Predictors of Sudden and Non-Sudden Cardiac Death in Ischemic Cardiomyopathy. *Heart & Lung: The Journal of Acute and Critical Care. Vol. 43(6):527-33.*

2013 **43. Al-Zaiti SS**, Shusterman V, & Carey MG. Novel Technical Solutions for Wireless ECG Transmission and Analysis in the Age of the Internet Cloud. *Journal of Electrocardiology. Vol. 46(6):540-45.*

2012 **44.** Carey MG, **Al-Zaiti SS**, Canty Jr. JM, & Fallavollita JA. High-Risk Electrocardiographic Parameters are Ubiquitous in Patients with Ischemic Cardiomyopathy. *Annals of Noninvasive Electrocardiology. Vol. 17(3):241-251.*

2011 **45. Al-Zaiti SS**, Runco KN, & Carey MG. Increased T-Wave Complexity Can Indicate Subclinical Myocardial Ischemia in Asymptomatic Adults. *Journal of Electrocardiology. Vol. 44(6):684-8.*

46. Carey MG, **Al-Zaiti SS**, Dean GE, Sessanna L, & Finnell DS. Sleep Problems, Depression, Substance Use, Social Bonding, and Quality of Life in Professional Firefighters. *J of Occupational & Environmental Medicine. Vol. 53(8):928-933.*

47. Carey MG, **Al-Zaiti SS**, Liao LM, Martin HN & Butler RA. A Low-Glycemic Nutritional Fitness Program to Reverse Metabolic Syndrome in Professional Firefighters. *Journal of Cardiovascular Nursing. Vol. 26(4):298-304*.

2010 **48.** Carey MG, Luisi AJ, Baldwa S, **Al-Zaiti SS**, Veneziano MJ, deKemp RA, Canty JM, & Fallavollita JA. The Selvester QRS Score is More Accurate than Q Waves and Fragmented QRS Complexes Using the Mason-Likar configuration in Estimating Infarct Volume in Patients with Ischemic Cardiomyopathy. *Journal of Electrocardiology. Vol. 43(4):318-325*.

Book Chapters

2022 **49. Al-Zaiti, S.S.**, Faramand, Z., Rjoob, K., Finlay, D. and Bond, R. Chapter 3 - The role of automated 12-lead ECG interpretation in the diagnosis and risk stratification of cardiovascular disease. Cardiovascular and Coronary Artery Imaging, Volume 1 (pp. 45-87). Academic Press.

Other Scholarly Publications

2023 **50.** Suba S, **Al-Zaiti SS**, & Pelter, MM. Wide QRS Complexes Following Ablation for Reentrant Tachycardia. *Am J Critical Care*, 32(1), 71-72

2022 **51.** Dzikowicz D, Suba S, **Al-Zaiti SS**, & Carey, M. G. Symptomatic Bradycardia in a Young Adult After Camping. *Am J Critical Care*, 31(6), 515-516

52. Dzikowicz D, Suba S, **Al-Zaiti SS**, & Carey, M. G. Interpretation of Telemetry Among Patients with LVAD. *Am J Critical Care*, 31(4), 343-344

53. Dzikowicz D, Suba S, **Al-Zaiti SS**, & Carey, M. G. A Rhythmic ECG Pattern in an Older Adult with Chest Pain. *Am J Critical Care*, 31(2), 167-168

2021 **54.** Pelter, MM., Kozik, T. M., **Al-Zaiti SS**, & Carey, M. G. Transient Cardiac Rhythm Changes. *Am J Critical Care*, 30(6), 483-484

55. Al-Zaiti SS, Ahmad A, Kozik, T., Pelter, M. M., & Carey, M. G. Refractory Angina Confounded by Preexcitation Syndrome. *Am J Critical Care*, 30(5), 407-8.

56. Carey, M. G., **Al-Zaiti SS.**, Kozik, T., & Pelter, M. M. Exercise-Induced Arrhythmias. *Am J Critical Care*, 30(4), 331-332

57. Kozik, TM., Badejoko S., **Al-Zaiti SS**, Carey, M. G., & Pelter, M. M. Electrocardiographic Features Associated with Obstructive Sleep Apnea. *Am J Critical Care*, 30(3): 243-244

58. Pelter, MM., Kozik, T. M., **Al-Zaiti SS**, & Carey, M. G. Affirming Arrhythmia Diagnosis Using All Available ECG Leads. *Am J Critical Care*, 30(2), 161-162

59. **Al-Zaiti SS**, Ahmad A, Kozik, T., Pelter, M. M., & Carey, M. G. Evaluation of Bradyarrhythmia in Symptomatic Adults. *Am J Critical Care*, 30(1), 83-84

2020 **60.** Carey, M. G., **Al-Zaiti SS.**, Kozik, T., & Pelter, M. M. Preoperative Screening 12-Lead Electrocardiogram Reveals Correctable Cardiac Conditions. *Am J Critical Care*, 29(6), 493-494

61. Kozik, T. M., Mitchell M., **Al-Zaiti SS**, Carey, M. G., & Pelter, M. M. Noteworthy Electrocardiographic Changes Following Pharmacologic Treatment of COVID-19. *Am J Critical Care*, 29(5), *407-408*

62. Pelter, M. M., Kozik, T. M., **Al-Zaiti SS**, & Carey, M. G. The Complexities of Wide Complex Tachycardias. *Am J Critical Care*, 29(4), 325-326

63. **Al-Zaiti SS**, Mahmoud A, Kozik, T., Pelter, M. M., & Carey, M. G. Arrhythmia Diagnosis and the 12-Lead Electrocardiogram: Seeing the Whole Picture. *Am J Critical Care*, 29(3), 237-238

64. Carey, M. G., **Al-Zaiti SS.**, Kozik, T., & Pelter, M. M. Sinus Rhythm With Frequent Funny-Looking Beats. *Am J Critical Care*, 29(2), 155-156

65. Kozik, T. M., Shiu P., **Al-Zaiti SS**, Carey, M. G., & Pelter, M. M. Electrical Disturbance from a Systemic Disease. *Am J Critical Care*, 29(1), 77-78

2019 **66.** Pelter, M. M., Kozik, T. M., **Al-Zaiti SS**, & Carey, M. G. Heart-Brain Interaction on the Electrocardiogram. *Am J Critical Care*, 28(6), 493-494

67. **Al-Zaiti SS**, Mahmoud A, Kozik, T., Pelter, M. M., & Carey, M. G. Evaluation of Wide-Complex Tachycardia. *Am J Critical Care*, 28(5), 401-402

68. Carey, M. G., **Al-Zaiti SS.**, Kozik, T., & Pelter, M. M. Important ECG Changes in the Absence of Positive Cardiac Biomarkers. *Am J Critical Care*, 28(4), 325-26

69. Kozik, T. M., **Al-Zaiti SS**, Carey, M. G., & Pelter, M. M. An Irregular Heart Rhythm in an Athlete. *Am J Critical Care*, 28(3), 231-132

70. Pelter, M. M., Kozik, T. M., **Al-Zaiti SS**, & Carey, M. G. Importance of Evaluating Prior Electrocardiograms. *Am J Critical Care*, 28(2), 157-158

71. **Al-Zaiti SS**, Faramand Z, Kozik, T., Pelter, M. M., & Carey, M. G. ECG Changes Associated With a Life-Threatening Condition. *Am J Critical Care*, 28(1), 85-86

2018 **72.** Shields A, **Al-Zaiti SS**, Kozik, T. M., Pelter, M. M., & Carey, M. G. Cardiac Dysrhythmia During Pacing in an Infant. *Am J Critical Care*, 27(6), 519-520

73. Kozik, T. M., DeMellowJM, **Al-Zaiti SS**, Carey, M. G., & Pelter, M. M. Cardiac Cause of Frequent Falls in an Elderly Patient. *Am J Critical Care*, 27(5), 429-30

74. Pelter, M. M., Kozik, T. M., **Al-Zaiti SS**, & Carey, M. G. Validation of Displayed Electrocardiographic Rhythms at the Central Monitoring Station. *Am J Critical Care*, 27(4), 339-340

75. Al-Zaiti SS, Kozik, T. M., Pelter, M. M., & Carey, M. G. The Value of Lead aVR: A Frequently Neglected Lead. *Am J Critical Care*, 27(3), 249-250

76. Carey, M. G., **Al-Zaiti SS.**, Kozik, T. M., & Pelter, M. M. Managing Older Persons with Multiple ECG Features. *Am J Critical Care*, 27(2), 161-162

77. Kozik, T. M., **Al-Zaiti SS**, Carey, M. G., & Pelter, M. M. Prognostic ECG Changes in A Preoperative Assessment. *Am J Critical Care*, 27(1), 77-78

2017 **78.** Pelter, M. M., Kozik, T. M., **Al-Zaiti SS**, & Carey, M. G. Undetectable P Waves. *Am J Critical Care*, 26(6), 509-510

79. Al-Zaiti SS, Kozik, T. M., Pelter, M. M., & Carey, M. G. Global ST-T Wave Changes: Ischemic vs Nonischemic. *Am J Critical Care*, 26(5), 425-426

80. Carey, M. G., **Al-Zaiti SS.**, Kozik, T. M., & Pelter, M. M. Sources of QRS couplets. *Am J Critical Care*, 26(4), 349-350

81. Kozik TM, **Al-Zaiti SS**, Carey MG, & Pelter MM. Predictive Pattern for Acute Myocardial Infarction. *Am J Critical Care.* Vol. 26(3):257-8

82. Pelter MM, Kozik TM, **Al-Zaiti SS**, & Carey MG. Similar ECG Features in 2 Different Diagnoses. *Am J Critical Care.* Vol. 26(2):169-70

83. Al-Zaiti SS, Pelter MM, Kozik TM, & Carey MG. A Rare Disease With Cardiac Involvement. *American J of Critical Care.* Vol. 26(1):89-90

2016 **84.** Carey MG, Kozik TM, Pelter MM, **Al-Zaiti SS**. Ventricular Ectopy in Hospitalized Elderly Adults. *Am J Critical Care.* Vol. 25(6):565-6

85. Kozik TM, Carey MG, **Al-Zaiti SS** & Pelter MM. Repolarization Alterations in a Genetic Disorder. *Am J Critical Care.* Vol. 25(5):465-6

86. Pelter MM, Kozik TM, **Al-Zaiti SS**, & Carey MG. Differential Diagnoses for Suspected ACS. *Am J Critical Care.* Vol. 25(4):377-8

87. Al-Zaiti SS, Pelter MM, Kozik TM, & Carey MG. Syncope With Profound Bradycardia. *American J of Critical Care.* Vol. 25(3):*281-282*

88. Kozik TM, Charos GS, **Al-Zaiti SS**, Carey MG, & Pelter MM. Symptomatic Bradycardia in a Healthy Older Adult. *Am J Critical Care.* Vol. 25(2):185-186

89. Carey MG, **Al-Zaiti SS**, Kozik TM, Schell-Chaple H & Pelter MM. QRS Amplitude Variation During Monitoring. *Am J Critical Care.* Vol. 25(1):97-8

2015 **90.** Pelter MM, Kozik TM, **Al-Zaiti SS**, & Carey MG. Bedside ECG Alarm Management. *Am J Critical Care.* Vol. 24(6):545-6

91. **Al-Zaiti SS**, Crago EA, Hravnak M, Kozik TM, Pelter MM, & Carey MG. ECG Changes During neurologic Injury. *American J of Critical Care.* Vol. 24(5):*453-4*

92. Kozik TM, Carey MG, **Al-Zaiti SS**, & Pelter MM. Drug Induced ECG Abnormalities. *Am J Critical Care.* Vol. 24(4):*365-6*

93. Carey MG, **Al-Zaiti SS**, Kozik TM, & Pelter MM. Post-Myocardial Infarction Arrhythmias. *Am J Critical Care.* Vol. 24(3):369-270

94. **Al-Zaiti SS**, Kozik TM, Pelter MM, & Carey MG. Prehospital 12-Lead ECGs and Delivery of Care. *Am J Critical Care.* Vol. 24(2):*181-182*

95. Kozik TM, Pelter MM. **Al-Zaiti SS**, & Carey MG. Heart-Rate Induced Conduction Defects. *Am J Critical Care.* Vol. 24(1):*93-94*

96. **Al-Zaiti SS**. Inflammation-Induced Atrial Fibrillation: Pathophysiological Perspectives and Clinical Implications. *Heart & Lung. Vol. 44(1):59-62*

2014 **97.** Pelter MM, Kozik TM, **Al-Zaiti SS**, & Carey MG. Acute Coronary Syndrome ST-Segment Monitoring. *Am J Critical Care.* Vol. 23(6):503-4

98. Carey MG, **Al-Zaiti SS**, Kozik TM, & Pelter MM. Asymptomatic Irregular Cardiac Rhythm. *Am J Critical Care.* Vol. 23(5):429-430

99. **Al-Zaiti SS**, Hostler D, Kozik TM, Pelter MM & Carey MG. Repolarization Abnormalities in Young Athletes. *Am J of Critical Care.* Vol. 23(4):345-346

100. Kozik TM, Gurinder GS, Pelter MM. **Al-Zaiti SS**, & Carey MG. Chest pain After Acute Illness. *Am J Critical Care.* Vol. 23(3):*267-8*

101. Carey MG, **Al-Zaiti SS**, Kozik TM, & Pelter MM. Holiday Heart Syndrome. *Am J Critical Care.* Vol. 23(2): 171-2

102. Kozik TM, Pelter MM. **Al-Zaiti SS**, & Carey MG. T Wave Amplitude Changes. *Am J Critical Care*. Vol. 23(1): *85-86*

2013 **103.** **Al-Zaiti SS**, Carey MG, Kozik TM, & Pelter MM. Neonatal Cardiac Monitoring. *Am J Critical Care*; 2013, Vol. 22(6): *533-534*

104. Pelter MM, Kozik TM, **Al-Zaiti SS**, & Carey MG. Arrhythmias of Non-Cardiac Origin. *Am J Critical Care*; 2013, Vol. 22(5): 445-6

105. **Al-Zaiti SS**, Carey MG, Kozik TM, & Pelter MM. Syncope and Cardiac Rhythms. *Am J Critical Care*; 2013, Vol. 22(4): 361-2

106. Carey MG, Fan T, Pillow T, **Al-Zaiti SS**, Kozik TM, & Pelter MM. Emergency Evaluation of 12-Lead ECGs. *Am J Critical Care*. Vol. 22(3): 267-8

107. Pelter MM, Kozik TM, **Al-Zaiti SS**, & Carey MG. Implantable Electrical Devices. *Am J Critical Care*; 2013, Vol. 22(2): 163-164

108. Carey MG, **Al-Zaiti SS**, Kozik TM, & Pelter MM. ECG Interpretation Confounders. *Am J Critical Care*; 2013, Vol. 22(1): 537-538

2012 **109.** Kozik TM, Pelter MM. **Al-Zaiti SS**, & Carey MG. Sudden Shortness of Breath and Anxiety. *Am J Critical Care*; 2012, Vol. 21(6): 453-454

110. **Al-Zaiti SS**, Carey MG, Kozik TM, & Pelter MM. Indices of Sudden Cardiac Death. *Am J Critical Care*; 2012, Vol. 21(5): 365-366

111. Pelter MM, Kozik TM, **Al-Zaiti SS**, & Carey MG. Impaired Impulse Formation. *Am J Critical Care*; 2012, Vol. 21(4): *293-294*

112. Carey MG, **Al-Zaiti SS,** Kozik TM, & Pelter MM. ECG Screening of Special Populations. *Am J Critical Care*; 2012, Vol. 21(3): 209-210

113. Pelter MM, Kozik TM, **Al-Zaiti SS,** & Carey MG. Congenital Anomaly. *Am J Critical Care*; 2012, Vol. 21(2):131-132

114. **Al-Zaiti SS.** Pelter MM, & Carey MG. A New Puzzler guide. *Am J Critical Care*; 2012, Vol. 21(1):68-70

2011 **115.** Pelter MM, **Al-Zaiti SS,** & Carey MG. Coronary Artery Dominance. *Am J Critical Care*; 2011, Vol. 20(5):401-402

116. Carey MG, **Al-Zaiti SS.** & Pelter MM. Computerized Algorithms. *Am J Critical Care*; 2011, *Vol*. 20(4):339-340

117. **Al-Zaiti SS.** Pelter MM, & Carey MG. Exercise Stress Treadmill Testing. *Am J Critical Care*; 2011, Vol. 20(3):259-260

118. Pelter MM, Carey MG, & **Al-Zaiti SS.** Bedside Monitoring for Transient Myocardial Ischemia. *Am J Critical Care*; 2011, Vol. 20(2):171-172

119. **Al-Zaiti SS**, Khasawneh MK, & Carey MG. Syncope: An Uncommon Presentation of Ischemic Cardiomyopathy. *Nurse Practitioner. Vol. 7(5):385-391*

2010 **120.** Carey MG, Pelter MM, & **Al-Zaiti SS.** Dynamic Conduction Defects. *Am J Critical Care*; 2010, *Vol*. 19(3):301-302

121. Carey MG, **Al-Zaiti SS**, & Pelter MM. Asystole. *Am J Critical Care*; 2010, *Vol.* 19(1):84-85

INTERNATIONAL PRESENTATIONS

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International Society of Computerized ECG (ISCE)

2023 **1.** Riek N, Van Dam P, Bouzid Z, Mahmoud A, Ahmad A, Gokhale T, Gregg R, Sejdic E, Akcakaya M, **Al-Zaiti SS**. Robust Estimation of ST Segment Amplitude: Revisiting the Logic of Automated ECG Interpretation Systems for STEMI Classification. *Journal of Electrocardiology*

2. Bouzid Z, Riek N, Van Dam P, Gokhale T, Akcakaya M, Sejdic E, **Al-Zaiti SS**. Inverse ECG Imaging as a Novel Solution for Acute Coronary Syndrome Classification from Standard 12-Lead ECG in the Emergency Department. *Journal of Electrocardiology*

3. Rooney S, Kaufman R, **Al-Zaiti SS**, Dubrawski A, Clermont G, Miller K. Forecasting imminent atrial fibrillation in long-term ECG recordings. *Journal of Electrocardiology*

4. Xiao R, Ding C, Zegre-Hemsey J, Hu X, **Al-Zaiti SS**. In Search of the Optimal ECG Input Architecture for Deep Learning-Based Prediction of Acute Myocardial Infarction. *Journal of Electrocardiology*

5. Sanil V, Dubrawski A, Welter G, Miller K, Yoon J, Lagattuta T, Pinsky M, Hravnak M, Clermont G, **Al-Zaiti SS**. Incorporation of machine learning and signal quality indicators can significantly suppress false respiratory alerts during in-hospital bedside monitoring. *Journal of Electrocardiology*

2022

6. Faramand Z, Van Dam P, Saba S, Martin-Gill C, Callaway C, & **Al-Zaiti SS**. Visualizing Activation and Recovery Pathways as a Novel Approach for Myocardial Ischemia Detection on Prehospital 12-Lead ECG. *Journal of the Electrocardiology*

7. ** Pelter MM, Carey MG, Zegre-Hemsey J, **Al-Zaiti SS**, Sommargren C, Isola L, Prasad P, Mortara D, Badilini F. The UCSF Ventricular Tachycardia Database: Description and Annotation Protocol. *Journal of the Electrocardiology*

8. Gregg R, An J, Babaeizadeh S, Faramand Z, Bouzid Z, **Al-Zaiti SS**. ECG Detection of ACS by Convolutional Neural Network utilizing Transfer Learning. *Journal of the Electrocardiology.*

9. ** **Al-Zaiti SS**, Saba S, Peace A, Macleod R, and Bond R. Emerging ECG Methods for Ischemia Detection: Recommendations & Future Opportunities. *Journal of the Electrocardiology*

2021

10. ** Faramand Z, Helman S, Ahmad A, Martin-Gill C, Saba S, Callaway C, Gregg R, Wang J, & **Al-Zaiti SS**. Performance and Limitations of Automated ECG Interpretation Statements in Patients with Symptomatic Coronary Artery Disease. *Journal of the Electrocardiology*, Vol 69:45.

11. ** Bouzid Z, Faramand Z, Gregg R, Helman S, Martin-Gill C, Saba S, Callaway C, Sejdić E, & **Al-Zaiti SS**. Novel ECG Features and Machine Learning to Optimize Culprit Lesion Detection in Patients with Suspected Acute Coronary Syndrome. *Journal of the Electrocardiology*, Vol. 69:31.

12. Pelter, M. M., Carey, M. G., **Al-Zaiti, S.**, Zegre-Hemsey, J., Sommargren, C., Mortara, D., & Badilin, F. (2021). Annotation protocol designed to improve ventricular tachycardia identification during in-hospital ECG. *Journal of Electrocardiology*, 69:83.

2019

13. **Al-Zaiti SS**, Frisch S, Besomi L, Faramand Z, et al. Electrocardiographic Methods for the Prompt Identification of Coronary Events (EMPIRE): Algorithm Testing & Validation on an Independent Training Cohort, *J of Electrocardiology*, 57:S104.

14. Yang, Y. C., Dzikowicz, D., **Al-Zaiti, SS.**, & Carey, M. G. (2019). Heart Rate Recovery and Cardiovascular Risk Factors among Firefighters. *Journal of Electrocardiology*, 57:S127.

15. Dzikowicz, D., Yang, Y. C., **Al-Zaiti, SS**., & Carey, M. G. (2019). Predicting Heart Rate Recovery Based on Depression, Sleep Quality and Vagal Tone in On-Duty Firefighters. *Journal of Electrocardiology*, 57:S121-S122.

16. Yang, Y. C., Dzikowicz, D., **Al-Zaiti, SS**., & Carey, M. G. (2019). Heart Rate Recovery, Blood Pressure Recovery, and 24-hour Heart Rate among Firefighters. *Journal of Electrocardiology*, 57:S117.

17. Dzikowicz, D., Yang, Y. C., **Al-Zaiti, SS**., & Carey, M. G. (2019). Relation between QRS-T Angle and Blood Pressure during Exercise Stress Test in On-Duty Firefighters. *Journal of Electrocardiology*, 57:S122.

2018 **18.** Faramand Z, Martin-Gill C, Alrawashdeh M, Gregg R, Callaway C, **Al-Zaiti SS**. Understanding The Demographic and Clinical Correlates of Quantitative Repolarization Parameters in Patients with Cardiovascular Risk Factors, *J of Electrocardiology*, 57:S122–S123.

19. Al-Zaiti SS, Faramand Z, Martin-Gill C, Alrawashdeh M, Gregg R, Callaway C. Beyond the ST-Segment: Novel Methods to Quantify Acute Myocardial Ischemia in Patients with Suspected ACS. *J of Electrocardiology*, 57:S110–S111.

2017 **20. ** Al-Zaiti SS**, Sejdic, E., Nemec, J., Walden, K., Callaway, C; Soman, P.; & Lux, R. Spatial Indices of Repolarization Correlate with Non-ST Elevation Myocardial Ischemia in Patients with Chest Pain. *J of Electrocardiol*, 50(6), 864.

21. Al-Zaiti SS, Alrawashdeh, M., et al. Evaluation of Beat-to-Beat Ventricular Repolarization Lability from Standard 12-Lead ECG during Acute Myocardial Ischemia. *Journal of Electrocardiology*, 50(6):717-724

2016 **22. Al-Zaiti SS**, Alrawashdeh, M., Rivero, D., Martin-Gill, C., & Callaway, C. Widened QRS-T Angle on the Presenting 12-lead ECG may indicate NSTEMI in Patients with Chest Pain. *J of Electrocardiol*, 49(6), 925.

2015 **23. ** Al-Zaiti SS**, Callaway CW, et al. Clinical Utility of Ventricular Repolarization Dispersion for Real-Time Detection of Non-ST Elevation Myocardial Infarction in Emergency Departments. *JAHA,* Vol. 4(7). pii: e002057.

2014 **24. Al-Zaiti SS**, Sethi A, Carey MG, Canty JM, and Fallavollita JA. Temporal complexity of depolarization indicates myocardial sympathetic denervation and predicts sudden cardiac arrest in patients with ischemic cardiomyopathy and poor left ventricular ejection fraction. *Journal of Electrocardiology* 47(6): 910.

2013 **25. ** Al-Zaiti SS**, Shusterman V, & Carey MG. Novel Technical Solutions for Wireless ECG Transmission and Analysis in the Age of the Internet Cloud. *Journal of Electrocardiology. Vol. 46(6):540-45.*

2012 **26. Al-Zaiti SS**, Fallavollita JA, Canty JM, and Carey MG. Predicting mortality using heterogeneity of ventricular repolarization: A meta-analysis. *Journal of Electrocardiology* 46(6): 616.

2011 **27. ** Al-Zaiti SS**, Runco KN, & Carey MG. Increased T-Wave Complexity Can Indicate Subclinical Myocardial Ischemia in Asymptomatic Adults. *Journal of Electrocardiology. Vol. 44(6):684-8.*

2010 **28. Al-Zaiti SS,** Fallavollita JA, & Carey MG. Is the QRS-T angle a more sensitive marker of myocardial ischemia than ST-segment deviation? *Journal of Electrocardiology;* 2010, *Vol.* 43(6):640.

2009 **29.** Carey MG, & **Al-Zaiti SS.** Computer versus manual calculations of the spatial QRST angle. *Journal of Electrocardiology*; 2009, *Vol.* 42(6):608-9.

Heart Rhythm Society (HRS)

2023 **30.** Gokhale T, Bouzid Z, Riek, N, Van Dam P, **Al-Zaiti, SS**, & Saba S**.** Repolarization parameters in baseline ECG are predictive of response to cardiac resynchronization therapy. *Heart Rhythm*

European Society of Intensive Care Medicine (ESICM)

2022 **31.** Rooney S, Kaufman R, Goswami M, Miller K, **Al-Zaiti SS**, Dubrawski A, & Clermont G. Detecting Atrial Fibrillation on Unlabeled, Continuously Streamed Data Using Weak Supervision.

2021 **32.** Helman S, Terr T, Pellathy T, Williams A, Dubrawski A, Clermont G, Pinsky M, **Al-Zaiti SS**, & Hravnak M. A User Engaged Iterative Design for the Graphical Interactive Display of Machine Learning-Based Intelligent Alerting Systems.

33. Welter G, Dubrawski A, Pellathy T, Helman S, Lagattuta T, Hravnak M, Pinsky M, Clermong G, & **Al-Zaiti SS**. High-Frequency Sampling and Signal Quality Indices Boost the Performance of Online Classification of Real Alerts versus Artifacts in Multi-Signal Vital Signs Monitoring Data.

The Canadian Congress of Cardiology (CCC)

2018 **34.** ** **Al-Zaiti, SS**., Faramand, Z., Martin-Gill, C., & Callaway, C. Demographic and Clinical Predictors of ACS in Patients with Prehospital Chest Pain and Benign ECG Findings. *Canadian Journal of Cardiology*, 34(10):S201-S202.

2015 **35.** ** **Al-Zaiti SS**, Pike, R., Williams, J., & Khraim, F. The Clinical Significance of Fragmented QRS and Widened QRS-T Angle in Systolic Dysfunction: Novel Insights Using Impedance Cardiography. *Canadian Journal of Cardiology*, 31(10):S315

The International Nursing Research Congress

2019 **36.** Frisch, S. O., Faramand, Z., Martin-Gill, C., Callaway, C., & **Al-Zaiti, SS.** Patient Factors at Emergency Department Nurse Triage Predictive of ACS.

NATIONAL PRESENTATIONS

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American Heart Association (AHA) Scientific Sessions

2022 **37.** Bouzid Z, Faramand Z, **Al-Zaiti SS**, & Sejdic E. Evaluating sex-disparities in machine learning decision support tools for acute coronary syndrome classification in the emergency department. *Circulation*, 146(S1): A15435.

38. Rooney S, Kaufman R, Goswami M, Miller K, **Al-Zaiti SS**, Pinsky M, Dubrawski A, & Clermont G. Using Weakly Supervised Machine Learning to Label AFIB in Real-World Intensive Care Unit Telemetry Data. *Circulation*, 146(S1): A10198.

39. Ahmad A, Daoud M, Faramand Z, **Al-Zaiti SS**. Increased T Wave Amplitude In Lead aVR is a Strong Predictor of Reduced Left Ventricular Ejection Fraction In Suspected Acute Coronary Syndrome. *Circulation*, 146(S1): A15858

40. Zègre-Hemsey J, Crandell J, Wong E, Chronowski K, Tolentino A, Ronn K, Steege N, Frisch S, **Al-Zaiti SS**, Rosamond W, Dickson V, Pelter M, & DeVon H. Stable versus Dynamic Cardiac Symptom Characteristics are Associated with Adverse Outcomes Among Individuals Transported by Ambulance for Suspected Acute Coronary Syndrome. *Circulation*, 146(S1): A10852.

2021 **41.** ** Kraevsky-Phillips K, Bouzid Z, Ahmad A, Faramand Z, & **Al-Zaiti SS**. An Unsupervised Machine-Learning-Based Approach Elucidates the Prognostic Value of Symptom Clusters in Heart Failure Patients Evaluated in the Emergency Department. *Circulation*, 144(Suppl_1): A12673

42. Ahmad A., Faramand Z, Mahmoud A, Gregg R, & **Al-Zaiti SS**. Fragmented QRS with Benign Early Repolarization Pattern is a Strong Predictor of Adverse Events in Patients with Suspected Acute Coronary Syndrome. *Circulation*, 144: A12595

43. Bouzid Z., Faramand Z, Frisch S, Gregg R, Sejdic E, & **Al-Zaiti SS**. ECG-Based Risk Stratification of Long-Term Mortality in Suspected Acute Coronary Syndrome. *Circulation*, 144(Suppl_1), A12636.

44. Helman S., Herrup E, Christopher A, & **Al-Zaiti SS**. The Role of Machine Learning-Based Decision Support Tools for Diagnosing and Assessing Congenital Heart Disease. *Circulation*, 144(Suppl_1), A12262.

2020 **45.** Ahmad, A., Alhamaydeh, M., Faramand, Z., Gregg, R., Saba, S., & **Al-Zaiti SS**. (2020). Identifying the Most Important ECG Predictors of Reduced Ejection Fraction in Patients With Suspected Acute Coronary Syndrome. *Circulation*, 142(Suppl_3), A13596-A13596.

2019 **46.** ** **Al-Zaiti SS;** Abu-Jaradeh O; Faramand Z; Al-Ghouleh I; Conley Y. Effect of Ischemic Preconditioning on Apoptosis and Autophagy: A Potential Key Role in ST-Elevation vs. Non-ST Elevation Acute MI. *Circulation*, 140:A16285

47. ** Frisch S; Hongjin L; Faramand Z; Callaway C; Martin-Gill C; Sejdic E; **Al-Zaiti SS**. Using Predictive Machine Learning Modeling for the Nursing Triage of Acute Chest Pain at the Emergency Department. *Circulation*, 140:A14879

48. Abu-Jaradeh O; Ahmad A; Frisch S; Faramand Z; Landis P; Mahmoud A; Callaway C; Martin-Gill C; **Al-Zaiti SS**. Supplemental Oxygen is Associated With Larger Infarct Size but Not Excess Risk of Adverse Cardiac Events in Non-ST Elevation Myocardial Infarction. *Circulation*, 140:A11501

49. Alhamaydeh M; Ahmad A; Frisch S; Faramand Z; Saba S; Gregg R, Callaway C; Martin-Gill C; **Al-Zaiti SS**. Tpeak–Tend Interval on the Prehospital 12-lead ECG is a Strong Predictor of Adverse Cardiac Events in Patients With Suspected Acute Coronary Syndrome. *Circulation*, 140:A11508

50. Mahmoud A; Hongjin L; Abu-Jaradeh O; Frisch S; Faramand Z; Callaway C; Martin-Gill C; **Al-Zaiti SS**. Is HEART Score Adequate for Triaging Acute Chest Pain in Cancer Survivors? *Circulation*, 140:A14860

2018 **51.** Alhamaydeh, M., Faramand, Z., Martin-Gill, C., Callaway, C., & **Al-Zaiti, SS**. Should Paramedics Withhold Nitroglycerin in Patients With Prehospital Chest Pain Who Are Tachycardiac? *Circulation*, 138:A12389

52. Frisch, S. O., Alrawashdeh, M., Martin-Gill, C., Callaway, C., & **Al-Zaiti, SS**. Geospatial Analysis of Chest Pain Patients That Call 9-1-1 in the City of Pittsburgh. *Circulation*, 138: A16400

2017 **53.** Frisch, S., Martin-Gill, C., Alrawashdeh, M., Callaway, C., & **Al-Zaiti SS**. Incidence and Predictors of Delaying Seeking Emergent Medical Care Among Patients With Suspected Acute Coronary Syndrome. *Circulation*;136:A18707

54. DeSantis, A., Landis, P., Alrawashdeh, M., Martin-Gill, C., Callaway, C., & **Al-Zaiti SS**. Predictors of Emergency Medical Personnel's Decision to Transmit or Not to Transmit the Prehospital 12-Lead ECG of Patients With Suspected Acute Myocardial Infarction. *Circulation*;136:A18641

55. Faramand, Z., Alrawashdeh, M., Martin-Gill, C., Callaway, C., & **Al-Zaiti SS**. Evaluating the Diagnostic Accuracy of Clinical Risk Scores to Detect Acute Coronary Syndrome in Patients Evaluated at the Emergency Department for a Chief Complaint of Chest Pain. *Circulation*; 136:A19451

56. Rivero, D., Alhamaydeh, M., Martin-Gill, C., Callaway, C., Drew, B., & **Al-Zaiti SS**. The Prevalence of Secondary Repolarization Abnormalities Confounding the Electrocardiographic Diagnosis of Acute Myocardial Ischemia in Patients Presenting With Chest Pain. *Circulation*;136:A18750

57. Alhamaydeh, M., Alrawashdeh, M., Martin-Gill, C., Callaway, C., & **Al-Zaiti SS**. Time of Day and Day of Week Variations in Chest Pain Encounters at the Prehospital Setting. *Circulation*;136:A18689

2016 **58.** Alhamaydeh, M., Rivero D., Alrawashdeh, M., Martin-Gill, C., Callaway, C., & **Al-Zaiti SS**. ECG Characteristics of Patients Evaluated at the Emergency Department for a Chief Complaint of Chest Pain. *Circulation*; 134:A15745

2015 **59.** ** **Al-Zaiti SS**, Pike R, Williams J, & Khraim F**.** The Hemodynamic Determinants and Physiologic Correlates of QTc Interval Using Impedance Cardiography in Heart Failure. *Circulation* 132(Suppl 2): A15631

2014 **60.** **Al-Zaiti SS**, Carey MG, Canty MJ, and Fallavollita JA. The Role of Heart Rate Variability in Predicting Sudden and Non-Sudden Cardiac Death in Ischemic Heart Disease. *Circulation* 130(Suppl 2): A14269.

2013 **61.** ** **Al-Zaiti SS**, Carey MG, Canty MJ, and Fallavollita JA. The Prognostic Value of Positive T waves in Lead aVR: A Simple Risk Marker of Sudden and Non-Sudden Cardiac Death in Patients With Ischemic Cardiomyopathy and Poor Left Ventricular Ejection Fraction. *Circulation* 128(22): A17920.

Society of Critical Care Medicine (SCCM)

2023 **62.** ** Rooney S, Hravnak M, **Al-Zaiti SS**, Clermont G. Racial Differences in Commercial Monitoring Software Detection of Atrial Fibrillation. *Critical Care Medicine*, Vol. 50(1):

2022 **63.** Hravnak M, Clermont G, Helman S, Pellathy T, Lagattuta T, Saul M, George B, Pinsky M, **Al-Zaiti SS**. Medical Emergency Team (MET) Calls for Ward Patients After Down-Transfer From an ICU. *Critical Care Medicine*, Vol. 50(1):617

64. Helman S, Terry M, Hravnak M, Pellathy T, George B, Pinsky M, **Al-Zaiti SS**, Clermont G. User-Engaged Design of a Graphical User Interface for Instability Decision Support in the ICU. *Critical Care Medicine*, Vol. 50(1):269

American College of Emergency Physicians (ACEP)

2021 **65.** **Faramand, Z., Ahmad, A., Martin-Gill, C., Callaway, C., & **Al-Zaiti, S**. Two Thirds of Patients with ACS in High-Risk Chest Pain Have a Negative First Conventional Troponin. *Annals of Emergency Medicine*, 78(4), S41.

Emergency Nursing (ENA Annual Conference)

2018 **66.** Faramand, Z., Frisch S., Martin-Gill, C., Callaway, C., & **Al-Zaiti SS**. HEART score: Valid assessment tool for cocaine associated chest pain

67. Frisch S., Faramand, Z., Martin-Gill, C., Callaway, C., & **Al-Zaiti SS.** Resolution of Ischemic ECGs Changes in Prehospital Chest Pain Patients

Eastern Nursing Research Society (ENRS)

2023 **68.** Gallagher M, Helman S, Scott P, **Al-Zaiti SS**. Demographic and Clinical Characteristics of Acute Coronary Syndrome Patients with Single Versus Multi-Vessel Coronary Occlusion.

69. Helman S, Sereika S, Hravnak M, Henker R, Riek N, Herrup E, Lisanti A, Gaynor W, Olsen R, Kennedy A, **Al-Zaiti SS**. An exploratory analysis of neonatal temperature trajectories after open heart surgery.

2019 **70.** ** Landis P.; Faramand Z.; Zegre-Hemsey J.; Frisch S.; Ren D.; Callaway C.; Frisch A.; & **Al-Zaiti SS.** The Prevalence and Outcomes of Morphine Use in the Initial Management of Patients with Acute Myocardial Infarction

2016 **71.** ** Alrawashdeh, M., **Al-Zaiti, S.,** Sejdic, E., Martin-Gill, C., & Callaway, C. Repolarization Dispersion on the Prehospital 12-Lead ECG Predicts Ischemic Myocardial Injury in Chest Pain Patients. *Nursing Research;* 65(2):E94.

Council for the Advancement of Nursing Science (CANS)

2022 **72.** **Al-Zaiti SS**, Bouzid Z, Faramand Z, Martin-Gill C, Saba S, Akcakaya M, Clermont G, Callaway C, Sejdic E. Evaluating race-disparities in machine learning decision support tools for acute coronary syndrome classification in the ED.

2016 **73.** ** **Al-Zaiti, SS**; Rittenberger J; Reis, S; and Hostler D. The Impact of Exertional Heat Stress on Cardiovascular Responses in Fire Suppression and Recovery.

2010 **74.** ** **Al-Zaiti SS**; Liao L; Martin H; Butler R; and Carey MG. Metabolic Syndrome: Quantified and Reduced in Firefighters

American College of Cardiology (ACC) Scientific Sessions

2022 **75.** Ahmad A, Faramand Z, Wang J, Gregg R, Martin-Gill C, Callaway C, Saba S, and **Al-Zaiti SS**. Vessel-Specific ECG Leads as a Novel Strategy for Myocardial Ischemia Detection in Patients with Suspected Acute Coronary Syndrome. *Journal of the American College of Cardiology*, 79(9_Supplement):150

2013 **76.** ** Carey MG, Fallavollita JA, Canty MJ, and **Al-Zaiti SS**. ECG Predictors of Mortality among Implantable Cardioverter-Defibrillator Candidates for the Primary Prevention of Sudden Cardiac Death. *JACC;* 61: E616.

OTHER REGIONAL PRESENTATIONS

***** indicates podium***

Invited Visiting Professor Presentations

2022 **77.** ** **Al-Zaiti SS**. machine-learning based clinical decision tools and intelligent alerting systems. *University of Iowa, Iowa City, Iowa*

2019 **78.** ** **Al-Zaiti SS**. Frontiers of AI-Assisted Care: ECG Methods for the Prompt Identification of Coronary Events (EMPIRE): Algorithm Development and Testing on Two Independent Cohorts. *Stanford University, San Francisco, CA*

2018 **79.** ** **Al-Zaiti SS**. Establishing a Program of Research in a Research-Intensive Institution: Lesson Learned. *University of Texas at Houston, Houston TX*

2018 **80.** ** **Al-Zaiti SS**. Big Data in Cardiology: Machine Learning and the Electrocardiogram. *State University of New York at Buffalo, NY*

AHA Fellows Research Days (Northeast Affiliate)

2023 **81.** Helman S, Sereika S, Hravnak M, Henker R, Riek N, Herrup E, Lisanti A, Gaynor W, Olsen R, Kennedy A, **Al-Zaiti SS**. An exploratory analysis of neonatal temperature trajectories after open heart surgery.

2018 **82.** Faramand, Z., Frisch S., Martin-Gill, C., Callaway, C., & **Al-Zaiti SS.** Evaluating the Diagnostic Accuracy of Clinical Risk Scores to Detect ACS in Patients with Chest Pain.

2016 **83.** ** Alrawashdeh, M., Sejdic, E., Martin-Gill, C., & Callaway, C, **Al-Zaiti, SS**. Repolarization Dispersion on the Prehospital 12-Lead ECG Predicts Ischemic Myocardial Injury in Chest Pain Patients.

McGowan Institute Scientific Retreat

2018 **84.** ** **Al-Zaiti SS,** Faramand, Z., Frisch S., Martin-Gill, C., Callaway, C., & Sejdic E. Novel Methodologies and Technologies to Detect and Analyze Physiological Markers of Clinical Interest.

SAFAR Symposium (University of Pittsburgh)

2022 **85.** Kraevsky-Phillips K, Bouzid Z, Ahmad A, Faramand Z, & **Al-Zaiti SS**. An Unsupervised Machine-Learning-Based Approach Elucidates the Prognostic Value of Symptom Clusters in Heart Failure Patients Evaluated in the Emergency Department.

2021 **86.** Kates L, Faramand Z, **Al-Zaiti SS**. The Prevalence of ECG Findings Encountered by Paramedics During Ambulance Transport

2017 **87.** Faramand, Z., Frisch S., Martin-Gill, C., Callaway, C., & **Al-Zaiti SS.** HEART score: Valid assessment tool for cocaine associated chest pain

Pittsburgh Health Data Alliance (PHDA) Annual Retreat

2017 **88.** ** **Al-Zaiti SS** and Sejdic E. EMPIRE: A smart detection system for rapid diagnosis of heart attacks

Senior Vice Chancellor's Research Seminar (University of Pittsburgh)

2021 **89.** ** **Al-Zaiti SS**. Intelligent ECG Methods for Myocardial Ischemia Detection

MENTORING FOR THESIS & DISSERTATION

International Visiting Scholars

Scholar and Affiliation	***Training Period***	***Project Title***
Abdullah Ahmad Sultan, MD University of Jordan, Jordan	7/2019–6/2020 **Mentor**	"Fragmented QRS with Benign Early Repolarization Pattern As a Strong Predictor of Adverse Events in Patients with Suspected Acute Coronary Syndrome"
Omar Abu-Jaradeh, MD Hashemite University, Jordan	9/2018–6/2019 **Mentor**	"Association between supplemental Oxygen and Infarct Size in Non-ST Elevation Myocardial Infarction"
Mohammad Alhamaydeh, MD University of Jordan, Jordan	1/2017–12/2017 **Mentor**	"Time of Day and Day of Week Variations in Chest Pain Encounters at the Prehospital Setting"

Postdoctoral Research Fellows

Name of Postdoc Fellow & Source of Support	***Training Period & Role***	***Project Title***
Ziad Faramand, MD, MS R01HL137761	9/2018–6/2022 **Mentor**	"Comparison of Clinical Risk Score for Detecting Acute Coronary Syndrome at the Emergency Department"
Donald T Smith, PhD, RN, AG-ACNP-BC, FF/EMT-P T32NR008857	9/2014–8/2016 **Co-Mentor**	"Analyzing Safety, Effectiveness, and Outcomes of a 5-Level Triage System in the Prehospital Care Environment"

PhD Dissertation Research

Name of Student, Department, & Source of Support	***Training Period & Committee Role***	***Project Title***
Karina Kraevsky-Phillips, MA, BSN, RN, CCRN *School of Nursing* T32NR008857	9/2021–8/2025 **Chair**	"Data-Driven Phenotyping of Dyspnea in Symptomatic Patients with Heart Failure"
Stephanie Helman, RN, CNS, *School of Nursing* T32NR008857 F31 NR 018589	9/2019–8/2023 **Chair**	"Use of Predictive Analytics to Quantify Neonatal Hypothermia Burden After Cardiac Surgery"
Zeineb Bouzid, BS, MSc., *Electrical & Computer Engineering Department* R01HL137761	9/2020–12/2022 **Co-Chair**	"Unveiling the potential of the 12-lead ECG in predicting ACS: from understanding the diagnostic value of handcrafted features to exploring hidden patterns in the ECG signal"
Stephanie Frisch, RN, CCRN, *School of Nursing* T32NR008857 F31NR018589	9/2017–8/2020 **Chair**	"Triaging chest pain patients in the emergency department: a novel machine learning approach"
Tiffany Pellathy, RN, ACNP *School of Nursing* F31NR018102	9/2018–8/2020 **Member**	"Machine Learning to Determine Dynamically Evolving New-Onset Venous Thromboembolic (VTE) Event Risk in Hospitalized Patients"
Mohammad Alrawashdeh, RN, MSN, *School of Nursing* T32NR008857	9/2015–8/2017 **Member**	"Clinicians' Acceptance of Interactive Health Technologies to Support Patients' Self-Management"

DNP Capstone

Name of Student, Department, & Source of Support	***Training Period & Committee Role***	***Project Title***
Danielle Schwimer, RN, BSN *School of Nursing*	9/2018–8/2019 **Member**	"A Quality Improvement Project to Enhance QTc Interval Monitoring in a Critical Care Setting: Pre and Posttest Study"

Master's Thesis

Name of Student, Department, & Source of Support	***Training Period & Committee Role***	***Project Title***
Zeineb Bouzid, BS, MSc., *Electrical & Computer Engineering Department* R01HL137761	9/2019–8/2020 **Co-Chair**	"Novel Approaches to ECG Feature Selection for Dimensionality Reduction to Optimize ACS Detection using the 12-Lead ECG"

Ziad Faramand, MD *Clinical & Translational Science Institute (CTSI)* R01HL137761	9/2019–8/2020 **Co-Chair**	"Prognostic Value of HEART score in Patients with Cocaine Associated Chest Pain: An Age-and-Sex Matched Cohort Study"
Lucas Besomi, BS *Electrical & Computer Engineering Department* R01HL137761	9/2018–8/2019 **Co-Chair**	"Predicting Acute Myocardial Ischemia using Machine Learning applied to Standard 10-second 12-lead ECG"
Kamal Althobaiti, BS *School of Public Health*	9/2018–8/2019 **Member**	"Examining HIV Prevalence and Cultural Implications of HIV Awareness in the Middle East"

BSN Honors Thesis

Name of Student, Department, & Source of Support	***Training Period & Committee Role***	***Project Title***
Maura Gallagher *School of Nursing* R01HL137761	9/2022–4/2023 **Chair**	"Demographic and Clinical Characteristics of Acute Coronary Syndrome Patients with Single Versus Multi-Vessel Coronary Occlusion"
Alexandra Tolassi *School of Nursing* R01HL137761	9/2021–4/2022 **Chair**	"Associations between treatment-seeking delay and clinical course of patients with suspected acute coronary syndrome at initial ED encounter"
Lacey Maclay *School of Nursing* R01HL137761	9/2020–8/2021 **Chair**	"The Role of Inflammation, Immune Responses, and Ischemic Preconditioning in Acute Myocardial Infarction"
Jennifer Stemler *School of Nursing* R01HL137761	9/2020–8/2021 **Chair**	"Taking a Closer Look at Using the Emergency Severity Index Tool at Emergency Department Triage for Patients Who Present with Suspected ACS"
Parker Landis *School of Nursing*	9/2017–8/2018 **Chair**	"Evaluating the Safety of Morphine Use in the Management of Patients with Acute Coronary Syndrome"
Diana Rivero *School of Nursing*	9/2016–8/2017 **Chair**	"Electrocardiographic abnormalities and their effect on Clinical Decision Making in patients presenting to the emergency department with chest pain"

Other Research Trainees Funded and Mentored by Dr. Al-Zaiti

Undergraduate Research Assistants (n=15)

Maura Gallagher (2021−current)
Katherine McGrath (2021−2022)
Lacey Mclay (2019–2021)
Jennifer Stemler (2019–2021)
Adrian Bermudez (2018–2019)
Madeline Reiche (2018–2019)
Parker Landis (2017–2019)
Victoria Tori (2017–2018)
Amber DeSantis (2016–2018)
Kelsey Walden (2015–2016)
Diana L Rivero (2014–2017)
Katherine G McCoy (2014–2015)
Connor R McClellan (2014–2015)
Lindsey R. Buchanan (2014–2015)
Melinda M Douglas (2013–2015)

Graduate Students Researchers (n=12)

Nursing
Karina Kraevsky-Phillips (2022-current)
Stephanie Helman (2020–current)
Hongjin Li (2018–2019)
Mohammad Alrawashdeh (2014–2017)
Heba Khalil (2015–2016)
Khalil Yousef (2015–2016)
Justin Bala-Hampton (2013–2014)

Engineering
Nathan Riek (2022–current)
Zeinab Bouzid (2019–current)
Lucas Besomi (2018–2019)
Aya Khalaf (2017–2018)
Nicholas Scangas (2014–2015)

TEACHING

Teaching Awards & Honors

2018 **Dean's Distinguished Teaching Award**
University of Pittsburgh

2020 **Chancellor's Distinguished Teaching Award**
University of Pittsburgh

Classroom Teaching (Didactic)

Course Number & Title	*Level & Class Size*	*Terms Taught*
NUR 3082: Introduction to Machine Learning in Healthcare (3 credits)	PhD, 6-8 students	Summer 2020, Fall 2022
NUR 3287: Research Design and Methods (3 credits)	PhD, 6-8 students	Spring 2019, 2020, 2021, 2022
NUR 2078: Clinical Diagnostics (3 credits)	DNP, ~10 students	Summer 2015, 2016, 2017, 2021
NUR 2004: Advanced Pathophysiology Across the Life Span (4 credits)	DNP, 107 students	Fall 2016
NUR 0005: Nursing Honors Seminar (1 credit)	BSN, ~20 students	Fall 2020, 2021
NUR 0053: Introduction to Inclusion, Equity and Diversity in Health Care (1 credit)	BSN, 20 students	Spring 2020
NUR 0067: Nursing Research: An Introduction to Critical Appraisal and EBP (3 credits)	BSN, ~60 students	Fall 2019, Spring 2020
NUR 0088: Introduction to Basic Statistics for Evidence Based Practice (3 credits)	BSN, ~60 students	Fall 2017, Spring 2018

Clinical Teaching

Course Number & Title	*Level & Class Size*	*Terms Taught*
NUR 1134: Transition into Professional Nursing	BSN, 5-7 students	Fall 2015, 2016, Spring 2016, 2017
NUR 1121: Advanced Clinical Problem Solving	BSN, 7-8 students	Spring 2016, 2017

Clinical Skills Lab

Course Number & Title	*Level & Class Size*	*Terms Taught*
NUR 2031: Diagnostic Physical Exam	DNP, 5-7 students	Fall 2014, 2015, 2016, Spring 2015, 2016, 2017
NUR 0081: Foundations of Nursing Practice I	BSN, 7-8 students	Spring 2014

Guest Lectures

Course, Topic and Time Commitment	*Level & Class Size*	*Terms Taught*
NUR 0067: Nursing Research **"Systematic Reviews & Meta-Analysis"** (1.5 hours)	BSN, 45-50 students	Spring 2021, 2022; Fall 2022
NUR 2004: Advanced Pathophysiology **"Altered Cardiovascular Function"** (6 hours divided over two weeks)	DNP, ~50 students	Fall 2017, 2018, 2019, 2020, 2021, 2022, Spring 2018, 2019, 2020, 2021, 2022, Summer 2018, 2019, 2020, 2021
NUR 2078: Clinical Diagnostics **"Basic 12-Lead ECG Interpretation"** (3 hours)	DNP, ~10 students	Summer, 2018, 2019, 2020
NUR 3789: Physical Diagnosis Anesthesia **"Advanced 12-Lead ECG Interpretation"** (6 hours divided over two weeks)	Nurse Anesthesia, ~40 students	Fall 2020, 2021, 2022
NUR 3044: Cancer Survivorship **"Systematic & Scoping Reviews"** (3 hours)	PhD, ~5-6 students	Fall 2019, 2021
BIOENG 2151: Medical Product Ideation **"ECG Devices for EMS Providers"** (Mentored capstone project over 15 weeks)	M.Eng., ~5-6 students	Fall 2015, 2016
BIOENG 2151: Medical Product Development **"ECG for Telehealth Applications"** (Mentored capstone project over 15 weeks)	M.Eng., ~5-6 students	Spring 2016, 2017
NUR 3030: Professional Development **"Keys of Success for Junior Faculty"** (2 hours)	PhD, 5-6 students	Fall 2015, 2016
NUR 0082: Nursing Care of Adults **"Cultural Sensitivity in Nursing Care"** (1 hour)	BSN, ~100 students	Fall 2015, 2016, 2017

Continuing Education

Topic and Contact Hours	*Level & Class Size*	*Terms Taught*
"Basic 12-Lead EKG Interpretation" (9 contact hours divided over 3 weeks)	Registered Nurses, ~20 students	Summer 2014, 2015, 2016, 2018
"Update on Coronary Artery Diseases" (3 contact hours)	Registered Nurses, ~20 students	Spring, 2015

PROFESSIONAL SERVICE

International Society of Computational Electrocardiology (ISCE)

2010–current	Professional Member
2017–current	Abstract Reviewer
2015–2018	Chair, Poster Session
2018–current	Chair, Conference Proceedings
2020–2022	Judge, Jos Willems Early Career Investigator Award Competition
2020–current	Elected Officer, Board of Directors
2022	Conference Co-Chairman, 46th Annual ISCE Meeting, Las Vegas, NV
2023	Conference Chairman, 47th Annual ISCE Meeting, Indian Wells, CA
2023	Treasurer

American Heart Association (AHA)

2012–current	Professional Member
2016–2019	Member, Early Career Committee
2016–current	Abstract Reviewer, Physiological Aspects of Acute Cardiovascular Care
2017–current	Fellow of the American Heart Association (FAHA)
2018–current	Member, Research Mentoring Committee
2018–2020	Member, Kathleen Dracup Award Committee
2018–2020	Writing Group Member, AHA Scientific Statements Taskforce
2019	Moderator, Early Career Scientific Session
2020–2022	Member, Marth N Hill New Investigator Award Committee
2020–2022	Member, Marie Cowan Promising Young Investigator Award Committee
2020–current	Member, CVSN Leadership Committee
2022–current	Chair, Marth N Hill Early Career Investigator Award Committee

Editorial Boards

2012–current	Section Editor (ECG Puzzler), *American Journal of Critical Care*
2018–current	Associate/Executive Editor, *Journal of Electrocardiology*
2020–current	General Editor Board, *Heart & Lung*
2022–current	Guest Editor, *Physiologic Measurement*
2023–current	General Editorial Board, *European Heart Journal – Digital Health*

NIH Study Sections

02/2019	Reviewer, Biomedical Computing & Health Informatics (BCHI)
06/2022	Reviewer, Organization and Delivery of Health Services (ODHS)
06/2022	Reviewer, Special Emphasis Panel (ZRG1 HSS-L)
02/2023	Reviewer, Clinical Informatics & Digital Health (CIDH)

Grant Reviewer

2019–current	University of Pittsburgh, CTSI Pilot Awards Program
2015–2018	Sigma Theta Tau International, Small Awards Program

Reviewer for Promotion Materials

2020	School of Nursing, Taibah University, Medina, Saudi Arabia
2022	School of Nursing, Case Western Reserve University, Cleveland, OH, USA
2022	School of Nursing, The Hong Kong Polytechnic University, Hong Kong

Ad-hoc Peer Reviewer at Scientific Journals

2011–current	*Journal of Electrocardiology* (IF = 1.44)
2014–current	*Heart & Lung* (IF = 1.73)
2014–current	*EUROPACE* (IF = 5.23)
2016–current	*Circulation: Cardiovascular Quality and Outcomes* (IF = 4.61)
2016–current	*Public Library of Science (PLoS One)* (IF = 3.75)
2017–current	*Medical and Biological Engineering and Computing* (IF = 2.60)
2018–current	*Journal of Cardiovascular Nursing* (IF = 1.53)
2018–current	*Critical Care* (IF = 19.33)
2018–current	*Prehospital Emergency Care* (IF = 2.42)
2020–current	*Journal of American College of Cardiology (JACC)* (IF = 24.09)
2021–current	*Scientific Reports* (IF = 4.99)
2021–current	*Journal of the American Heart Association (JAHA)* (IF = 6.12)
2022–current	*Circulation* (IF = 39.92)
2022–current	*Nature Medicine* (IF = 87.24)

Abstract Reviewer

2010–2016	Sigma Theta Tau International (STTI)
2014–2016	Council for the Advancement of Nursing Science (CANS)
2016	Eastern Nursing Research Society (ENRS)
2016–current	American Heart Association (AHA) Scientific Sessions
2017–current	International Society of Computerized ECG (ISCE)

Local Service (University of Pittsburgh)

- University-Wide Committees

2016	Patent Reviewer, Office of Technology Management (OTM)
2017–	Grant Reviewer, Clinical and Translational Science Institute (CTSI)
2018–2021	Member, Senate Plant Utilization and Planning Committee (3-year term)
2019–2021	Faculty Representative, Pathways Committee, Provost Office
2021–2024	Member, Chancellor's Distinguished Teaching Award Committee

- Office of Community Partnership:

2015	Health Fair Coordinator, Hosted at the Universal Academy of Pittsburgh in Swissvale PA, and co-sponsored by UPMC Health Plan and Walgreens

- School of Nursing Committees:

2013–2015	Member, Academic Integrity Committee
2014–2015	Member, Evaluation & Steering Committee
2015	Reviewer, Cameos of Caring Awards
2015–current	Member, PhD Council
2015–2017	Chair, Evaluation & Steering Committee
2015–2017	Member, School-Wide Curriculum Committee
2015–2017	Member, Planning & Budget Committee
2016–2018	Member, PhD Progression & Graduation Committee
2017	Reviewer, Leslie Hoffman Research Award
2018–2020	Chair, PhD Progression & Graduation Committee
2019–2021	Chair, BSN Honors Committee
2019-2021	Chair, Reva Rubin Research Award
2020–2021	Chair, Interprofessional Education Committee
2021	Chair, Roth Endowment Undergraduate Research Fund
2022	Chair, Leslie Hoffman Research Award