

## *Curriculum vitae*

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### **Education**

Year	Degrees (Honors)	Field of Study	Institution
2008-2012	B.A. (Honors)	Computer Science	Bucknell University, Lewisburg, PA
2012-2014	M.S. (Honors)	Bioinformatics	Indiana University, Indianapolis, IN
2014-2018	M.D.	Medicine	Indiana University, Indianapolis, IN

### **Postdoctoral Training**

Year	Title	Specialty/Discipline	Institution
2018-Current	Intern/Resident	Internal Medicine	UT Southwestern, Dallas, TX
Incoming July 2021	Fellow	Cardiology	Texas Heart Institute, Houston, TX

### **Current Licensure and Certification**

Licensure  
Texas

### **Honors and Awards**

Year	Name of Honor/Award	Awarding Organization
2011, 2012	Mid-Major All-American, swimming	NCAA
2012	Olympic Trials Qualifier, swimming 200M freestyle	USA Swimming
2012	Robert A. Latour Service Award	Bucknell University
2012	Harold W. Miller Prize	Bucknell University
2015	Best Oral Abstract (3 <sup>rd</sup> place)	Academic Medicine Research Program, Indiana University School of Medicine
2016	Best Oral Abstract (3 <sup>rd</sup> Place)	IU Simon Cancer Center Research Day

2017	Gold Humanism Honor Society	Indiana University School of Medicine
2018	Dean's Award	Indiana University School of Medicine
2019	Travel Grant Award	Artificial Intelligence in Cardiology, Mayo Clinic
2019	Best Oral Abstract (1 <sup>st</sup> place)	UTSW-THR Cardiovascular Symposium
2019, 2020	Best Oral Abstract (1 <sup>st</sup> place)	Donald W. Seldin Symposium, UT Southwestern Medical Center
2020	Elizabeth Barrett-Connor Early Career Research Award finalist	American Heart Association
2020	Big Data Analysis Challenge in Heart Failure, Award Winner	National Institute of Health

### **Committee Service**

Year	Name of Committee	Institution/Organization
2014-2016	Vice President, Medical Student Council	Indiana University School of Medicine
2015-2017	LCME Continuous Quality Improvement Team	Indiana University School of Medicine
2016-2017	President, Medical Student Council	Indiana University School of Medicine
2017-2018	Admissions Committee	Indiana University School of Medicine

### **Professional Societies**

Dates	Society
2014-Current	American College of Physicians
2018-Current	American Heart Association
2018-Current	American College of Cardiology
2020-Current	American Society of Preventative Cardiology

### **Editorial Activities**

Dates	Journal Name
<b><u>Ad Hoc Reviewer</u></b>	
2018-Current	European Heart Journal
2019-Current	Cardiovascular Research
2019-Current	European Journal of Preventative Cardiology
2020-Current	Journal of the American College of Cardiology (JACC)

2020-Current	JACC: Cardiovascular Imaging
2020-Current	Circulation
2020-Current	BMJ Open Diabetes Research & Care
2020-Current	Diabetes, Obesity, and Metabolism

### **Clinical Trials/Studies Activities**

Dates	Trial
<u>Sub-Investigator</u>	
2021-Current	WATCH-DM randomized trial (NCT04791826)

### **Bibliography**

#### **Peer-Reviewed Publications**

##### Original Research Articles

NCBI Bibliography: <https://www.ncbi.nlm.nih.gov/myncbi/1XMhwV-kmYiQs/bibliography/public/>

\* Indicates co-first author

1.	Liu X, <b>Segar MW</b> , Li SC, Kim S. Spectral probabilities of top-down tandem mass spectra. <i>BMC Genomics</i> , 15, S9. (2012)
2.	Cardenas H, Vieth E, Lee J, <b>Segar MW</b> , Liu Y, Kenneth P, Matei D. TGF- $\beta$ induces global changes in DNA methylation during the epithelial-to-mesenchymal transition in ovarian cancer cells. <i>Epigenetics</i> , (December), 37–41. (2014)
3.	Nephew KP, Wang Y, Cardenas H, Fang F, Condello S, Taverna P, <b>Segar MW</b> , Liu Y, Matei D. Epigenetic Targeting of Ovarian Cancer Stem Cells. <i>Cancer Research</i> , 74(14), 4922–4936. (2014)
4.	<b>Segar MW</b> , Sakofsky C J, Malkova A, Liu Y. MMBIRFinder: a tool to detect microhomology-mediated break-induced replication. <i>IEEE/ACM Transactions on Computational Biology and Bioinformatics</i> , 12(4), 799-806. (2014)
5.	Burgess K, Philips S, Benson E, Desta Z, Gaedigk A, Gaedigk R, <b>Segar MW</b> , Liu Y, Skaar T. Age-Related Changes in MicroRNA Expression and Pharmacogenes in Human Liver. <i>Clinical Pharmacology &amp; Therapeutics</i> , 98(2), 205–215. (2015)
6.	Benson EA, Eadon MT, Desta Z, Liu Y, Lin H, Burgess K, <b>Segar MW</b> , Gaedigk A, Skaar TC. Rifampin Regulation of Drug Transporters Gene Expression and the Association of MicroRNAs in Human Hepatocytes. <i>Frontiers in Pharmacology</i> , 7, 1-13. (2016)
7.	De Leon M, Cardenas H, Vieth E, Emerson R, <b>Segar MW</b> , Liu Y, Nephew K, Matei D. Transmembrane protein 88 (TMEM88) promoter hypomethylation is associated with

	cisplatin resistance in ovarian cancer. <i>Gynecologic Oncology</i> , 137, 173. (2016)
8.	<b>Segar MW</b> , Patel KV, Berry JD, Grodin JL, Pandey A. Generalizability and Implication of the H <sub>2</sub> FPEF Score in a Cohort of Patients with Heart Failure With Preserved Ejection Fraction. <i>Circulation</i> , 139, 1851-1853. (2019)
9.	<b>Segar MW</b> , Vaduganathan M, Patel KV, McGuire DK, Butler J, Fonarow GC, Basit M, Kannan V, Grodin JL, Everett B, Willett D, Berry J, Pandey A. Machine Learning to Predict the Risk of Incident Heart Failure Hospitalization Among Patients With Diabetes: The WATCH-DM Risk Score. <i>Diabetes Care</i> , 42, 2298-2306. (2019)
10.	<b>Segar MW</b> , Patel KV, Ayers C, Basit M, Tang WH, Willet D, Berry J, Pandey A. Phenomapping of patients with heart failure with preserved ejection fraction using machine learning-based unsupervised cluster analysis. <i>European Journal of Heart Failure</i> , 22, 148-158. (2020)
11.	<b>Segar MW</b> , Patel KV, Vaduganathan M, Caughey MG, Butler J, Fonarow GC, Grodin JL, McGuire DK, Pandey A. Association of Long-Term Change and Variability in Glycemia with Risk of Incident Heart Failure among Patients with Type 2 Diabetes Mellitus – A Secondary Analysis of the ACCORD Trial. <i>Diabetes Care</i> , 43, 1920-1928. (2020)
12.	<b>Segar MW</b> , Patel RB, Patel KV, Fudim M, DeVore AD, Martens P, Hedayati S, Grodin JL, Tang WH, Pandey A. Predictors and Prognostic Implications of Visit-to-Visit Variability in Kidney Function and Serum Electrolytes among Patients with Heart Failure with Preserved Ejection Fraction. <i>JAMA Cardiology</i> (2020)
13.	Rao S*, <b>Segar MW*</b> , Bress A, Arora P, Vongpatanasin W, Agusala V, Essien UR, Correa A, Morris AA, de Lemos JA, Pandey A. Association of Genetic West African Ancestry, Blood Pressure Response to Therapy, and Cardiovascular Risk Among Self-Reported Black Individuals in the Systolic Blood Pressure Reduction Intervention Trial (SPRINT). <i>JAMA Cardiology</i> , (2020)
14.	Sumarsano A, Lalani H, <b>Segar MW</b> , Rao S, Vaduganathan M, Wadhwa RK, Das SR, Navar AM, Fonarow GC, Pandey A. Association of Medicaid Expansion with Rates of Utilization of Cardiovascular Therapies Among Medicaid Beneficiaries Between 2011 and 2018. <i>Circulation: Cardiovascular Quality and Outcomes</i> , (2020).
15.	<b>Segar MW</b> , Rao S, Navar AM, Michos ED, Lewis A, Correa A, Sims M, Khera A, Hughes AE, Pandey A. County-level phenomapping to identify disparities in cardiovascular outcomes: An unsupervised clustering analysis. <i>American Journal of Preventative Cardiology</i> , (2020)
16.	Sumarsano A, <b>Segar MW</b> , Xie L, Atem F, Messiah SE, Francis JKR, Keshvani N. Medicaid expansion and provision of prescription contraception to Medicaid beneficiaries. <i>Contraception</i> , (2020).
17.	Mody P, Pandey A, Slutsky AS, <b>Segar MW</b> , Kiss A, Dorian P, Parsons J, Scales DC, Rac VE, et al. Gender Based Differences in Outcomes among Resuscitated Patients with Out-of-Hospital Cardiac Arrest, <i>Circulation</i> (2020)
18.	<b>Segar MW</b> , Patel KV, Vaduganathan M, Caughey MC, Jaeger BC, Basit M, Willett D, Butler J, Sengupta P, Wang TJ, McGuire DK, Pandey A. Development and Validation of Optimal Phenomapping Methods to Estimate Long-term Atherosclerotic Cardiovascular Disease Risk in Patients with Type 2 Diabetes, <i>Diabetologia</i> (2021)

19.	<b>Segar MW</b> , Jaeger BC, Patel KV, Nambi V, Ndumele CE, Correa A, Butler J, Chandra A, Ayers C, Rao S, et al. Development and Validation of Machine Learning-Based Race-Specific Models to Predict 10-Year Risk of Heart Failure: A Multi-Cohort Analysis, <i>Circulation</i> (2021)
20.	Pandey A, Kagiya N, Yanamala N, <b>Segar MW</b> , Cho JS, Tokodi M, Sengupta P. Deep-Learning Models of Diastolic Dysfunction: Development and Validation in NHLBI-Funded Heart Failure Clinical Trials, <i>In Press</i> (2021)

Reviews, Chapters, Monographs, and Editorials

1.	<b>Segar MW</b> , Pandey A. Proteomic heterogeneity in heart failure with preserved ejection fraction. <i>In Press</i> (2021)
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Letters to the Editor

1.	<b>Segar MW</b> , Vaduganathan M, McGuire DK, Basit M, Pandey A. Predicting Heart Failure in Diabetes: A Reply. <i>Diabetes Care</i> , 43, e26-e27. (2020)
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**Invited Talks**

Year	Title	Location
<b>National</b>		
2016	Eastern-Atlantic Student Research Forum, “Clinical utility of alternative splicing events across tumor types”, March 7	Miami, FL
2019	Mayo Clinic - Artificial Intelligence in Cardiology, “Phenomapping patients with heart failure with preserved ejection fraction”, June 21	San Francisco, CA
2019	AHA Scientific Sessions, “Variability in Hemoglobin A1c and Risk of Incident Heart Failure among Patients with Type 2 Diabetes Mellitus”, November 17	Philadelphia, PA
2020	AHA Scientific Sessions, “Development and Validation of Machine Learning-based Race-specific Models to Predict 10-year Risk of Heart Failure: A Multi-cohort Analysis“, November 17	(Online) Dallas, TX
<b>Regional/Local</b>		
2016	IU Cancer Center, “Association of splicing upregulation of LASP1 in breast cancer prognosis”, May 9	Indianapolis, IN
2019	Seldin Symposium, UTSW Grand Rounds, “Phenomapping of patients with heart failure with preserved ejection fraction using machine learning-based unsupervised cluster analysis”, May 6	Dallas, TX
2020	Seldin Symposium, UTSW Grand Rounds, “Race-specific and machine learning-based models to predict 10-year risk of incident heart failure”, May 29	Dallas, TX

## Peer-Reviewed Abstracts

Year	Title	Location
2015	Intelligent Systems for Molecular Biology, “An n-gram based probabilistic method for de novo sequence assembly”, June 19	Long Beach, CA
2019	AHA Epidemiology Scientific Sessions, “A Novel Risk Prediction Score for Incident Heart Failure among Patients with Diabetes”, March 6	Houston, TX
2020	AHA Epidemiology Scientific Sessions, “Optimal Phenomapping Strategy to Identify Novel Subgroups of Patients with Type 2 Diabetes and High Cardiovascular Disease Risk”, March 6	Phoenix, AZ
2020	ACC.20/WCC Scientific Sessions, “Visit-to-Visit Variability in Renal Function and Risk of Mortality among Patient with Heart Failure with Preserved Ejection Fraction”, March 29	(Online) Chicago, IL
2020	ASPC Summit, “Phenomapping chest pain: analyses from the PROMISE and ROMICAT-II cohorts”, July 25	(Online) Louisville, KY
2021	ADA Scientific Sessions, “Prevalence and risk of incident heart failure in diabetic cardiomyopathy”	(Online)