

**CLINICAL CARDIOLOGY / CLINICAL CARDIOVASCULAR  
RESEARCH TRAINING PROGRAM**

**WAKE FOREST UNIVERSITY HEALTH SCIENCES  
DEPARTMENT OF INTERNAL MEDICINE / SECTION ON CARDIOLOGY  
DAVID M. HERRINGTON, MD, MHS – DIRECTOR T32 PROGRAM  
MEDICAL CENTER BLVD. WINSTON-SALEM, NC 27157  
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**OBJECTIVE:**

The purpose of the CVD Epidemiology Training Program, a federally-funded National Research Service Award (NRSA) Institutional Research Training Grant (1 T32 HL076132-03), is to attract and train a cohort of outstanding physician scientists who will be fluent in the latest developments in cardiovascular disease and able to apply this knowledge to the conduct of new cardiovascular epidemiology and clinical cardiovascular research. Key features of the training program include completion of a Masters Degree in Clinical and Population Translational Science with a curriculum that also includes formal training in molecular biology and genetics, supplemental training in genomics, proteomics and informatics, joint mentorship with both clinical and basic science faculty, and participation in external NHLBI sponsored short courses in cardiovascular epidemiology, and the genetics of complex heart, lung, and blood disorders.

**CURRENT TRAINEES:**

Dr. Jennifer Anderson – appointed 7/1/2009

Current: Wake Forest University, MS, Clinical and Populational Translational Science  
MD, University of Washington – Seattle, Washington, 2006  
PhD, University of Washington – Seattle, Washington, 2002

Dr. Subhashish Agarwal – appointed 7/1/2009

Current: Wake Forest University, MS, Clinical and Populational Translational Science  
MBBS, University of Mumbai, Mumbai, India, 1997

Dr. Peter Matthew Belford – appointed 7/1/2008

Current: Wake Forest University, MS, Clinical and Population Translational Science  
MD, Wake Forest University, 2004

Dr. Manish Jain – appointed 7/1/2008

Current: Wake Forest University, MS, Clinical and Population Translational Science  
MD, University of Texas-South Western, 2004

**PAST TRAINEES:**

Dr. Sidharth Shah – appointed 7/1/2007-6/30/2009

Current: Clinical Cardiology Fellow, Internal Medicine, Section on Cardiology, Wake  
Forest University, 2008

Current: Wake Forest University, MS, Health Services Research

Thesis: Genetic Variants in NOS1AP and the QT Interval  
MD, University of Kansas – Kansas City, 2004

Dr. Brandon Stacey – appointed 7/1/2007-6/30/2009

Current: Clinical Cardiology Fellow, Internal Medicine, Section on Cardiology, Wake Forest University, 2008

Current: Wake Forest University, MS, Health Services Research

Thesis: Modification of the Effect of Glycemic Status on Aortic Distensibility by Age in the Multi-Ethnic Study of Atherosclerosis

MD, University of South Alabama College of Medicine – Mobile, 2004

Dr. Stewart Allen– appointed 7/1/2006-6/30/2008

Current: Clinical Cardiology Fellow, Internal Medicine, Section on Cardiology, Wake Forest University, 2007

Wake Forest University, MS, Health Services Research, 2009

Thesis: The Association of Selective and Nonselective Nonsteroidal Antiinflammatory Medications with Reverse Endothelial Function and Indices of Thrombosis in the Multi-Ethnic Study Of Atherosclerosis

MD, Wake Forest University, 2001

Dr. Darryl Prime– appointed 7/1/2006-6/30/2007

Current: Clinical Cardiology Fellow, Internal Medicine, Section on Cardiology, Wake Forest University, 2007

MS- Health Services Research, Wake Forest University, 2008

Thesis: The Utility of Pulse Pressure Measured by Radial Arterial Tonometry in Determining Cardiovascular Disease in Adults

MD, University of Alabama - Birmingham, 2002

Dr. Kurt Daniel – appointed 7/1/2005 – 6/30/2007

Current: Interventional Cardiology Fellow, Internal Medicine, Section on Cardiology, Wake Forest University, 2009

MS-Health Services Research, Wake Forest University, 2007

Thesis: Genetic Variations in the ATP-Binding Cassette Gene are Associated with Altered Levels of Markers of Systemic Inflammation

DO, Oklahoma State University, 2001

Dr. Jerry John– appointed 7/1/2005 – 6/30/2007

Current: Clinical Cardiology Fellow, University of Ohio-Toledo, 2007

Wake Forest University, MS, Health Services Research, 2007

Thesis: Response to Postural Change in Diastolic Heart Failure: Decreased Left Ventricular Compliance Contributes to Reductions in Stroke Volume and Cardiac Output

MD, Michigan State University, 2001

Dr. Joseph Yeboah– appointed 7/1/2005 – 6/30/2007

Current: Fellow, Clinical Cardiology, University of Virginia, 2008

Wake Forest University, MS, Health Services Research, 2007

Thesis: Predictive Value of Endothelial Dysfunction for Incident Cardiovascular Events in the CHS Cohort  
MD, Yale University, 2005

Dr. Phillip Mellen - appointed 7/1/2004 – 6/30/2006  
Current: Internist at the Hattiesburg Clinic's Hypertension Center of Excellence  
MS-Health Services Research, Wake Forest University, 2006  
Thesis: Whole Grain Intake and Progression of Carotid Atherosclerosis in a Multi-Ethnic Cohort: The Insulin Resistance Atherosclerosis Study  
MD – University of Mississippi, 2001

Dr. Susan Lakoski – appointed 7/1/2004 – 6/30/2005  
Current: Assistant Professor Cardiology, University of Texas  
MS-Health Services Research, Wake Forest University, 2005  
Thesis: The Relationship Between Blood Pressure and C-Reactive Protein in the Multi-Ethnic Study of Atherosclerosis (MESA)  
MD – University of Texas, 2000

#### **EDUCATIONAL REQUIREMENTS OF THE CVD EPIDEMIOLOGY TRAINING PROGRAM:**

Masters Degree Clinical and Population Translational Sciences, Wake Forest University

AHA's 10 day Seminar on the Epidemiology and Prevention of Cardiovascular Disease

Jackson Laboratory's Annual Short Course on Genetic Approaches to Complex Heart, Lung, and Blood Diseases

AHA's Annual Conference on Cardiovascular Disease Epidemiology and Prevention in Association w/the Council on Nutrition, Physical Activity and Metabolism.

Faculty Development Program

Ethics in Science course offered through Grad school

The Collaborative IRB Training Initiative (CITI)

The Human Research Subject Protection Certification Program and HIPPA Compliance training courses.

NIH online course on responsible conduct of research.

WFU Annual Informed Consent Workshops

#### **AWARDS AND HONORS:**

**Dr. Susan Lakoski**, NIH Loan Repayment Award, 2004.

**Dr. Kurt Daniel**, NIH Loan Repayment Award, 2005.

**Dr. Susan Lakoski**, Sandra Daugherty Award for Excellence in Cardiovascular Disease and Hypertension Epidemiology. 45th Annual Conference on Cardiovascular Disease Epidemiology and Prevention, April 2005.

**Dr. Kurt Daniel**, Travel award from GSK Research & Education Foundation for CVD to attend the New Frontiers in Genomics and Cardiovascular Disease Conference in Philadelphia, April 2005.

**Dr. Kurt Daniel**, Henry I Russek Travel Award to attend the 37th Annual Cardiovascular Symposium from the American College of Cardiology, December 2005.

**Dr. Darryl Prime**, Travel Award to attend the AHA's 43th 10-Day Seminar on the Epidemiology and Prevention of Cardiovascular Disease, 2008

**Dr. Susan Lakoski**, Women in Cardiology Trainee Award for Excellence, American Heart Association's Scientific Sessions 2006, November 12- November 15, 2006.

**Dr. R. Brandon Stacey**, NIH Loan Repayment Award, 2007

**Dr. Stewart Allen**, American Heart Association Spotlight Series Speaker, 2007

**Dr. P. Matthew Belford**, NIH Loan Repayment Award, 2008

**Dr. P. Matthew Belford**, Travel Award to attend the AHA's 43th 10-Day Seminar on the Epidemiology and Prevention of Cardiovascular Disease, 2008

**Dr. Joseph Yeboah**, Finalist, Elizabeth Barrett-Connor Research Award for Young Investigators in Training, 2008

**Dr. Sidharth Shah**, Fellow Basic Research Silver Award Third Annual Internal Medicine Resident and Fellow Research Day April 2009. Poster presentation of: **Shah SA**, Herrington DM, Howard TD, Burke GL, Kao WH, Guo X, Siscovick DS, Chakravarti A, Lima JA, Psaty BM, Tomaselli GF, Rich SS, Bowden DW, and Post W. Associations Between Genetic Variations in NOS1AP and QT Interval Duration in Four Racial/Ethnic Groups in the Multi-Ethnic Study of Atherosclerosis (MESA).

**Dr. Sidharth Shah**, A.M. Nomeir Award for Excellence in Echocardiography, July 2009.

#### **GRANTS:**

**Dr. Susan Lakoski, PI**, The Association Between Interleukin-1 Receptor Associated Kinases (IRAK1) Genetic Variants and IL-10 levels in the ERA Study. Funded by the Wake Forest University Center for Public Health Genomics, June 2005.

## **BIBLIOGRAPHY:**

### **Journal Articles**

Bonds DE, Palla S, Bertoni A, **Mellen P**, Goff D. Hypertension Treatment in the Ambulatory Setting: Comparison by Race and Gender in a National Survey. *J Clin Hyperten*, 2004;5:223-228. PMID:15133404.

**Mellen PB**, Palla SL, Goff DC Jr, Bonds DE. Prevalence of Nutrition and Exercise Counseling for Patients with Hypertension: United States 1999-2000. *J Gen Intern Med*. 2004 Sept; 19(9):917-24. PMID: 15333055.

**Mellen PB**, Herrington DM. Pharmacogenomics of blood pressure response to antihypertensive treatment. *J Hypertens*. 2005 Jul;23(7):1311-25. PMID:15942450.

**Lakoski SG**, Herrington DM. Effects of estrogen receptor-active compounds on lipid metabolism. *Diabetes Obes Metab*. 2005 Sep;7(5):471-7. Review. PMID: 16050939.

**Lakoski SG**, Cushman M, Palmas W, Blumenthal R, D'Agostino RB Jr, Herrington DM. The relationship between blood pressure and C-reactive protein in the Multi-Ethnic Study of Atherosclerosis (MESA) *J Am Coll Cardiol*. 2005; 46:1869-74. PMID: 16286174.

**Lakoski SG**, Brosnihan B, Herrington DM. Hormone therapy, C-reactive protein, and progression of atherosclerosis: data from the Estrogen Replacement on Progression of Coronary Artery Atherosclerosis (ERA) trial. *Am Heart J*. 2005 Nov;150(5):907-11. PMID: 16290959.

**Lakoski SG**, Herrington DM. Effects of hormone therapy on C-reactive protein and IL-6 in postmenopausal women: a review article. *Climacteric*. 2005 Dec;8(4):317-26. Review. PMID: 16390766.

**Mellen PB**, Cefalu WT, Herrington DM. Diabetes, the Metabolic Syndrome, and Angiographic Progression of Coronary Arterial Disease in Postmenopausal Women. *Arterioscler Thromb Vasc Biol*. 2006 Jan;26(1):189-93. PMID:16239591.

**Lakoski SG**, Herrington DM, Siscovick DM, Hulley SB. C-Reactive Protein Concentration and Incident Hypertension in Young Adults: The CARDIA Study. *Arch Intern Med*. 2006 Feb 13;166(3):345-9. PMID:16476876.

**Lakoski SG**, Herrington DM, Siscovick DM, Hulley SB. C-Reactive Protein and Incident Hypertension in Young Adults: The CARDIA Study. *Arch Intern Med*. 2006 Jul 24;166(14):1526-7; author reply 1527.

**Lakoski SG**, Cushman M, Blumenthal RS, Kronmal R, Arnett D, D'Agostino RB Jr, Detrano RC, Herrington DM. Implications of C-reactive protein or coronary artery

calcium score as an adjunct to global risk assessment for primary prevention of CHD. *Atherosclerosis*. 2007 Aug;193(2):401-7. PMID:16914155.

**Lakoski SG**, Cushman M, Criqui M, Rundek T, Blumenthal RS, D'Agostino RB Jr, Herrington DM. Gender and C-reactive protein: Data from the Multiethnic Study of Atherosclerosis (MESA) cohort. *Am Heart J*. 2006 Sep;152(3):593-8. PMID:16923436.

**John, JM** and Herrington DM. Maintenance warfarin dose varies according to two haplotypes of the vitamin K epoxide reductase gene. *Future Medicine* 2006;2(1);29-32.

**Mellen PB**, Bleyer AJ, Erlinger TP, Evans GW, Nieto FJ, Wagenknecht LE, Wofford MR, Herrington DM. Serum Uric Acid Predicts Incident Hypertension in a Bi-Ethnic Cohort: The Atherosclerosis Risk in Communities Study. *Hypertension* 2006; 48(6):1037-42. PMID:17060502.

**Yeboah J**, Reboussin DM, Waters D, Kowalchuk G, Herrington DM. Effects of Estrogen Replacement with and without medroxyprogesterone acetate on brachial flow-mediated vasodilator Responses in postmenopausal women with coronary artery disease. *Am Heart J*. 2007; 153(3):439-444. PMID:11307425.

**Lakoski SG**, Li L, Langefeld CD, Liu Y, Howard TD, Brosnihan KB, Xu J, Bowden DW, Herrington DM. The association between innate immunity gene (IRAK1) and C-reactive protein in the Diabetes Heart Study. 2007 Jun;82(3):280-3. Epub 2007 Feb 22. PMID:17382928.

**Yeboah J**, Crouse JR, Hsu F-C, Burke GL, Herrington DM. Brachial Flow-Mediated Dilation Predicts Incident Cardiovascular Events in Older Adults. The Cardiovascular Health Study. *Circulation* 2007 May 8;115(18):2390-7. PMID: 17452608.

**Yeboah J**. Sane, DC, Crouse, J, Herrington, DH, Lohman, K, Bowden, DW. Low Plasma Levels Of FGF-2 and PDGF-BB Are Associated With Cardiovascular Events In Type II Diabetes Mellitus (Diabetes Heart Study). *Dis Markers*. 2007 ;(23)3:173-8. PMID:1743387.

**Mellen PB**, Bleyer AJ, Herrington DM. Response to Treatment of Hyperuricemia in Essential Hypertension. *Hypertension* 2007 Apr;49:1-2 Letter to Editor. PMID: 17404176.

**Yeboah J**, Sutton-Tyrrell K, Mcburnie MA, Burke GL, Herrington DM, Crouse JR, Association between brachial artery reactivity and cardiovascular disease status in an elderly cohort: The cardiovascular health study, *Atherosclerosis* 2007; 197(2): 768-776. PMID:17714717.

Kitzman DW, **Daniel KR**. Diastolic heart failure in the elderly. *Clin Geriatr Med*. 2007 Feb;23(1):83-106. PMID:17126756.

Kitzman DW, **Daniel KR**, Diastolic Heart Failure in the Elderly. *Heart Fail Clin*. 2007 Oct;3(4):437-53. PMID:17905379.

**Lakoski SG**, Greenland P, Wong ND, Schreiner PJ, Herrington DM, Kronmal RA, Liu K, Blumenthal RS. Coronary artery calcium scores and risk for cardiovascular events in women classified as "low risk" based on Framingham risk score: the multi-ethnic study of atherosclerosis (MESA). *Arch Intern Med*. 2007 Dec 10;167(22):2437-42. PMID:18071165.

**Prime DD**, Brosnihan KB, Herrington DM. Effects of hormone therapy on blood pressure and the renin-angiotensin system in postmenopausal women. *Minerva Cardioangiol*. 2007 Aug;55(4):477-85. PMID:17653023.

**Lakoski SG**, Herrington DM, Siscovick DM, Hulley SB. C-reactive protein is an intermediate step between obesity and hypertension—Reply. *Arch Intern Med* 2006; 166: 1527.

**Lakoski SG**, Siscovick DM, Herrington DM. C-reactive protein and Hypertension. *Cardiology Review*. February 2007.

**Mellen PB**, Bittner V, Herrington DM. Post-Challenge Glucose Predicts Coronary Atherosclerotic Progression in Non-Diabetic Postmenopausal Women. *Diab Med* 2007 Oct;24(10):1156-9. PMID:17672859.

**Mellen PB**, Liese AD, Toozé JA, Vitolins MZ, Wagenknecht LE, Herrington DM. Whole Grain Intake and Carotid Artery Atherosclerosis in a Multi-Ethnic Cohort: The Insulin Resistance Atherosclerosis Study. *Am J Clin Nutr*. 2007 Jun;85(6):1495-502. PMID:17556684.

**Mellen PB**, Walsh TF, Herrington DM. Whole grain intake and cardiovascular disease: A meta-analysis. *Nutr Metab Cardiovasc Dis*. 2008 May;18(4):283-90. Epub 2007 Apr 20. PMID:17449231.

**Mellen PB**, Gao SK, Vitolins MZ, Goff DC Jr. Deteriorating Dietary Habits among Adults with Hypertension: DASH Dietary Accordance, NHANES 1988-1994 and 1999-2004. *Arch Intern Med*. 2008 Feb 11;168(3):308-14. PMID:18268173.

Nelson MR, **Daniel KR**, Carr JJ, Freedman BI, Prineas RJ, Bowden DW, Herrington DM. Associations between electrocardiographic interval durations and coronary artery calcium scores: The Diabetes Heart Study. *Pacing Clin Electrophysiol*. 2008 Mar;31(3):314-21. PMID:18307626.

**Lakoski SG**, Liu Y, Brosnihan KB, Herrington DM. Interleukin-10 concentration and coronary heart disease (CHD) event risk in the estrogen replacement and atherosclerosis (ERA) study. *Atherosclerosis*. 2008 Mar;197(1):443-7. PMID:17706223.

**Yeboah J**, Burke GL, Crouse JR, Herrington DM. Relationship between brachial flow-mediated dilation and carotid intima-media thickness in an elderly cohort: The

Cardiovascular Health Study, *Atherosclerosis* 2008 Apr; 197(2): 840-845. PMID:17804000.

Lehtinen AB, Newton-Cheh C, Ziegler JT, Langefeld CD, Freedman BI, **Daniel KR**, Herrington DM, Bowden DW. Association of NOS1AP Genetic Variants With QT Interval Duration in Families From the Diabetes Heart Study. *Diabetes*. 2008 Apr;57(4):1108-14. PMID:18235038.

**Yeboah J**, Klein K, Brosnihan B, Reboussin D, Herrington DM. Effects of hormone therapy on soluble cell adhesion molecules in postmenopausal women with coronary artery disease. *Menopause*. 2008 Nov-Dec 15(6);1060-4 PMID:18521047.

Rudock ME, Liu Y, Ziegler JT, **Allen SG**, Lehtinen AB, Freedman BI, Carr JJ, Langefeld CD, Bowden DW. Association of polymorphisms in cyclooxygenase (COX)-2 with coronary and carotid calcium in the Diabetes Heart Study. *Atherosclerosis*. 2009 Apr;203(2):459-65. Epub 2008 Jul 26. PMID:18768181.

**Daniel KR**, Bertoni AG, Ding J, Johnston S, Budoff MJ, Bluemke DA, Carr JJ. Comparison of methods to measure heart size using noncontrast-enhanced computed tomography: Correlation with Left Ventricular Mass. *Comput Assist Tomogr*. 2008 Nov-Dec;32(6):934-41. PMID:19204458-8.

Lehtinen AB, **Daniel KR**, **Shah SA**, Nelson MR, Ziegler JT, Freedman BI, Carr JJ, Herrington DM, Langefeld CD, Bowden DW. Relationship between genetic variants in myocardial sodium and potassium channel genes and QT interval duration in diabetics: the Diabetes Heart Study. *Diabetes*. 2009 Jan;14(1):72-9. PMID: 9149796.

**Daniel KR**, Wells G, Stewart K Moore B, Kitzman DW. Effect of Aldosterone antagonism on exercise tolerance, Doppler diastolic function, and quality of life in older women with diastolic heart failure. *Congest Heart Fail*. 2009 Mar-Apr;15(2):68-74.  
Lambert ND, Sacrinty MT, Ketch TR, Turner SJ, Santos RM, **Daniel KR**, Applegate RJ, Kutcher MA, Sane DC. Chronic kidney disease and dipstick proteinuria are risk factors for stent thrombosis in patients with myocardial infarction. *Am Heart J* 2009 Apr;157(4):688-94.

McKimmie RL, **Daniel KR**, Carr JJ, Bowden DW, Freedman BI, Register TC, Hsu F-C, Lohman KK, Weinberg RE, Wagenknecht LE. Hepatic Steatosis and subclinical cardiovascular disease in a cohort enriched for type 2 diabetes: the Diabetes Heart Study. Accepted for publication in the *American Journal of Gastroenterology* 2008. Dec;103((12):3029-35.

**Yeboah J**, Herrington DH. Predictive Value of Brachial Flow-Mediated Dilation for Incident Cardiovascular Events in a Population-Based Study: The Multi-Ethnic Study of Atherosclerosis. *Circulation*. 2009;120:502-509.

### **Journal Articles In Press:**

**Stacey RB**, Bertoni AG, Eng J, Bluemke D, Hundley GW, Herrington DM. Modification of the Effect of Glycemic Status on Aortic Distensibility by Age in the Multi-Ethnic Study of Atherosclerosis. *Submitted to Hypertension*.

Duprez DA, Jacobs DR, Lutsey PL, Herrington DM, **Prime DD**, Ouyang P, Barr GR, Bluemke DA, Ethnic and Gender Differences in Large and Small Artery Elasticity – Results of the Multi-Ethnic Study of Atherosclerosis (MESA). Submitted to Journal Clinical Chemistry July 2008.

Reeves-Daniel A, Adams PL, Assimos D, Westcott C, **Daniel KR**, Alcorn SG, Rogers J, Farney AC, Stratta RJ, Hartmann EL. Impact of race and gender on live kidney donation. Accepted for publication in Clinical Transplantation. July 2008.

McKimmie RL, **Daniel KR**, Carr JJ, Bowden DW, Freedman BI, Register TC, Hsu F-C, Lohman KK, Weinberg RE, Wagenknecht LE. Hepatic Steatosis and subclinical cardiovascular disease in a cohort enriched for type 2 diabetes: the Diabetes Heart Study. Accepted for publication in the American Journal of Gastroenterology May 2008.

Hall WB, Truitt SG, Scheunemann LP, **Shah SA**, Rivera MP, Parker LA, Carson SS. The Prevalence of Clinically Relevant Incidental Findings on Chest Computed Tomographic Angiograms Ordered to Diagnose Pulmonary Embolism. *Arch Intern Med* 2009;169(21):1-5.

### **Abstracts:**

**Lakoski SG**, Cushman M, Blumenthal R, Criqui M, Detrano R, Rundek T, D'Agostino RB Jr, Herrington DM. Gender and C-Reactive Protein: Data from the Multi-Ethnic Study of Atherosclerosis (MESA) Cohort : 45th Annual Conference on Cardiovascular Disease Epidemiology and Prevention, April 2005.

**Lakoski SG**, “The Association Between Inflammation and yper-tension.” Cardiovascular Epidemiology, Biostatistics and Behavioral Medicine Trainee Session : 45th Annual Conference on Cardiovascular Disease Epidemiology and Prevention, April 2005.

**Lakoski SG**, Herrington DM, Siscovick DM, Hulley SB. C-reactive protein and incident hypertension in young adults: the CARDIA Study. *Circulation* 2005; 112 (Suppl II):II-822. AHA Scientific Sessions Nov 2005.

**Lakoski SG**, Li L, Langefeld CD, Liu Y, Howard TD, Zu J, Bowden DW, Herrington DM. Variation in innate immunity gene (IRAK1) is associated with c-reactive protein in Caucasian women in the Diabetes Heart Study (DHS). *Circulation* 2005; 112 (Suppl II):II-785. AHA Scientific Sessions Nov 2005.

**Mellen P**, Herrington D. Diabetes, but not the Metabolic Syndrome, Predicts Coronary Atherosclerotic Progression in Postmenopausal Women: the ERA Study, *Circulation* 2005;111(14):e205. Poster presentation at the AHA 45th Annual Conference on Cardiovascular Disease Epidemiology and Prevention, Washington, D.C., April 2005.

**Mellen P**, Herrington D. Insulin Resistance and Atherosclerotic Progression: the ERA Study, *Circulation* 2005;111(14):e205. Poster presentation at the AHA 45th Annual Conference on Cardiovascular Disease Epidemiology and Prevention, Washington, D.C., April 2005.

**Mellen P**, Herrington D. Post-Challenge Glucose – How Low Should You Go?: High-Normal Two-Hour Glucose Predicts Coronary Disease Progression in Postmenopausal Women. *Circulation* 2005;112(17):II-820. Poster presentation at the AHA Scientific Sessions, Dallas, TX, November 2005.

**Mellen P**, Herrington D. Nutrient Intake and Urinary Albumin Excretion in Nondiabetics: the National Health and Nutrition Examination Survey, 2001-2002. *Circulation* 2006;113:e373. Poster presentation at the AHA 46th Annual Conference on Cardiovascular Disease Epidemiology and Prevention, Phoenix, AZ., March 2006.

**Daniel KR**, Brosnihan B, Fray B, Stewart KP, Kitzman DW. Renin-Angiotensin-Aldosterone System Activation in Diastolic Heart Failure: Comparison with Systolic Heart Failure and Age-Matched Normal Subjects. Presented at the 2005 Scientific Session of the American College of Cardiology.

**Daniel KR**, Parks J, Schreiner P, Tsai M, Post W, Palmas W, Herrington D. Polymorphisms in ABCA1 are Associated with Serum Levels of IL-6 and CRP. 46th Annual Conference on Cardiovascular Disease Epidemiology and Prevention conference in March 2006.

**Daniel KR**, Johnston, Bertoni A, Ding, J, Budoff, MJ, Bluemke, DA, Carr, J. Using Non-Contrast Enhanced Computed Tomography to Measure Ventricular Size: Comparison of Methods. 46th Annual Conference on Cardiovascular Disease Epidemiology and Prevention conference in March 2006.

**Yeboah J**, Sane D, Herrington DM, Crouse JR. P176 Plasma Platelet Derived Growth Factor-bb Levels in Diabetics with Negligible Coronary Artery Calcium Scores (Diabetes Heart Study). Poster Abstract Presentation: 7th Annual Conference on Arteriosclerosis, Thrombosis and Vascular Biology, April 2006.

**Yeboah J**, Crouse JR, Sane D, Herrington DM, Lohman K. Plasma Platelet Derived Growth Factor-BB Levels in Diabetics with Cardiovascular Events (DHS). 66th Annual American Diabetic Association Scientific Session. June 9-13, 2006, Washington, DC.

**Yeboah J**, Crouse J, Burke GL, Hsu FC, Herrington DM, Flow-Mediated Dilatation of Brachial Artery Predicts Incident Cardiovascular Events In Older Adults (Cardiovascular Health Study) AHA Scientific Session, Nov 12-15,2006 Chicago, Illinois. *Circulation* 2006; Vol 114,(18);Oct 31,2006.

**Lakoski SG**, Brosnihan KB, Herrington, DM; Interleukin-10 Concentration and Coronary Heart Disease (CHD) Event Risk in the Estrogen Replacement and Atherosclerosis (ERA) Study: American Heart Association Scientific Sessions. *Circulation* 2006. Vol 114(18); Oct 31,2006.

**Mellen PB**, Liese AD, Toozee JA, Vitolins MZ, Wagenknecht LE, Herrington DM. Whole Grain Intake and Carotid Artery Atherosclerosis in a Multi-Ethnic Cohort: The Insulin Resistance Atherosclerosis Study. *Circulation* 2006. Vol 114(18); Oct 31,2006.

**Daniel KR**, Kutcher MA, Applegate RA, Herrington DM. Clinical and Angiographic Risk Factors for Mechanical Obstruction and No Reflow Following Percutaneous Coronary Intervention. AHA Scientific Sessions, *Circulation* 2006. 114(18); Oct 31,2006.

**Yeboah J**, Burke GL, Mcburnie MA, Sutton-Tyrrell K, Crouse JR, and Herrington DM. Association of Endothelial Function and Cardiovascular Disease Status in an Elderly Cohort: The Cardiovascular Health Study. AHA Annual Conference on Cardiovascular Disease Epidemiology and Prevention in Association w/the Council on Nutrition, Physical Activity and Metabolism. Feb 2007.

Nelson MA, **Daniel KR**, Carr JJ, Freedman BI, Prineas RJ, Bowden DW, Herrington DM. Associations between electrocardiographic interval durations and coronary calcium scores: The Diabetes Heart Study. Presented as a poster at the AHA-Epidemiology Council Meeting, March 2007.

Putney D, Matura LA, **Daniel K**, Thohan V, Negative Impace of Nesiritide in combination with intropic therapy among Patients Admitted wieh Acute Heart Failure. Supplement to Journal of American College of Cardiology 2007, Vol 49(9) supplement A; March 6, 2007; 1022-66.

**Lakoski SG**, Cushman M, Siscovick, D, Blumenthal R, Burke, G. Palmas W, Herrington D. The relationship between inflammation, obesity, and risk for hypertension in the multi-ethnic study of atherosclerosis (MESA.) Finalist poster competition. AHA – 2007.

Sturek JM, Hedrick CC, Mauldin JP, Huang C-C, Carr J, Swords-Jenny N, Goodarzi MO, Taylor K, Rotter JI, Adar SD, Kao WHL, Post WR, **Daniel KR**, Rich SS. ABCG1 SNPs and variation in lipid levels in the Multi-Ethnic Study of Atherosclerosis (MESA). 2007 Clinical Cardiovascular Genomics Meeting at Cold Spring Harbor, October 2007.

Lehtinen AB, Newton-Cheh C, Ziegler JT, Langefeld CD, Freedman BI, **Daniel KR**, Herrington DM, Bowden DW. Association of NOS1AP genetic variants with QT interval duration in families from the Diabetes Heart Study. Poster presentation at the American Heart Association Scientific Sessions November 2007.

**John JM**, The Determinants of Exercise Tolerance in Diastolic Heart Failure Patients, Ohio Chapter of the American College of Cardiology, 2007.

**Shah SA**, Lehtinen AB, Nelson MA, Freedman BI, Bowden DW, Daniel KR, Herrington DM. Relationship Between Genetic Variants in Myocardial Sodium and Potassium Channel Genes and QT Duration in Diabetics: The Diabetes Heart Study. Poster presentation. 48th Cardiovascular Disease Epidemiology and Prevention Conference, and Nutrition, Physical Activity and Metabolism Conference. March 2008.

**Prime D**, Brumback LC, Arnett DK, Heckbert SR, Duprez DA, Jacobs DR, Herrington DM, Bluemke D, Lima JA. Relationship between increased pulse pressure measured by radial arterial tonometry or by brachial cuff, and increased left ventricular mass (LVM): The Multi Ethnic Study of Atherosclerosis (MESA). NHLBI Cardiovascular Epidemiology, Biostatistics and Behavioral Medicine Trainee Session in conjunction with the 48th Cardiovascular Disease Epidemiology and Prevention Conference, and Nutrition, Physical Activity and Metabolism Conference. March 2008.

Duprez DA, Jacobs DR Jr, Lutsey PL, Herrington DM, **Prime DD**, Ouyang P, Barr GR, Bluemke DA. Relationship Between Endothelial, Inflammatory, Thrombotic Markers and Large and Small Artery Elasticity – Results of the Multi-Ethnic Study of Atherosclerosis (MESA) Cohort Study. JACC 2008;51:A300-3001. ACC 57th Annual Scientific Session March 20, 2008 and NHLBI Cardiovascular Epidemiology, Biostatistics and Behavioral Medicine Trainee Session in conjunction with the 48th Cardiovascular Disease Epidemiology and Prevention Conference, and Nutrition, Physical Activity and Metabolism Conference. March 2008.

**Stacey RB**, Bertoni A, Eng J, Bluemke DA, Hundley WG, Herrington DH. Modification of the Effect of Glycemic Status on Aortic Distensibility by Age in the Multi-Ethnic Study of Atherosclerosis Accepted to the American Heart Association 2008 Scientific Session.

**Daniel KR**, Hedrick CC, Rich SS, Allison M, Post W, Tsai MY, Palmas W, McClelland R, O’Leary DH, Herrington DM. Cholesterol ester transfer protein (CETP) polymorphisms are associated with lipoproteins and subclinical atherosclerosis in the Multi-Ethnic Study of Atherosclerosis (MESA). Poster presentation at the American Heart Association - Epidemiology Council Conference, March 2008.

McKimmie RL, **Daniel KR**, Carr JJ, Bowden DW, Freedman BI, Register TC, Hsu F-C, Lohman KK, Weinberg RE, Wagenknecht LE. Hepatic Steatosis and subclinical cardiovascular disease in a cohort enriched for type 2 diabetes: the Diabetes Heart Study. Poster presentation at the American Heart Association - Epidemiology Council Conference, March 2008.

**Shah SA**, Lehtinen AB, Nelson MA, Freedman BI, Bowden DW, **Daniel KR**, Herrington DM. Relationship Between Genetic Variants in Myocardial Sodium and Potassium Channel Genes and QT Duration in Diabetics: The Diabetes Heart Study. Poster presentation at the American Heart Association - Epidemiology Council Conference, March 2008.

**Stacey RB**, **Daniel KR**, Bertoni AG, Carr JJ, Freedman BI, Bowden DW, Herrington DM. Relationships between Cardiovascular Risk Factors and Biventricular Volume in the Diabetes Heart Study. Poster presentation at the American Heart Association - Epidemiology Council Conference, March 2008.

**Joseph Yeboah**, Craig Johnson, Gregory L Burke, Joseph Polak, Wendy Post, Joao Lima, Aaron Folsom John R. Crouse, David Herrington. Predictive Value of Brachial Flow-Mediated Dilation for Incident Cardiovascular Events in Population Based Adults: The Multi-Ethnic Study of Atherosclerosis. Accepted for presentation as a finalist for 2008 Elizabeth Barrett-Connor Research Award for Young Investigators in Training.

**Joseph Yeboah**, Joseph Polak, Gregory L. Burke, John Crouse, David Bluemke, Joao Lima David M. Herrington. Endothelial Dysfunction is Associated With Left Ventricular Mass and Left Ventricular Ejection Fraction (assessed using MRI) Independent of Blood Pressure and Antihypertensive Medication Use (MESA). Accepted for poster presentation at AHA Scientific Session 2008.

**Shah SA**, Herrington DH, Howard, TD, Burke GL, Bowden DW, Hong W, Kao LH, Chakravarti A, Lima JA, Tomaselli GF, Post W, Guo X, Siscovick DS, Psaty BM, Rich SS. Associations Between Genetic Variations in NOS1AP and QT Interval Duration in Four Racial/Ethnic Groups in the Multi-Ethnic Study of Atherosclerosis (MESA) accepted for poster presentation at the AHA Scientific Sessions Nov 2008.

Lambert ND, Sacrinty MT, Ketch TR, Turner SJ, Santos RM, **Daniel KR**, Applegate RJ, Kutcher MA, Sane DC. Chronic kidney disease and dipstick proteinuria are risk factors for stent thrombosis in patients with myocardial infarction. American College of Cardiology Annual Scientific Session 2009.

### **Abstracts Submitted:**

AHA 2009: Use of Principal Component Analysis (PCA) Enhances the Ability to Study Associations Between Single Nucleotide Polymorphisms (SNPs) in NOS1AP and QT Interval in the Multi-Ethnic Study of Atherosclerosis (MESA) Authors: Shah SA, Howard TD, Herrington DM, Divers J, Arnett D, Burke GL, Kao WH, Guo X, Siscovick DS, Chakravarti A, Lima JA, Psaty BM, Tomaselli GF, Rich SS, Bowden DW, and Post W.

AHA 2009: Short-Term Heart Rate Variability: An Independent Predictor of Incident Heart Failure in the Multi-Ethnic Study of Atherosclerosis (MESA) Sidharth A. Shah, Cheeling Chan, Harikrishna Tandri, Elizabeth Brown, David Herrington, Kiang Liu, Sanjiv J. Shah

AHA 2009: Lambert ND, Daniel KR, Cushman M, Kestenbaum B, de Boer IH, Siscovick DS, Sane DC. Correlations between serum 25-hydroxyvitamin D and measures of thrombosis and inflammation in the multi ethnic study of atherosclerosis.

### **Electronic Publications:**

Herrington DM, **Lakoski S**. Chest Pain in Postmenopausal Woman on Hormone Therapy. Cardiosource Web Site, American College of Cardiology Foundation and Elsevier, Inc. February 2004.

### **Invited Commentary**

**Mellen PB**, Herrington DM. Estradiol shows no overall effect on blood pressure. First to Know: The North American Menopause Society. 2005 Dec 15; [www.menopause.org/news.html](http://www.menopause.org/news.html)

### **INVITED PRESENTATIONS:**

**Dr. Susan Lakoski** “Women and Cardiovascular Disease” Wake Forest University School of Medicine Medical Student Class. August 2003.

**Dr. Susan Lakoski** “The Association Between Inflammation and Hypertension.” Wake Forest University School of Medicine Cardiology Research Conference, June 2004

**Dr. Phillip Mellen** “Cardiovascular Disease and Women” Cardiovascular pathophysiology lecture series for 2nd year medical students, Wake Forest University, August 2004

**Dr. Susan Lakoski** “Gender Differences and C-Reactive Protein.” Wake Forest University School of Medicine Cardiology Research Conference, January 2005

**Dr. Susan Lakoski** “The Association Between Inflammation and Hypertension.” Cardiovascular Epidemiology, Biostatistics and Behavioral Medicine Trainee Session, April 2005

**Dr. Phillip Mellen** “The Metabolic Syndrome, Insulin Resistance, and Coronary Atherosclerotic Progression” Cardiology Research Conference, Wake Forest University, June 2005

**Dr. Phillip Mellen** “New Pharmacogenetic Data in Hypertension” Satellite Symposium Invited Lecture, 14th Annual Scientific Meeting, Quebec Society of Hypertension,

Montreal, Quebec, Canada, January 14, 2006 (sponsored by Bristol-Meyers Squibb Canada and Sanofi-Aventis)

**Dr. Phillip Mellen** “Whole Grains and Heart Disease” Cardiology Research Conference, Wake Forest University, May 2006

**Dr. Kurt Daniel** “Predictors of Poor Epicardial Blood Flow Following PCI” Cardiology Research Conference, Wake Forest University, May 2006.

**Dr. Susan Lakoski** “Cardiovascular Risk Assessment in Women” Medicine Cardiology Research Conference, June 2006.

**Dr. Jerry John** “Response to Postural Change in Diastolic Heart Failure: Decreased Left Ventricular Compliance Contributes To Reductions in Stroke Volume and Cardiac Output” Medicine Cardiology Research Conference, June 2006.

**Dr. Susan Lakoski** Invited Speaker, AHA Special Session: Improving Cardiovascular Risk Assessment in Women. “Framingham Risk Score Low Balls Risk in Women.” Nov 2006

**Dr. Jerry John** “Exercise Intolerance in Diastolic Heart Failure – Evaluation using Cardiopulmonary Exercise Testing and Echocardiography”, Cardiology Research Conference, Jan 2007.

**Dr. Joseph Yeboah** “Relationship between Carotid IMT and Brachial Flow-Mediated Dilation in an Elderly Cohort”, Cardiology Research Conference, Jan 2007.

**Dr. Stewart Allen** “The association of COX-2 Inhibitors with Endothelial Function”, Cardiology Research Conference, Jan 2007.

**Dr. Darryl Prime** “Clinical Utility Of Measures Calculated From The Radial Artery Pulse Pressure Wave Form” Cardiology Research Conference, Feb 2007.

**Dr. Susan Lakoski** “Cardiovascular Disease Risk in Women” Wake Forest University School of Medicine Medical Student Class, Feb 2007.

**Dr. Susan Lakoski** “Cardiovascular Disease Risk in Women” Winston-Salem Community, June 2007.

**Dr. Susan Lakoski** Invited Speaker, Cardiovascular Seminar: Novel Risk Factors for Hypertension. “Inflammation, Blood Pressure, and Risk for Hypertension.” Nov 2007.

**Dr. Brandon Stacey** “Aortic Stiffness and the Left Ventricle” Cardiology Research Conference, Jan 2008.

**Dr. Sidharth Shah** “ The Identification and Pathophysiologic Implication of ANG-(1-2) in Human Cardiovascular Disease States” Cardiology Research Conference, Jan 2008.

**Dr. Manish Jain** “Aortic Stiffness: Is it associated with visceral fat and physical activity?” Cardiology Research Conference, Jan 2009.

**Dr. Darryl Prime** “The Association between Nitrate Therapy during Acute Myocardial Infarction and Mortality” Cardiology Research Conference Jan 2009.

**Dr. Kurt Daniel** “Heart Size by Cardiac CT – A new Epidemiologic (and Clinical?) Tool” Cardiology Research Conference March 2009.

**Dr. Stewart Allen** “Propensity Score Analysis of Indices of Thrombosis in Users of Selective and Non-selective NSAIDs” Cardiology Research Conference March 2009.

**Dr. Matthew Belford** “Flow Medicated Dilation and Endothelial Derived Proteins” Cardiology Research Conference May 2009.

**Dr. Sidharth Shah** “Associations between NOS1AP Genetic Variants and the QT Interval”, Cardiology Research Conference June 2009.

**Dr. Brandon Stacey** “Modification of the Effect of Glycemic Status on Aortic Distensibility by Age”, Cardiology Research Conference June 2009.