

Summary of Research

In addition to pursuing an academic career in Internal Medicine and Rheumatology, Dr. Wilson has had a long-standing interest in the genetics of complex diseases in African Americans, serving as the Jackson Heart Study (JHS) Genetics Coordinator since the study began in 2000. During the past 15 years Dr. Wilson and his colleagues have used admixture mapping, GWAS, exome sequencing, and recently, whole genome sequencing to study an array of biologically important traits in JHS and other cohorts. His NIGMS-funded ARRA award supported, among other things, development of the most accurate recombination map of the human genome yet produced. In the process, he and his collaborators identified a novel set of African ancestry-specific recombinational hotspots and discovered the mechanism by which recombination is targeted to these sites. Dr. Wilson has overseen JHS participation in NHLBI's Candidate Gene Association Resource, the Exome Sequencing Project, the T2D-GENES consortium, and the CHARGE consortium, serving on the Steering Committee of each of these projects. He currently chairs the steering committee of NHLBI's Trans-omics for Precision Medicine (TOPMed) project.

Dr. Wilson has made important contributions to understanding the genetic regulation of blood cell counts and has helped to identify genetic loci affecting an array of heart, lung, and blood-related traits. He is PI or Joint-PI of the following active projects:

- U54GM115428, "Mississippi Center for Clinical and Translational Research," 08/18/2016 – 07/31/2021, NIH/NIGMS
- R01 HL133870, "Aptamer Proteomics of Cardiometabolic and Renal Traits in African Americans," 04/01/2017 – 03/31/2021, NIH/NHLBI
- DK081572, "Metabolomic predictors of insulin resistance and diabetes," 07/01/2015 – 06/30/2019, NIH/NIDDK