Identifying the Clues Hidden in our Genomes

Benjamin Voight

Assistant Professor, Systems Pharmacology and Translational Therapeutics, Assistant Professor, Genetics

CURRENT RESEARCH

Our genomes harbor a trove of clues that point toward novel therapies that can alleviate human disease

Dr. Benjamin Voight witnessed some of his close family members struggle with health complications at an early age, and he became dedicated to providing translational research benefits that could one day better the human condition. He is achieving this by studying both the evolutionary history of humans using genomics data, and the genetic risk that also segregates in the genomes of human populations. Both veins of research not only improve the ability to map complex disease genes which create the possibility for new therapies, but they also teach us about the complex history and biological forces that drove the ascent of modern humans as a species. These narratives are not only intrinsically interesting, but are also helpful in identifying why and how human populations are distinctive. Dr. Voight also studies biological oddities in nature beyond humans: in particular, the silk of spiders, one of the strongest biomaterials known to man. Such effort informs general biology with the potential to fundamentally change the nature of our future world by leading to novel material production with potentially revolutionary biomedical and industrial applications. Dr. Voight works with a highly interdisciplinary team comprised of professionals in fields from molecular biology and genetics to statistics and computer science who take an unflinching approach to large-scale genomics projects. With translation as the key focus of his lab, the findings that Dr. Voight and his team gather are exquisitely positioned to make a tangible impact on medicine and ultimately human health.

The growing catalog of human genetic loci that contribute susceptibility to...

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AFFILIATION

University of Pennsylvania

EDUCATION

- Ph.D., in Human Genetics, 2006,University of Chicago
- B.A., in Mathematics, 2001,University of Washington
- B.S., in Biology, 2001,University of Washington

AWARDS

- New York Times Front Page News article, "Doubt cast on 'Good' in 'Good Cholesterol'," 2012
- Selected Alfred P. Sloan Research Fellow, 2012
- Semi-finalist, Trainee Research Award, 59th Meeting of the American, 2009
- Team Award for Outstanding Research, Clinical Research Day, Massachusetts General Hospital, 2007
- Best [Ph.D. Dissertation] in the Biological Sciences Division, University of Chicago
- and 1 more...

RESEARCH AREAS

Life Science, Cardiovascular, Genomics / Congenital, Metabolic / Diabetes

FUNDING REQUEST

Your contributions will go in large part to support Dr. Voight and his lab personnel, of which he is in dire need. In addition, "Big Data" generated from human genomes and functional, high-throughput experiments demands thousands of hours of high-performance computational analysis. Storage of these data, as well as the computing hours, are essential to this research, are non-trivial in cost. Lastly, these projects rely on genetic data as inputs, and Dr. Voight needs to supplement what is publicly available through his own wet-lab experiments.