

Mark N. Ziats

NIH-Oxford Scholar 2008

Degrees: Clemson University, B.S. Biochemistry, Chemistry 2007

Research Interests: stem cell biology; epigenetics; regenerative medicine



Mark graduated with a BS in Biochemistry, *summa cum laude* and *Phi Beta Kappa*, from Clemson University in 2007. As an undergraduate, Mark worked in the bioengineering laboratory of Dr. Naren Vyavahare where he investigated molecular mechanisms of the pathological cardiovascular calcification seen in bioprosthetic heart valve replacements. Using RNAi-based approaches to probe potential pathways, Mark's work resulted in a number of posters and abstracts showing cell-directed remodeling of the ECM causing calcification. Also as an undergraduate, Mark worked in the lab of Dr. Peter Zimmerman at Case Western Reserve University. Under Dr. Zimmerman, Mark analyzed SNP distribution in genes involved in the metabolism of antimalarial drugs from patient samples world-wide. Their results, published in 2006, suggested malaria-endemic regions of the world may not metabolize critical antimalarial drugs as effectively as other populations. In addition to research, Mark was involved with a number of organizations as an undergraduate such as the Bioethics Society, a student-run lobbying organization, and the student newspaper. He was a fellow in a political policy program in DC, where he studied and worked in Congress for a semester. He also spent time in Mumbai, India studying tropical infectious diseases. After graduating from Clemson, Mark received a fellowship in the NIH Academy, where he worked with Dr. William Gahl. His research focused on developing and characterizing a mouse model for Hereditary Inclusion Body Myopathy (a rare, inherited form of muscular dystrophy) and testing possible therapeutic drugs. Mark will be pursuing combined MD/PhD training at Baylor College of Medicine and the NIH-Oxford Scholars program. For his PhD, Mark will be working in the labs of Dr. Ron McKay at NIH and Dr. Neil Brockdorff at Oxford on a collaborative project investigating the role of epigenetics in stem cell self-renewal and differentiation in development, adult tissue and in diseased states.