NICHOLAS MCBRIDE

Cambridge Scholar, 2007

Degree: Worcester Polytechnic Institute, B.S. Biomedical Engineering, 2007

Research Area: Biosensor Design for Mycobacterium Tuberculosis Research

Nicholas McBride graduated from Worcester Polytechnic Institute in 2007 with a B.S. in Biomedical Engineering and a minor in International Studies. At WPI he was the recipient of numerous acadmic awards including the President's IQP Award for a flooding and erosion control research project, the Cape Technology Council Laptop Scholarship award, the Cape Cod Associates Scholarship award, the Charles & Wenonah Decater Scholarship, and a Worcester Polytechnic Institute Scholarship. Nicholas began his research as an intern at the Woods Hole Oceanographic Institution in Massachusetts, where he studied *Alexandrium fundyense*, a dinoflagellate that causes toxic red tides and shellfish bed poisonings across the northeastern seaboard of the United States. In 2005 he worked on a biomedical engineering design team to built a prototype tissue culture incubator for use in real-time microscopy. In 2006 he interned at Total ReCord, Inc. in Massachusetts, and developed assays for quality control of an implantable spinal cord regeneration product. As a college senior, he completed a project combining aspects of biomaterial-tissue interactions, tissue engineering scaffold design, and biomechanics. The goal was to create a cardiac patch with clinical applications to facilitate angiogenesis and myocardial regeneration, and thereby improve survival rates and cardiac function for heart attack victims. Nicholas has traveled extensively abroad, using his engineering skills for service projects in underdeveloped communities. In 2006 he designed rainwater flooding and erosion control systems for impoverished settlers in Windhoek, Namibia, and through Engineers Without Borders he helped to plan a water system for a remote village in Chiapas, Mexico. In addition to his science, Nick volunteered in the Emergency Medical Service as a certified Emergency Medical Technician in Massachusetts, a WPI Global Ambassador, and a member of the Biomedical Engineering Society, the Society of Hispanic Professional Engineers, the Tau Beta Pi Engineering Honor Society, and the Mu Sigma Delta premedical society. He is also an avid runner, snowboarder, and curler, and has practiced Tang Soo Do for many years, for which he earned the rank of First Dan. Nicholas hopes to use his research to "implement novel designs of disposable medical devices that will revolutionize the field of medicine in the developing world" and to "become a leader in the advancement and production of affordable medical devices, making improved healthcare more readily available worldwide."