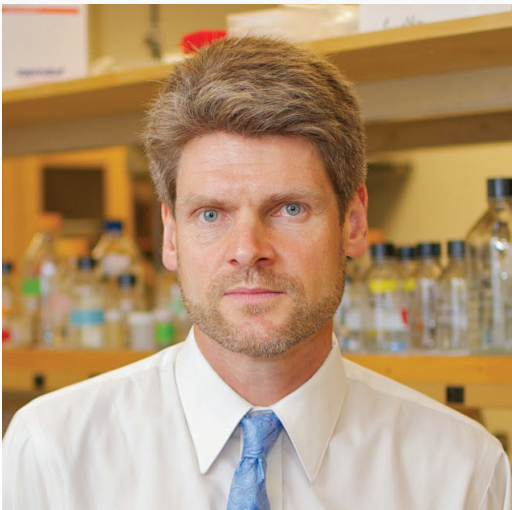


## **The Mechanical Properties of Some Natural and Synthetic Nanofibers That Are Relevant to the Extracellular Matrix**

**Dr. Martin Guthold**  
Professor of Physics  
Wake Forest University

**Friday, November 17, 2017**  
2 – 3 p.m.  
Biology (Building 21), room 265



Dr. Martin Guthold is Professor of Physics at Wake Forest University, where he leads research projects at the intersection of biophysics, molecular biology, and nanotechnology.

A key challenge in tissue engineering is designing a matrix that optimally mimics the micro-environment of a particular cell type. In this lecture, Dr. Guthold will discuss his work determining the mechanical properties of nanofibers formed from extracellular proteins fibrinogen and collagen, or biocompatible polycaprolactone (PCL), using a combined atomic force/inverted optical microscopy technique.

By applying this technique to fibrin fibers, electrospun fibrinogen, collagen and PCL fibers, and mixed fibers, Dr. Guthold's team is contributing to a better understanding of the extracellular matrix, which may aid in the rational construction of tissue engineering scaffolds.

Dr. Guthold started his lab at Wake Forest University in 2001. The research interests of his lab are in the general areas of biophysics, molecular biology, nanotechnology, microscopy techniques, especially atomic force microscopy (AFM) and fluorescence microscopy, and next generation-sequencing.

Dr. Guthold was a postdoctoral researcher at the University of North Carolina. He earned an undergraduate degree from the University of Ulm (Germany) and both a master's degree and PhD in physics and molecular biology from the University of Oregon.