

January/February 2015

RESOURCE

engineering and technology for a sustainable world



AE50 
outstanding innovations



Celebrating Success



Logo Design
Contest



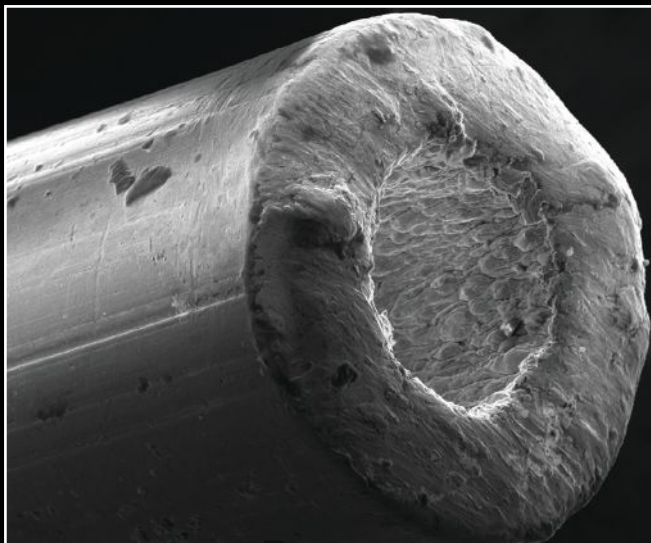
Boyd-Scott
Graduate
Research
Award



Ag and Bio Engineering
Ethics Essay Contest

PUBLISHED BY AMERICAN SOCIETY OF AGRICULTURAL AND BIOLOGICAL ENGINEERS

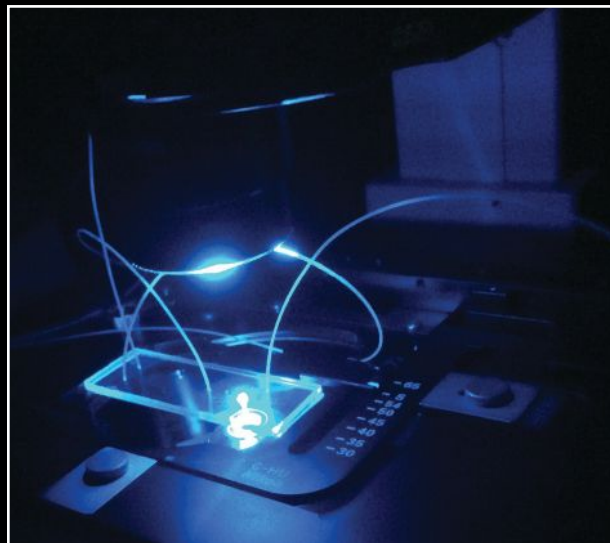




INSIDE, OUTSIDE, AND THE TRANSITION

Scanning electron microscope image of syringe needle tip.

Evan Wright, BioNano Laboratory, University of Guelph, and **Suresh Neethirajan**, Assistant Professor, School of Engineering, University of Guelph, Ontario, Canada



NORTHERN LIGHTS

Fluorescence microscopy: experimental setup for the study of bacterial chemotaxis—the movement of an organism in response to a chemical stimulus.

Lee Preiss, BioNano Laboratory, and **Suresh Neethirajan**, Assistant Professor, School of Engineering, University of Guelph, Ontario, Canada



NERVE CENTER

Technology-driven agriculture: the command and control center of Greenwood Resources Boardman Tree Farm, the world's largest irrigated fiber farm and contiguous drip-irrigated farm, with one of the nation's most sophisticated control systems.

"These operator interface terminals operate the Irrigation Supervisory Control and Data Acquisition (I-SCADA) system, providing high-efficiency irrigation on 10,440 ha (25,800 ac) of drip and 2,225 ha (5,500 ac) of pivot ground. The I-SCADA system incorporates 153 remote terminal units—mini field computers—along with more than 1,400 sensors and 1,800 controls. This is computer-controlled agriculture at its best, remotely irrigating trees for solid wood/vener or wood chips for paper, bio-energy, biofuels, and biochemical production, in addition to producing high-value crops like potatoes, onions, mint, alfalfa, and sweet corn."

Nabil Mohamed, Water and Energy Resource Engineer, Boardman Tree Farm, Hermiston, Oregon, USA