

# NIRT: Nanostructured Functionally Graded Biomaterials

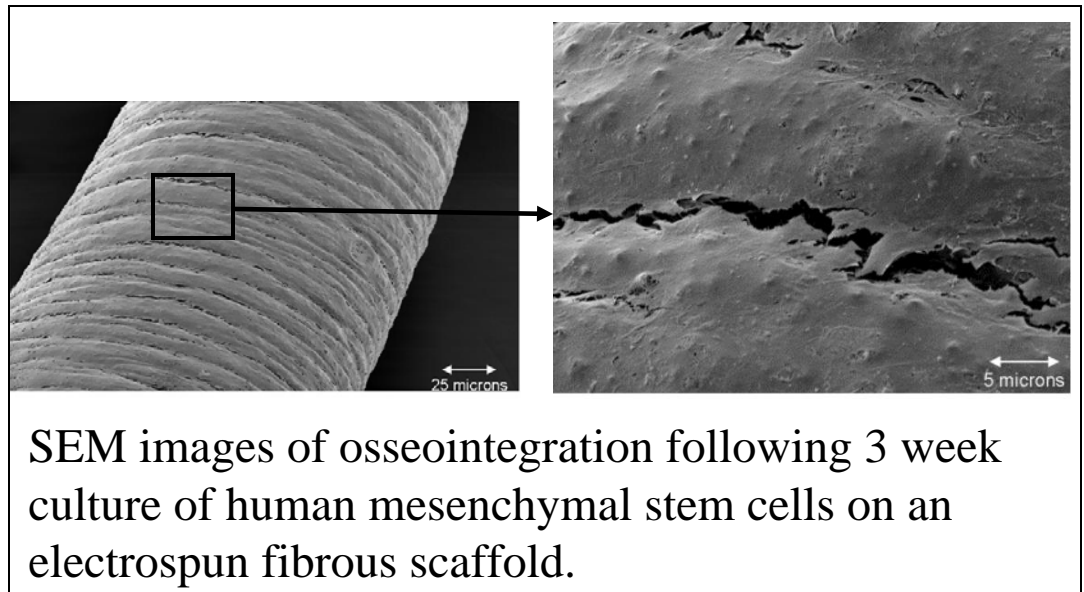
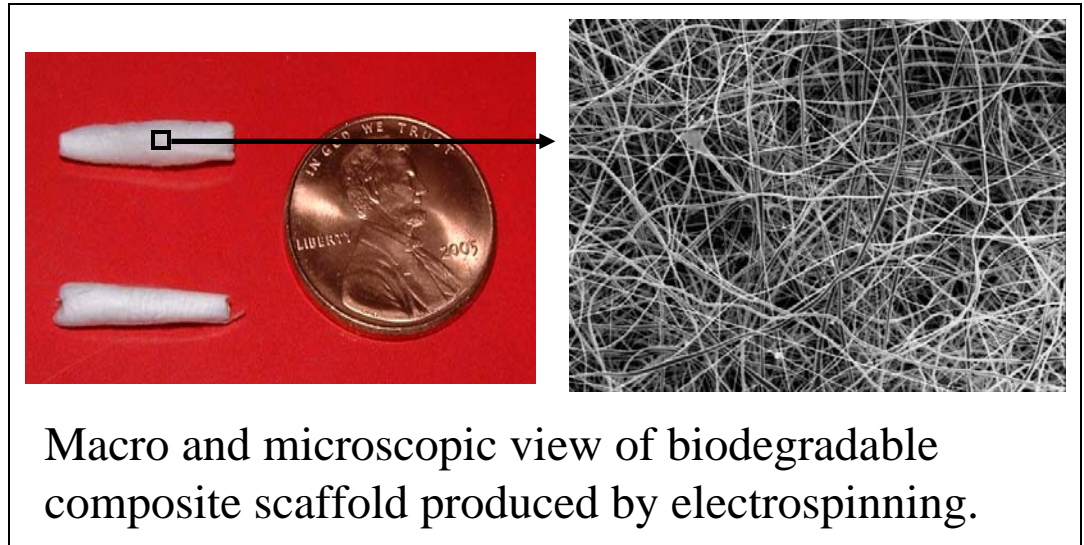
Yogesh Vohra, University of Alabama at Birmingham, **DMR-0402891**

Intellectual Merit: The adhesion and spreading of human mesenchymal stem cells is greatly improved by incorporation of a small amount of hydroxyapatite into biodegradable fibrous scaffolds.

This research is notable because biodegradable scaffolds produced by electrospinning can provide temporary structure to cells for bone regeneration.

## NIRT Publications:

*Current Nanosci.* 2, 155-177 (2006)  
*J. Nanosci. Nanotechnol.* 6,487-492. (2006)



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## Broader Impacts:

The University of Alabama at Birmingham (UAB) in partnership with McWane Science Center in Birmingham offer interdisciplinary materials research experiences to graduate students and encourage local high school students to pursue careers in in physics, chemistry, applied mathematics, and engineering.



NIRT supported biomedical engineering graduate student Will Clem (on the right) and educator Ashley Hall (on the left) studied fluid flow through electrospun biomaterials as part of NASA's reduced gravity flight program in August 2006.