Tissue-Engineered Cornea

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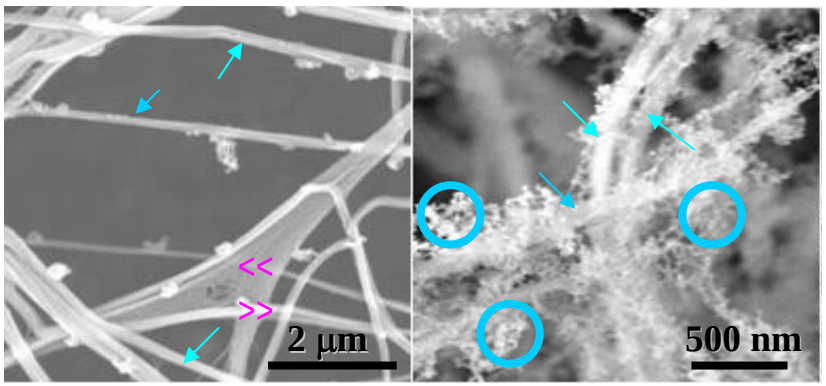
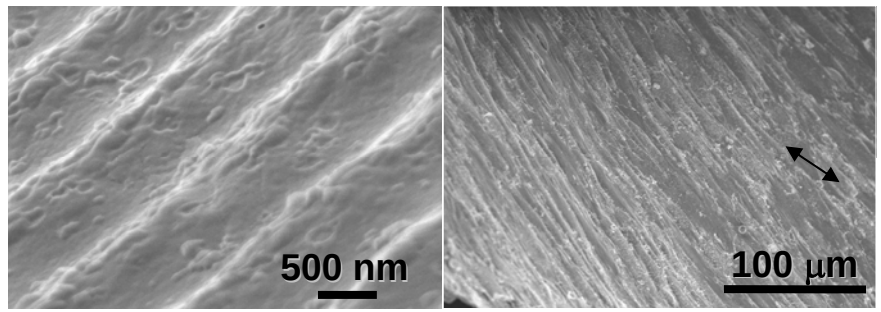
- Microstructural Analysis of Collagen Sponges and Films
  - Fibril Diameter
  - Fibril Alignment and Density
  - Cell Morphology and Alignment
  - Immunolabeling of Fibers



Cornea stromal fibroblasts migrated through fibrin gel depositing mesh-like fibronectin onto the smooth fibrin fibers.

Images acquired with SEM at the Characterization Facility

- MAJOR OBSERVATIONS
  - Stromal fibroblasts migrated through and remodeled fibrin gel adhering two collagen films.
  - Stromal fibroblasts continued to deposit smooth collagen fibrils and mesh-like fibronectin fibrils when cultured on grooved surfaces.
  - Grooved surfaces caused alignment of stromal fibroblasts across the entire film surface.



Collagen films with 2 μm grooves caused alignment of stromal fibroblasts.

- Publications

  - Orwin EJ and A Hubel. *Tissue Eng.* 6(4): 307-19, 2000.
  - Orwin EJ, ML Borene, and A Hubel. *J.Biomech. Eng.* 125(4): 439-44, 2003.
  - Borene ML, VH Barocas, and A Hubel. *Ann. Biomed. Eng.* 32(2): 274-83, 2004.
  - Crabb RA., Chau EP, Evans MC, Barocas VH, and A Hubel. *Tissue Eng.* 12(6): 1565-75, 2006.
  - Crabb RA, Chau EP, Decoteau DM, and A Hubel. *Ann. Biomed. Eng*. 34(10): 1615-27, 2006.