

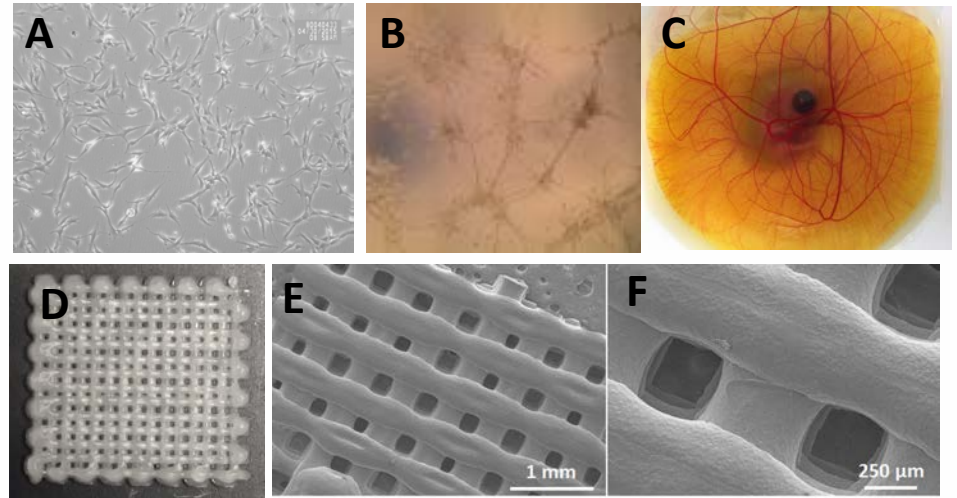
Mesenchymal Stem Cell Biology

Cell Therapy

- Evaluating MSCs from altered states
 - MSCs from patients with chronic disease
 - Autologous vs allogeneic cell therapy
- Treatment of neural and autoimmune disease
 - Identifying the ideal source of MSC
 - Defining the ideal timing of therapy

Tissue Engineering

- Wound healing using MSCs and bioactive glass
 - Mechanism to increase angiogenesis
 - Changes in extracellular matrix secretion
- 3D bioprinting
 - Novel method to 3D print stem cells



MSCs grown under standard culture condition (A), with bioactive glass (B), and in an angiogenesis model (C). A novel method to 3D print stem cells (D-F).

Contact Information:



Julie Semon

Asst. Professor

Department of Biological Sciences

Email: semonja@mst.edu

Phone: (573) 341-6606

Keywords

- stem cells, MSCs, cell therapy, tissue engineering, biomedical engineering

Recognitions/Significant achievements

- Semon, J.A., et al. Comparison of human adult stem cells from adipose tissue and bone marrow in the treatment of experimental autoimmune encephalomyelitis. *Stem Cells Res Ther* Jan 9;5(1):2 (2014).
- Zhang, X., et al. Transplantation of Autologous Adipose Stem Cells Lacks Therapeutic Efficacy in the Experimental Autoimmune Encephalomyelitis Model. *PLoS One* Jan 21;9(1):e85007 (2014).