Engineering Materials for the Biological Interface

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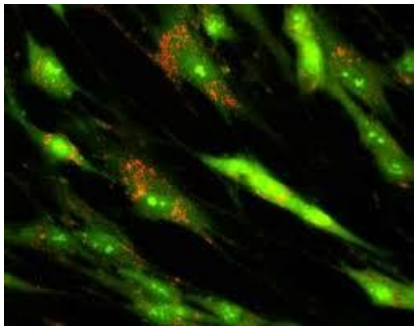
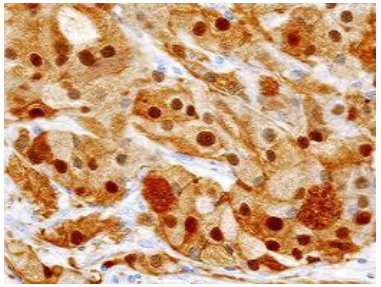
Biological Tissues: Resilient, Regenerative and Functional Materials

- Self-healing
- Adaptive architecture
- Self renewing
- Differentiation
- Stimuli responsive
- Sensing capability
- Actuatable
- Mechanical

Regenerative Medicine

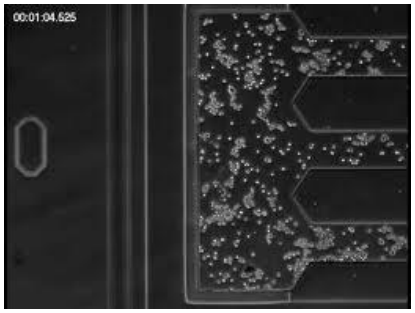


Biological Studies

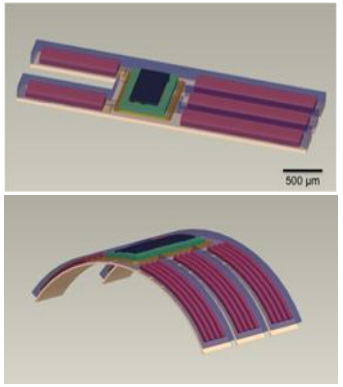


Disease Models / Drug Discovery

Applications of Engineered Biological Tissues

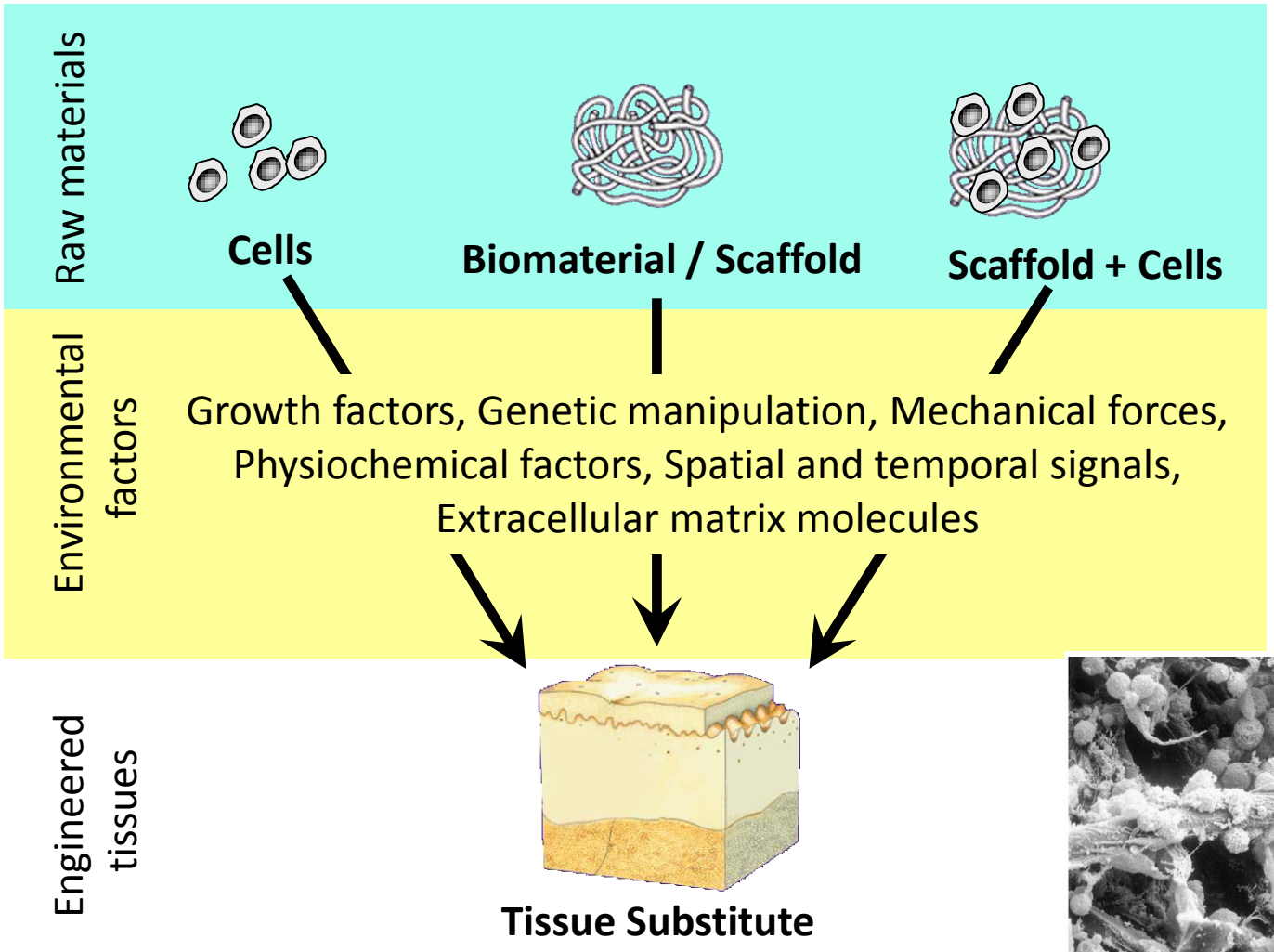


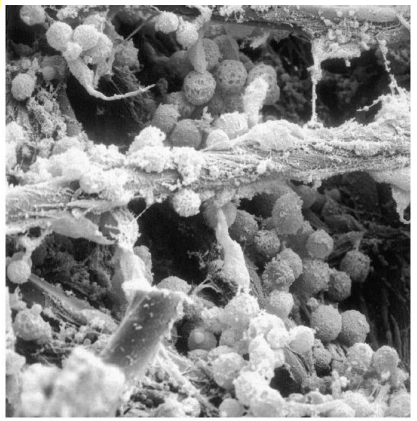
Biosensing



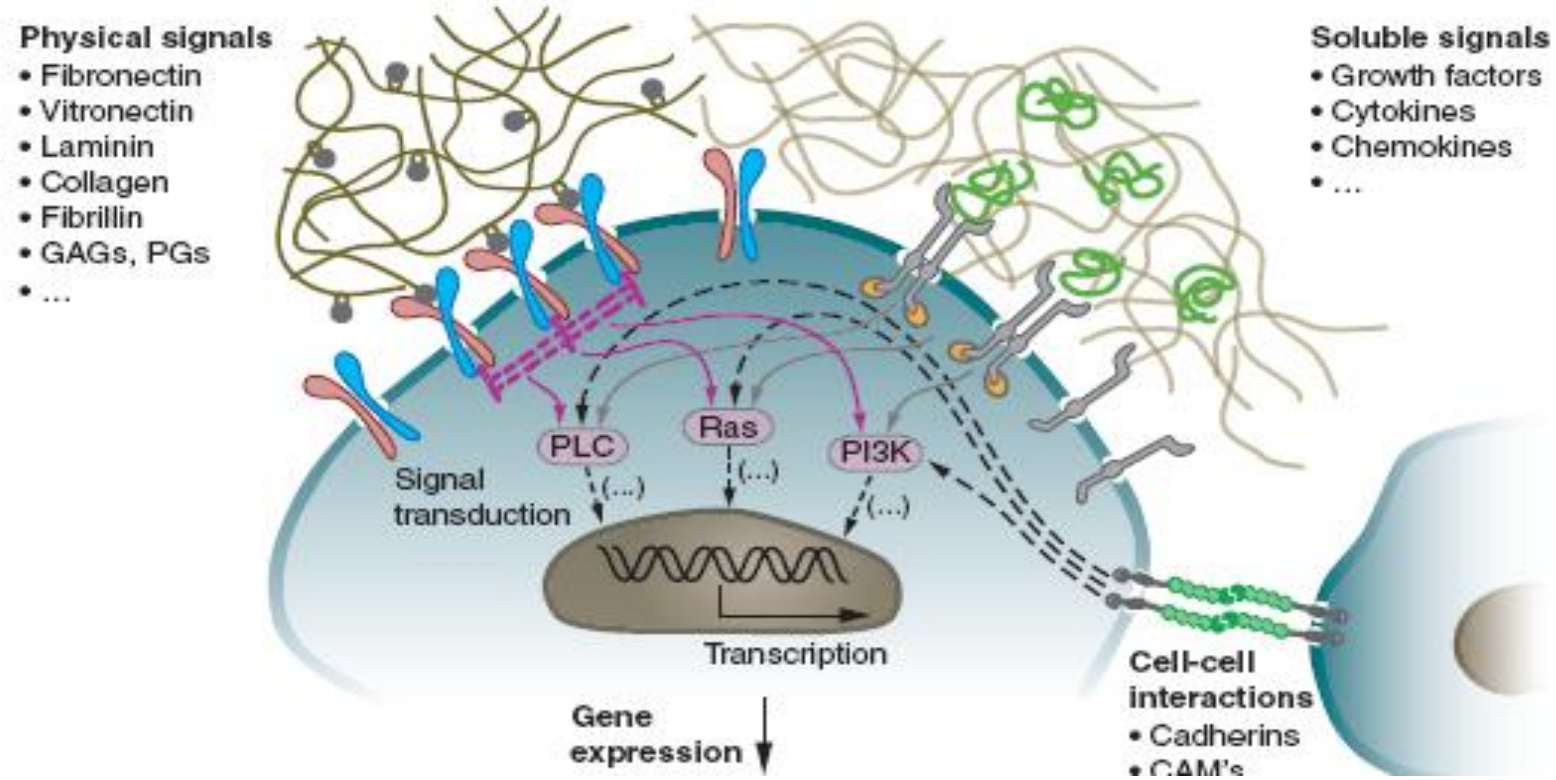
Biorobotics / Bioenergy

Tissue Engineering Approaches





Engineered Biomaterials to Regulate Cellular Behavior

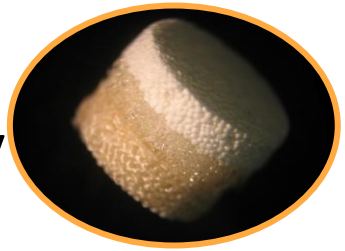


Lutolf, MP, Nature Biotechnology, 2005

❑ Engineered biomaterials provide biochemical and mechanical cues that regulate cell function

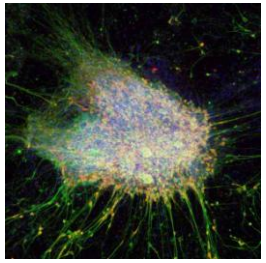
Engineering Materials for the Biological Interface

- Helen Lu
  - Columbia University



Engineering Tissue-to-Tissue Interfaces and the Formation of Complex Tissues

- David Schaffer
  - University of California Berkeley



Identification & Modulation of Biophysical Signals that Control Stem Cell Function & Fate

- Matthew Gevaert
  - Kiyatec

Engineering 3D Tissue Systems to Better Mimic Human Biology