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Cathryn Sundback, ScD,
Massachusetts General Hospital,
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Organ Fabrication

Degradation and Remodeling of Decellularized ECM-Derived Surgical Scaffolds

The use of natural biomaterials derived from decellularized sources has become increasingly prominent in surgical practice. Derived from the extracellular matrix (ECM) of tissue, these biomaterials participate in reparative remodeling due to bioactive cues preserved during decellularization. However, the long-term processes involved in ECM scaffold remodeling remain poorly understood. Previously, studies have shown that macrophages respond to local environment cues and participate in inflammation and repair.

Dr. Sundback and her team have demonstrated that stromal cells, particularly fibroblasts, also perform critical roles in this process. Together macrophages and fibroblasts contribute to neotissue growth and incorporation of the remodeling biomaterial, replicating aspects of wound-healing.

By attending the [NJ Symposium on Biomaterials Science](#) on **November 9, 2015**, you will learn of the advances in the remodeling of these decellularized materials; a critical next step in towards optimizing their use as scaffolds for surgical reconstruction and organ engineering applications.

Dr. Cathryn Sundback is an Assistant Professor at the Harvard Medical School, Director of the Laboratory for Tissue Engineering and Organ Fabrication and the Director of the Biomaterials Core in the Center for Regenerative Medicine at the Massachusetts General Hospital. Her research focuses on the application of synthetic and natural biomaterials for the tissue engineering of facial and limb tissues, with particular focus on peripheral nerve, skeletal muscle, cartilage, and bone.

Dr. Sundback is a biomaterialist by training. She is currently developing engineered skeletal muscle and cartilage as clinically translatable models as well as *in vitro* models of normal and diseased skeletal muscle for drug testing. Her expertise in the field of biocompatibility of synthetic and natural biomaterials has made her an invaluable asset in the advancement of tissue engineering.

Come listen to Dr. Cathryn Sundback and many more experts in the field of biomaterials at the [NJ Symposium on Biomaterials Science](#) on November 9th and be a part of the future of healthcare.

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