

— **Call for Papers** —  
A Symposium on  
**Advances in Biomanufacturing of Tissue-Engineered Scaffolds  
and Cellular/Tissue Constructs**

Sponsored by the ASME Manufacturing Engineering Division's  
*Biomanufacturing Technical Committee*  
2017 ASME International Manufacturing Science and Engineering Conference (MSEC)\*  
June 4-8, 2017  
University of Southern California

**Technical Focus**

Biomanufacturing, utilizing various advanced manufacturing technologies to assemble biologically active or biologically derived systems, has been widely applied to tissue engineering and regenerative medicine with the aim of developing biological substitutes to restore, replace or regenerate defective tissues and organs. Traditionally, tissue-engineered scaffolds are manufactured with biomaterials, upon which living cells can grow for later implantation into the body. The more exciting prospect is precise patterning of the key components (extracellular materials and living cells) to make up functional engineered tissues and organs suitable for regeneration or transplantation. Compared to traditional manufacturing technologies, biomanufacturing involves much more complexities (such as material selection, cell and material interactions, technical challenges related to the sensitivities of living cells, design and optimization of tissue and organ constructions), which requires the integration of multiple disciplines in engineering, materials science, cell biology and medicine. This symposium will focus on the state-of-the-art research advances in the area of biomanufacturing of tissue-engineered scaffolds and cellular/tissue constructs. Specific topics of interest include, but are not limited to:

- Modeling and analysis of biopolymer processing
- Cell printing and cell encapsulation
- Design, fabrication and characterization of 3D tissue-engineered scaffolds
- 3D bioprinting of complex tissues and organs
- Novel advanced manufacturing techniques for biomaterial processing
- Organ-on-chips
- Microfluidic devices for biomedical applications
- Bioreactor systems for tissue engineering
- Cell-biomaterial interaction

**Paper Submission**

Authors are encouraged to submit an abstract and full manuscript for review by **November 03, 2016** via the conference website. Final revised manuscripts must be submitted by **March 08, 2017**. The copyright transfer form must be filled out and the presenting author must pre-register by April 06, 2017 or the paper will be withdrawn from the conference. Authors may also consult [www.asme.org/divisions/med/call/](http://www.asme.org/divisions/med/call/) for updates. **No papers are to be submitted to the organizers; submissions will only be accepted via the conference website at [www.asmeconferences.org/msec2017/](http://www.asmeconferences.org/msec2017/).**

**Organizers**

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\* The conference is collocated with NAMRI/SME's 45th North American Manufacturing Research Conference (NAMRC45) and JSME's International Conference on Materials and Processing (ICMP 2017), both of which have a separate call-for-papers. Please note that submissions of the same paper to more than one conference are not permitted.