

ASME Journal of Nanotechnology in Engineering and Medicine

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Call for Papers Special Topic on: 3D Bioprinting

3D Bioprinting is an extension of tissue engineering, as it intends to create *de novo* tissues and organs. It uses bioadditive manufacturing technologies such as laser-based writing, inkjet-based printing, and extrusion-based deposition to print constructs for generation of engineered tissues, organ modules and organs. Bioprinting offers great precision on spatial placement of cells, proteins, DNA, drugs and biologically active nano- and micro-particles to better guide tissue generation and formation. This emerging technology appears to be more promising for advancing tissue engineering toward functional tissue and organ fabrication for transplantation, ultimately mitigating organ shortage and saving lives. In this regard, exploring novel bioprinting processes and next-generation bioprinter technologies, development of new bioink materials and understanding functional tissue and organ formation is of growing importance. Consequently, a special issue of the ASME Journal of Nanotechnology in Engineering and Medicine is planned for the third quarter of 2015 on the topic of 3D Bioprinting. Manuscripts representing the broad field are invited. Topics include, but are not limited to, the following:

- New frontiers in organ printing technologies,
- Emerging direct cell writing technologies,
- New cell-laden or scaffold-free bioprinting approaches,
- 3D Bioprinting of biologically active nano- and micro-particles,
- 3D Bioprinting of miniature scaffolds, tissues and organs,
- Novel bioink (i.e., hydrogels or gel-free) processing and scaffold printing techniques for advanced biofabrication,
- Advanced design and process modeling for bioadditive manufacturing,
- Development of next-generation bioprinters for affordable scale-up functional tissue and organ fabrication.

Submission Instructions, Timeline, and Review Process:

1. Manuscripts must be prepared according to the Journal's guidelines:
<http://journaltool.asme.org/Content/AuthorResources.cfm>
2. Please select the special topic on **3D Bioprinting** when submitting the manuscript.
3. Submit your manuscript online at the ASME Journal Tool website:
<http://journaltool.asme.org/Content/index.cfm>
4. Review Process: All manuscripts submitted for this special topic will be subjected to a strict peer review process to ensure the highest standards of quality. Please indicate in your cover letter that the submitted manuscript has not been published previously, is not under review by any other journal, and will not be submitted elsewhere before a final decision is made by JNEM.
5. Important Dates:
Paper Submission by: April 1, 2015
Authors Notification: June 15, 2015
Publication of Special Topic: August, 2015

Editor for the Special Topic: Ibrahim T. Ozbolat, PhD, Assistant Professor, Biomanufacturing Laboratory, Department of Mechanical and Industrial Engineering, The University of Iowa, ibrahim-ozbolat@uiowa.edu

Dr. Ozbolat is a faculty of Mechanical and Industrial Engineering Department, director of Biomanufacturing Laboratory and the founder and co-director of Advanced Manufacturing Technology Group at the University of Iowa. He is also affiliated in the Center for Computer-aided Design (CCAD) as a research professor. He received his Ph.D in Industrial and Systems Engineering from the University at Buffalo, New York, and dual B.S. degrees in Mechanical Engineering and in Industrial Engineering from Middle East Technical University, Turkey. Dr. Ozbolat's major research thrust is in the area of Biomanufacturing and Tissue Engineering with a special focus on 3D Bioprinting, particularly bioprinting for organ fabrication. His current research focuses on development of novel bioprinting science and technology for various areas in regenerative medicine including bioprinting of pancreatic organs for type-1 diabetes, vascular tissue printing, in-situ bone printing and gel-free cartilage printing. He has published over 60 journal and conference articles, and his research has been featured in local, national and international media, broadcast TVs and press numerous times. He frequently give talks at local, national and international forums, conferences and seminars and organizes demonstrations and events to public and youth to encourage participation of future's engineers in medicine, engineering and science. He is the founder of two spin-off companies and received several prestigious awards including the Society of Manufacturing Engineers Outstanding Young Manufacturing Engineer Award, National Science Foundation CAREER Award, and the American Society of Mechanical Engineers Pi Tau Sigma Gold Medal. More information can be found at www.engineering.uiowa.edu/~iozbolat/.

