



Conference Tools for 11th International Conference on Porous Metals and Metallic Foams (MetFoam 2019)

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Abstract Submission Form

Meeting [11th International Conference on Porous Metals and Metallic Foams \(MetFoam 2019\)](#)

Symposium **MetFoam 2019**

Organizer(s) [Nihad Dukhan](#), University of Detroit Mercy

Scope The purpose of MetFoam conference series is to provide a state-of-the-art review on lightweight porous metals and metallic foams and a forum for discussions and networking opportunities for scientists working in this field. Topics planned for MetFoam 2019 include:

- Fabrication by conventional and novel methods including additive manufacturing
- Characterization
- Properties of compressed and un-compressed foam
- Design of porous metals, metallic foams, and lattice structures
- Fluid, heat, and mass transfer
- Porous biomaterials
- Nanoporous metals
- Industrial applications of porous metals and metallic foams

A metal foam is a cellular structure consisting of a solid metal with pores making up a large portion of the volume. A defining characteristic of metal foams is their high porosity typically 75 to 95%, making these materials ultralight with applications including energy (e.g., catalysis, fuel cells), biomaterials (e.g., bone implants), and transportation (e.g., sound dampening, energy absorption).

Abstracts Due 01/04/2019

Recommended Presentation Duration 15

Proceedings Plan Planned: Post-meeting proceedings

Abstract Status **Accepted**

SELECT THE TOPICAL AREA

- Fabrication by conventional and novel methods including additive manufacturing
- Characterization
- Properties of compressed and un-compressed foam
- Design of porous metals, metallic foams, and lattice structures
- Fluid, heat, and mass transfer
- Porous biomaterials
- Nanoporous metals
- Industrial applications of porous metals and metallic foams
- Other

HOW DID YOU FIRST LEARN THAT THIS SYMPOSIUM IS COLLECTING ABSTRACTS?

- Printed Call for Papers
- Conference Web Site
- Conference e-News Article
- E-Mail in My Native Language
- General E-Mail Solicitation
- Technical Journal

- Encouragement of a Meeting Organizer
 Colleague
 Other (e.g., you have been involved in the conference organization)

PLEASE INDICATE THE PROFESSIONAL/ACADEMIC STATUS OF THE PRESENTER

- Government/Nonprofit Lab Professional
 University/Education Professional
 Undergraduate Student
 Graduate Student
 Consultant
 Industry
 Other

PROCEEDINGS PARTICIPATION

A proceedings is planned for publication in association with this symposium. If your abstract is accepted for presentation, will you provide a manuscript for publication? (Note: Selecting "Yes" does not guarantee acceptance of your abstract for inclusion in the symposium or in the proceedings.)

- YES, I will provide a manuscript for the proceedings.**
 NO, I will not provide a manuscript for the proceedings.

CREATE YOUR ABSTRACT

- Text abstracts submitted for this symposium cannot exceed **150 words**.
- DO NOT employ all-upper-case text formatting. Use initial capitalization only for your title.
- DO NOT employ hard returns; allow lines to wrap naturally.
- To add formatting or special characters to your abstract, it is necessary to embed special codes within the text. These codes can be viewed in the [Formatting and Special Character Window](#). When you click the "**Preview My Abstract**" button at the bottom of this page, you will see a formatted version of your abstract to assure that any coding that you added displays in the desired fashion.

Abstract Title:

A Novel Bioreactor System with a Shellular Scaffold

Abstract Text:

In tissue engineering, limited nutrients and oxygen medium cause hypoxic regions during cell proliferation due to mass transfer limitation. The main approaches to deal with this problem are vascularization of scaffold and culture with bioreactors. Here, we develop a circulation bioreactor system with a Shellular scaffold. The system is composed of Shellular scaffold, peristaltic pump, bioreactor chamber, pressure sensor and so on. The Shellular scaffold comprises two distinct sub-volumes intertwined with each other and separated by a single continuous semi-permeable membrane. One sub-volume is used for cell culture, while the other serves as perfusion channel, which is connected with circulation tubes for proliferation medium. The scaffold made from poly (L-lactic acid) has strength enough to withstand the working pressure and support the cells for bone and cartilage. The mechanical properties, microstructure, and wettability of scaffold are evaluated. The circulation permeability performance and cell growth of the system are also investigated.

AUTHOR/SPEAKER INFORMATION

- As a default, the system assumes that you are the lead author and the speaker. *If you are entering this abstract on behalf of someone else, please detail such in the "Additional Requirements/Comments" field below so that the programming staff can remove you from the list of authors and reassign the administrative rights for this abstract to another individual.*
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ADDITIONAL REQUIREMENTS/COMMENTSWill the presenter for this abstract require a visa to travel to the conference site? Yes No

If yes, please indicate the date by when the presenter will apply for his/her visa: March ▾ 29 ▾ 2019 ▾

(Note: The organizer recommends that presenters allow at least three months processing time before the date of travel for visa applications.)

Each session room is equipped with the following:

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- If you must withdraw your presentation subsequent to its acceptance for inclusion in the meeting program, please contact one of the meeting organizers (see above) immediately with this notification.

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