

Additive Manufacturing Day at Tennessee Tech University

November 30th, 2021

All times are CENTRAL

Welcome

- 10:00AM-10:05AM
Jennifer Taylor
Vice President for Research
Tennessee Tech University

Additive Manufacturing with Cement-based Materials

- 10:05AM-10:20AM
Chemo-mechanical Properties of 3D Printed Cement Paste
Michael Kosson and Florence Sanchez
Vanderbilt University
- 10:20AM-10:30AM
Rheology of Cement-based Pastes
Babajide Onanuga and Joseph Biernacki
Tennessee Tech University
- 10:30AM-10:40AM
Hydrogels, a Transformative Technology for Cement-based Printing Materials
Hajar Taheri and Joseph Biernacki
Tennessee Tech University
- 10:40AM-10:50AM
2D-Stational Computational Printing of Cement-based Materials
Abdul Salam Mohammad and Joseph Biernacki
Tennessee Tech University
- 10:50AM-11:00AM
Design and Additive Manufacturing of Architected Cementitious Materials
Reza Moini
Princeton University

Multi Material Additive Manufacturing

- 11:00AM-11:10AM
Development of Novel Biocompatible Material for Fabricating the 3D printed Composite Dentures
Ankit Gupta and Ismail Fidan
Tennessee Tech University
- 11:10AM-11:20AM
Quality Analysis of Low-Cost Metal Material Extrusion Fabricated Parts using Machine Learning
ZhiCheng Zhang and Ismail Fidan
Tennessee Tech University

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- 11:20AM-11:30AM
Mechanical Application of Functionally Graded Composite Parts Manufactured by the Fused Filament Fabrication Process
Seymur Hasanov, The University of Alabama in Huntsville
Ismail Fidan, Tennessee Tech University

Wire Arc Additive Manufacturing

- 11:30AM-11:40AM
Manufacturing and Prediction of Large-Scale Metal Component in Wire-Arc AM
Yousub Lee
Oak Ridge National Lab
- 11:40AM-11:50AM
Tailoring Microstructural Heterogeneity for Improved Mechanical Performance in Wire-Arc Additively Manufactured Structures
Md. Rumman Ahsan and Duck Bong Kim
Tennessee Tech University
- 11:50AM-12:00PM
Fabrication of Thin-walled Overhead/Overhang Structures using Cold Metal Transfer (CMT) based Wire + Arc Additive Manufacturing (WAAM)
Sainand Jadhav and Duck Bong Kim
Tennessee Tech University
- 12:00PM-12:10PM
Gas Tungsten Arc Welding (GTAW) based Wire + Arc Additive Manufacturing (WAAM) of NbZr1 Refractory Alloy
Saiful Islam and Duck Bong Kim
Tennessee Tech University

Additive Manufacturing from UK

- 12:10PM-12:20PM
Establishing a Design for Additive Manufacturing Research Community in the UK
Allan Rennie
Lancaster University, UK
- 12:20PM-12:30PM
Multi-Axis Additive Manufacturing with Fusion 360
Robert Bowerman
Autodesk, UK

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Additive Manufacturing Potpourri

- 12:30PM-12:40PM
Towards Dynamic Characterization of Fully 3D Printed Capacitive Sensors for Footbed Pressure Sensing Applications
Andrew Gothard and Steven Anton
Tennessee Tech University
- 12:40PM-12:50PM
Creation of a 3D-Printed Tactile Learning Device with Embedded Fiber Optic Sensing
Tyler Stanifer and Daniel VandenBerge
Tennessee Tech University