India-UK SPARC Webinar on

"Metal Additive Manufacturing and Friction Stir Processing: Present and Future"

Organized jointly by

Department of Mechanical Engineering, Indian Institute of Technology Patna, Patna (India)
Department of Mechanical and Aerospace Engineering, IIT Hyderabad
&
School of Materials, University of Manchester, United Kingdom
Ion Beam Center, University of Surrey, United Kingdom

16-17 September 2020

Webex Meeting General Guidelines:

We request the participants to kindly:

- Keep your camera off and mike muted throughout the presentation.
- Do not unmute your mike/switch on the video unless you are requested to do so by the moderator.
- Please introduce yourself before asking a Question.
- You may also ask a question by writing in the message/chat box.
- Please avoid debating with the speakers.
- Please follow the instruction of the moderator.

Program (Day 1: 16 September 2020)

Time IST(PM)/ JST(PM)	Moderator/Session chair	Talk	Speaker
1:40-1:45/ 5:10-5:15	Organizers	Opening: Welcome & Introduction to the webinar	Dr. Murshid Imam & Dr. Viswanath Chinthapenta
1:45-1:55/ 5:15-5:25	Organizers	Keynote address	Professor Sriparna Saha Associate Dean Research and Development, Indian Institute of Technology Patna
2:00-2:25/ 5:30-5:55	Dr. Murshid Imam	Low-temperature Linear Friction Welding of Various Alloys with 100% Joint Efficiency	Professor Hidetoshi Fujii JWRI, Osaka University, Japan
2:30-2:55/ 6:00-6:25	Dr. Murshid Imam	Heat input during friction stir welding of Al alloys – Process understanding from experimental measurement	Professor Yutaka S. Sato Department of Materials Processing, Tohoku University
3:00-3:25/ 6:30-6:55	Dr. Murshid Imam	Preparation of novel composites using Friction Stir Processing	Professor Satish V. Kailas Mechanical Engineering, Indian Institute of Science, Bangalore
3:30-3:55/ 7:00-7:25	Dr. Enrique Jimenez-Melero	A scalable framework for numerical modeling of SLM process	Professor Amitava De Mechanical Engineering, Indian Institute of Technology, Bombay
4:00-4:25/ 7:30-7:55	Dr. Enrique Jimenez-Melero	Numerical Study of Material Flow in a Molten Pool of the Workpiece Vibration Assisted Welding	Mr. Habib Ahmed Zargari JWRI, Osaka University, Japan
4:30-4:55/ 8:00-8:25	Dr. Enrique Jimenez-Melero	Fabrication of three dimensional copper foam parts using friction stir processing	Professor Vikranth Racherla Mechanical Engineering, Indian Institute of Technology, Kharagpur
5:00-5:25/ 8:30-8:55	Dr. Enrique Jimenez-Melero	Numerical modeling of wire arc additive Manufacturing of Inconel 625 superalloy	Dr. Viswanath Chinthapenta Mechanical and Aerospace Engineering, Indian Institute of Technology, Hyderabad
5:30-5:55/ 9:00-9:25	Dr. Viswanath Chinthapenta	Hybrid Additive Manufacturing – Experimental and Numerical Study	Dr. Murshid Imam Mechanical Engineering, Indian Institute of Technology, Patna
6:00-6:25/ 9:30-9:55	Dr. Viswanath Chinthapenta	Thermo-mechanical analysis of Metal Additive Manufacturing Processes	Professor Pankaj Biswas Mechanical Engineering, Indian Institute of Technology, Guwahati
6:30-6:55/ 10:00-10:25	Dr. Viswanath Chinthapenta	Friction Stir Cladding of copper on aluminum and steel substrates	Professor Mohd Zaheer Khan Yusufzai Mechanical Engineering, Indian Institute of Technology, BHU
6:30-6:55/ 10:00-10:25	Dr. Viswanath Chinthapenta	Friction stir processing - a tool to homogenize in-situ composites	Dr. Devinder Yadav, Assistant Professor Metallurgical and Materials Engineering, IIT Patna
7:00-7:05/ 10:30-10:35	Dr. Viswanath Chinthapenta	Closing remarks & Vote of thanks	Dr. Viswanath Chinthapenta

Program (Day 2: 17 September 2020)

Time IST(PM)/ UK Time (AM)/ Belgium Time (AM)	**Moderator/Session chair**	**Talk**	**Speaker**
1:40-1:45/ 9:10-9:15/10:10-10:15	Organizers	Opening: Welcome & Introduction to the webinar	Dr. Enrique Jimenez-Melero and Profeesor Roger Webb
1:45-1:55/ 9:15-9:25/10:15-10:25	Organizers	Keynote address	Professor Mohd. Kaleem Khan, Head, Department of Mechanical Engineering, Indian Institute of Technology Patna
2:00-2:25/ 9:30-9:55/10:30-10:55	Dr. Enrique Jimenez-Melero	Friction Stir Processing - Applications in Surface Modification and Heat Sinks	Dr. Amit Arora, Materials Science and Engineering, IIT Gandhinagar
2:30-2:55/ 10:00-10:25/11:00-11:25	Dr. Enrique Jimenez-Melero	Wire-arc additive manufacturing of nickel aluminum bronze	Prof. G.D. Janaki Ram, Materials Science and Metallurgical Engineering, Indian Institute of Technology, Hyderabad
3:00-3:25/ 10:30-10:55/11:30-11:55	Dr. Enrique Jimenez-Melero	Stationary Shoulder Friction Stir Welding of Precipitation Hardening Al Alloys	Prof. Dheerendra Kr. Dwivedi Department of Mechanical and Industrial Engineering, IIT Roorkee
3:30-3:55/ 11:00-11:25/12:00-12:25 (AM-PM)	Dr. Viswanath Chinthapenta	Friction stir welding of steel and other relevant studies	Dr. Enrique Jimenez-Melero Senior Lecturer, Department of Radiation Materials Science School of Materials, United Kingdom
4:00-4:25/ 11:30-11:55/12:30-12:55 (PM)	Dr. Viswanath Chinthapenta	Collaborative Robot: Next Step in Welding Automation	Prof. Abhay Sharma. Department of Materials Engineering KU Leuven, Belgium
4:30-4:55/ 12:00-12:25/1:00-1:25	Dr. Murshid Imam	Surrey Ion Beam Centre - Analysis and Irradiation Facilities	Prof. Roger Webb, Director of Ion Beam Centre, University of Surrey, United Kingdom
5:00-5:40/ 12:30-1:10 (PM)/1:30-2:10(PM) *7.30 AM @ PA, USA	Dr. Murshid Imam	Mechanistic models and machine learning in metal printing	Prof. Tarasankar Debroy, Department of Materials Science and Engineering, Pennsylvania State University, USA
5:40-6:10/ 1:10-1:40 (PM)/2:10-2:40 (PM)	Dr. Murshid Imam	Friction Stir Processing for improvement of the fatigue resistance of SLM-$AlSi_{10}Mg$	Prof. Aude Simar, Materials and Process Engineering, Université catholique de Louvain, Belgium

6:15-6:40/ 1:45-2:10 (PM)/2:45-3:10 (PM)	Dr. Viswanath Chinthapenta	Evolution of friction welding in meeting the latest industry needs	Dr. Buchibabu Vicharapu Assistant Professor, Mechanical Engineering, IIT Palakkad
6:45-7:10/ 2:15-2:40 (PM)/3:15-3:40 (PM)	Dr. Viswanath Chinthapenta	Nonpolynomial Based Higher-order Structural Kinematics for Functionally Graded Material Plates	Dr. Mohammad Talha Associate Professor School of Engineering, IIT Mandi, India
7:10-7:15/ 2:40-2:45 (PM)/3:40-3:45 (PM)	Dr. Murshid Imam	Closing remarks & Vote of thanks	Dr. Murshid Imam

Note: The time is calculated according to India Standard Time (IST), Japan Standard Time (JST), UK Standard Time (London Timing), and Belgium standard time (Belgium time) . For other time zones, please calculate accordingly.