

Advanced Manufacturing Workshop ILL-ESRF

Tuesday, 3 June 2025

Internal and residual stress: Plenary I - Room 110 (09:00 - 11:45)

time	title	presenter
09:00	Jonathan D. Almer APS synchrotron in situ AM diff	
09:45	Levente Balogh Queens, Quantifying complex defect structures created by advanced manufacturing using X-ray diffraction	
10:15	COFFEE BREAK	
10:45	Christopher Fancher ORNL, Strains in Wire Arc Additive Manufacturing; Insights from operando neutron scattering	
11:15	Sandra Cabeza ILL, Operando characterization in Advanced Manufacturing by Neutron Diffraction at ILL	

Internal and residual stress: Plenary II - Room 110 (13:30 - 15:45)

time	title	presenter
13:30	Jens Gibmeier KIT, in situ mechanical neutron & synch & lab XRD	
14:15	Supriyo Ganguly Univ Cranfield, Application of neutron strain measurement in wire plus arc additive structure for better manufacturability and structural integrity	
14:45	Andrea Cuffinni NOVITOM, ESRF synchrotron in situ AM diff	
15:15	Simon Hunt University of Manchester, New algorithms for stress and grain-size from spotty, noisy or incomplete x-ray diffraction data	

Harmonization and standardization - Room 110 (16:15 - 18:15)

time	title	presenter
16:15	Carsten Ohms NET, industry examples neut&sync	
16:45	Joe Kelleher ISIS, neutron	
17:15	Anna Ziara-Paradowska ANSTO - TBC	
17:45	Don Brown LANL, neutron characterization	

Wednesday, 4 June 2025

2D & 3D Imaging: Plenary I - Room 110 (08:30 - 11:45)

time	title	presenter
08:30	Adrian Brugger Columbia, Imaging	
09:15	F. Poulsen DTU, Dark field x-ray microscopy for advanced manufacturing	
09:45	A. Rack ESRF, Insights into laser advanced manufacturing with synchrotron imaging	
10:15	COFFEE BREAK	
10:45	Alessandro Tengattini ILL, Neutron imaging at ILL and its potential for Additive Manufacturing	
11:15	Sergio Soria PSI, Bragg edge imaging and polarisation contrast neutron imaging	

2D & 3D Imaging: Plenary II - Room 110 (13:30 - 15:45)

time	title	presenter
13:30	Peter Lee UCL, Multi-modal Correlative Imaging of Laser Additive Manufacturing Processes	
14:15	Pierre L'Hussier SIMAP, mech & imaging	
14:45	Steven van Petegem PSI, In-situ multimaterial printing: diffraction and imaging	
15:15	Federico Sekt IMDEA	

Round tables - Room 110 (15:45 - 18:20)

time	title	presenter
16:15	Round Table - Fabrication & Modelling	
16:45	Round Table - in-situ / operando	
17:15	Round Table - Harmonization	

Thursday, 5 June 2025

Microstructure: Plenary I - Room 110 (08:30 - 11:45)

time	title	presenter
08:30	Thomas Niendorf U Kassel, From alloy design and process parameters to part properties – The role of advanced characterization techniques in AM	
09:15	Mark Easton RMTI, Challenges in metal additive manufacturing that synchrotron experiments can enlighten	
09:45	Samantha Lawrence LANL, Probing hydrogen-modified phase transformations and deformation behavior with in-situ diffraction techniques	
10:15	COFFEE BREAK	
10:45	Eitan Tiferet NRCN, Israeli Atomic Energy Commission, Developing printing parameters in PB EBM, modeling, simulation and powder metallurgy approach	
11:15	Helmut Klöcker EMSE, Cold Spray deposits: mechanical and microstructural characterizations	

Industry - Room 110 (13:30 - 16:15)

time	title	presenter
13:30	Ibo Matthews Livermore Nat Lab, Designing new metal alloys for applications in extreme conditions	
14:15	Elena Lopez Fraunhofer IWS, Advanced materials and system technology developments for Additive Manufacturing	
14:45	Christian Leinenbach EMPA, Tracking Defects and Phase Evolution in Laser Metal Additive Manufacturing: Insights from In Situ/Operando Experiments at Synchrotron and Neutron Beamlines	
15:15	Sunchi Chen UKAEA,	
15:45	Yaron Ganor NRCN, Israeli Atomic Energy Commission, Printing recipes for 17-4 SS in PB EBM, opportunities and challenges	