Tutorial 1 Residual stresses in additive manufacturing

10:00	Residual Stress: Basic Principles of diffraction measurement methods	**Giovanni Bruno** *Bundesanstalt für Materialforschung und -prüfung, (BAM), Berlin, Germany*
11:30	Introduction to Additive Manufacturing: Characteristics and Challenges	**Alexander Liehr,** *University of Kassel, Germany*
	Lunch break	
13:30	Peculiarities of the determination of RS in AM materials	**Jakob Schröder,** *BAM, Berlin, Germany*
14:40	Case Studies 1 – RS in Metastable CrMnNi steels processed by PBF-LB/M	**Artjom Bolender,** *University of Kassel, Germany*
15:10	Case Studies 2 – RS in DED-arc AM components	**Arne Kromm,** *BAM, Berlin, Germany*
15:30	*Break, refreshment*	
16:00	Case Studies 3 – RS analysis in PBF-LB/316L	**Alexander Evans,** *BAM, Berlin, Germany*
16:20	Best practice: How to work with a mobile diffractometer	**Arne Kromm,** *BAM, Berlin, Germany*
17:15	Comparison and capabilities of different Methods	**Arne Kromm,** *BAM, Berlin, Germany*

Tutorial 2 Quantification and uncertainties in residual stress measurement

10:00	Standardisation of RS measurement in the EASI-STRESS project	**Nikolaj Zangenberg,** *Danish Technological Institute*
10:30	Handling uncertainties in RS modelling	**Juan Manuel Martinez,** *ArcelorMittal*
	Measurement and uncertainties for (semi)destructive methods	
11:15	Center hole drilling, ring core drilling and deep-hole drilling	**Ed Kingston,** *Veqtor*
11:45	Contour mapping	**Matthew Roy,** *University of Manchester*
	Lunch break	
	Measurement and uncertainties for non-destructive methods	
13:30	Portable and laboratory XRD RS measurement	**Fabien Lefebvre,** *CETIM*
14:00	Synchrotron RS measurement	**David Canelo,** *Hereon*
14:30	Neutron RS measurement	**Thilo Pirling,** *ILL Grenoble, France*
15:00	Barkhausen noise measurement	**Per Lundin,** *Lundin Stress Service*
15:30	*Break, refreshment*	
	Measurement and uncertainties for non-destructive methods	
16:00	The EASI-STRESS benchmark study	**Matthew Roy,** *University of Manchester*
16:20	Definition of samples for round robin proficiency testing for synchrotrons and neutron facilities	**Nikolaj G. Henriksen,** *Danish Technological Institute*
16:45	Accreditation and proficiency testing for lab-XRD	**Jesus Ruiz Hervias,** *Polytecnica Madrid*
17:00	Round table: discussion of round robin (samples and service)	
17:30	Closing of tutorial	