RoAMing

Institut Mines-Télécom | Technical University of Munich | german-french academy for the industry of the future, founded by IMT and TUM

A Roadmap for Industrializing Additive Manufacturing

21.03.2022-25.03.2022

What?

- Interdisciplinary teamwork on additive manufacturing technological challenges.
- Exchange between Institut Mines- Télécom and Technical University of Munich.

How?

- Events will be hosted hybrid - on-site and online.
- All presentations will be streamed live
- Ph.D. students will have the opportunity to participate in the Hackathons either on-site or online.

Where?

- Auditorium in IAS (EG)
- Garching Campus TUM
- MINES Paris PSL CEMEF CNRS 7635
- IMT Albi Campus

Target Group

- PhD-students from France and Germany.
- A certain background on industrial applications of AM and current challenges is required.

Prize

Winners of the initiative are invited to stay for a couple of days in France or in Germany to participate in research and cultural life (e.g. visits in the research labs and city-tours).

Contact

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Cemef – Centre de mise en forme des materiaux | MINES ParisTech | PSL | cnrs

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Program

Day	Monday 21.03.2022	Tuesday 22.03.2022	Wednesday 23.03.2022	Thursday 24.03.2022	Friday 25.03.2022
Focus	Materials in AM	Quality Assurance in AM	Topology Optimization	Materials in AM	Functionalities in AM
Host	TUM MAT	TUM LBAM	TUM IWB	IMT Albi- Carmaux	IMT Mines ParisTech
	09:00 – 10:00 Elevator Pitch What is my research about?	09:00 – 10:00 Prof. Dr.-Ing. Katrin Wudy Monitoring in AM with Plastics	09:00 – 10:00 Christian Fritz Introduction to topology optimization 1	09:30 – 10:00 Pr. Thierry Cutard & Pr. Jean-Jacques Favier AM in Space and on the Moon 09:00 – 09:30 Pr. Christine Boher Influence of the microstructure of SLM Co-based coatings on mechanical behaviours	09:15 – 10:15 Guest Lecture Dr. Antoine Le Duigou (Bretagne Sud Univ,) Biomimicry and 4D printing for innovative composite materials
	10:15 – 11:15 Graham Matheson (Oerlikon) Amending High Strength Aluminium Alloys for AM via Microstructural Control	10:15 – 11:15 Jonas Grünewald Monitoring in AM with Metals	10:15 – 11:15 Thomas Mair Introduction to topology optimization 2	10:15 – 11:00 Guest Lecture Prof. Michel Bellet Dr. Yancheng Zhang (MINES Paris PSL) Modeling and simulation process applied on metal alloys	10:15-11:00 Guest Lecture Anne Thenaisie (SAFRAN) Frédéric Laithier (ARIANE Group) Overview of additive manufacturing for space & aeronautics
	11:30 - 12:30 Natan Nudelis (FIT AG) Pore type classification of additive manufactured AlSi10Mg components using X-Ray data	11:30 - 12:30 Guest lecture Dr. rer. nat. Valentin Blickle (Trumpf)	11:30 - 12:30 Stefanus Stahl (BMW) Topology optimization	11:05 – 12:00 Frank Palm (Airbus) From Scalmalloy to Scancromal - How high performance Al-material concepts are matching to AM (L-PBF) 12:00 – 13:00 Dr. Emmanuel Nigito Impact of the SLM process on the metallurgy and superelastic properties of NiTi	11:00-11:45 Guest Lecture Jérôme Algrain Philippe Viana Didier Saurin (VISHAY) How 3D printing can offer new opportunities in functional structure 11:45-12:15 Guest Lecture Morenikeji Aina Dr. Fabien Baillon, Dr. Romain Sescousse Dr. Martial Sauceau (IMT Albi) General information about 3D printing of drugs
	12:30 – 13:30 | LUNCH BREAK				
	13:30 – 14:30 Guest Lecture Dr. sc. Xiaoshuang Li (Aerosint)	13:30 – 17:00 Challenge on How to design parts for qualification of AM processes and materials	13:30 – 17:00 Challenge on Topology Optimization	Introduction to bibliometrics	13:30 – 14:30 Guest Lecture Dr. Michelle Salvia (South-Est SF2M/EC Lyon) AM in French Society Communities, and academic works
	14:30 – 17:00 Challenge Recycling in AM			14:30 – 17:00 Challenge Current state of the art and future trends for materials in AM	14:30 – 17:00 Challenge How to make nD in AM & combine multi-materials functionalities