

ILTROVATORE–workshop on surface engineering technologies

Feb. 12th to 13th - workshop - Location: Karlsruhe Campus / South Building 11.30 Senatssaal

An invited dinner will be organized by KIT (Febr. 12th) - Gastdozentenhaus Building: 01.52

Preliminary Agenda

Wednesday 12th, February 2020 14:00 until 17:30

14:00 – 14:10 Welcome and Introduction

G. Müller, A. Weisenburger

1st session: 14:00 – 17:30 –includes time for questions – Chair: Jochen Schneider

14:10 – 14:45	Development and qualification of accident-tolerant fuel (ATF) cladding materials: the H2020 IL TROVATORE approach	K. Lambrinou (SCK•CEN)
14:45 – 15:30	Basic Principles of Thermal Spraying	F. Gärtner (HSU)

15:30 – 16:00 Coffee break

16:00 – 16:25	Internal coatings for accident tolerant fuel claddings: numerically assisted scale-up of the deposition process	Al. Michau (CEA)
16:25 – 16:50	Development of MAX phase-based coatings deposited by HiPIMS to improve the high-temperature oxidation behavior of Zr-based alloy	M. Ougier (CEA)
16:50 – 17:30	Preparation and characterization of rhombohedral metal-oxide thin films on c-plane α -Al ₂ O ₃ substrates	S. Ulrich (KIT)

19:00 Invited Dinner - Gastdozentenhaus Campus South KIT

Thursday 13th, February 2020 9:00 – 17:30

2nd session: 09:00 – 12:30 – includes time for questions – Chair: A. Weisenburger

09:00 – 10:00	Science of Kinetic Spraying: From Discovery and Basic Principles to Applications	F. Gärtner (HSU)
10:00 – 10:30	An overview of thin-film processing of MAX phase coatings	P. Eklund (LiU)

Coffee break 10:30 – 11:00

11:00 – 11:30	Low temperature growth strategies for nanolaminate thin films	J. Schneider (RWTH)
11:30 – 12:00	Pulsed Laser Deposition of ductile amorphous oxides and their key enabling role in liquid metal fast reactors and thermonuclear fusion	F. Di FONZO (IIT)
12:00 – 12:30	Highly-performant nano-ceramic coatings: an innovative approach for present and next generation nuclear systems	M. Vanazzi (IIT)

Lunch break 12:30 – 13:30

3rd session: 13:30 – 18:00 – includes time for questions – Chair: K. Lambrinou

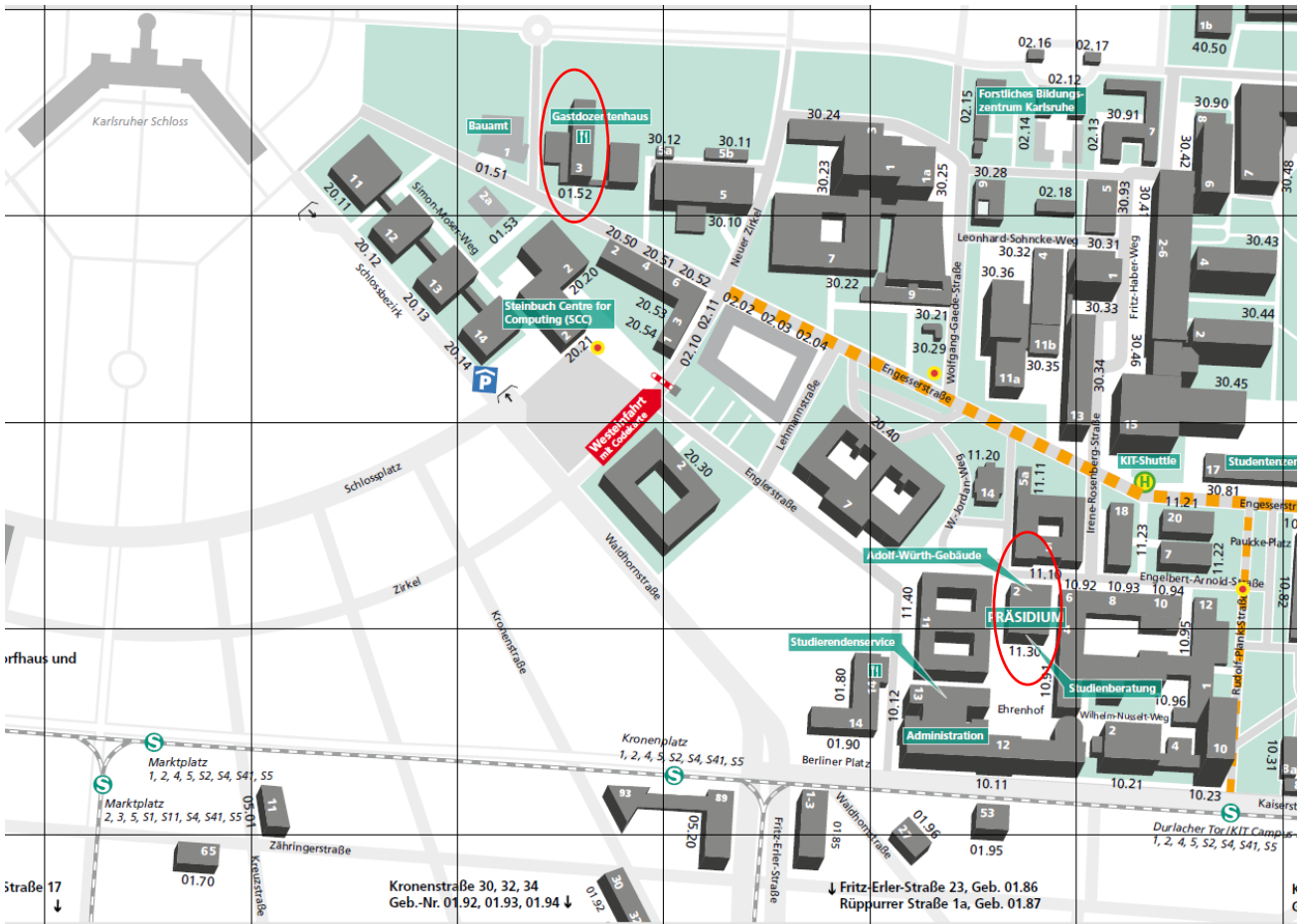
13:30 – 14:00	GESA, pulsed electron beam facility - device and physics	R. Fetzter (KIT)
14:00 – 14:25	GESA, pulsed electron beam facility – Surface modification, surface alloying– Applications	Al. Weisenburger (KIT)
14:25 – 14:55	Thermal stability enhancement of Cr2AlC	S. Mraz (RWTH)
14:55 – 15:20	Aerosol Deposition of MAX-Phase Phase Coatings	An. Elsenberg (HSU)
15:20 – 15:45	Thermal characterization of thin films	C. Azina (LiU&RWTH)

Coffee break: 15:45 – 16:05

16:05 – 16:30	Textured growth of polycrystalline MAX phase carbide coatings and their oxidation resistance	C. Tang (KIT)
16:30 – 17:00	materials informatics using materials databases based on ab initio, human and machine learning	M. to Baben (GTT)
17:00 – 17:30	In-situ ion irradiation of MAX phase ceramics in the TEM: the importance of material design on radiation response	K. Lambrinou (SCK•CEN & UoH)
17:30 – 18:00	Ion irradiation of materials – an in situ observation perspective	V. Vishnyakov (UoH)

End of Workshop

Map of Campus South



Friday February 14th - Lab-Tour – Campus North 9:00 – 13:30

08:30 – 09:00	Transport to KIT Campus North
09:00 – 10:30	Pulsed E-beam facilities, LM Corrosion Lab, E-beam coating
10:30 – 11:00	Quench, steam test facilities – IAM
11:00 – 12:00	Coating Lab – IAM
12:15 – 13:30	Lunch at Cantine - transport back to Karlsruhe