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Programme

4th Workshop on High temperature tribology

March 12-14, 2019

Luleå University of Technology
Luleå, Sweden

Room E632

Workshop sponsor



Rtec
instruments



Room E632

Tuesday 12 March

11:00 – 12:00 **Registration**

12:00 – 13:00 **Lunch**

13:00 – 16:00 **Doctoral thesis presentation and defense by Hector Torres**

Thesis title: Self-lubricating laser claddings for high temperature metal forming application
Faculty opponent: Prof. Tomasz Liskiewicz

16.15 – 16:30 **Opening session – Welcome and introduction**

Braham Prakash, Luleå University of Technology, Luleå, Sweden

16.30 – 17:00 **High Temperature Tribology Research@LTU**

Braham Prakash and Jens Hardell, Luleå University of Technology, Luleå, Sweden

17:00 – 18:00 **Tour of Tribolab@LTU**

Jens Hardell, Luleå University of Technology, Luleå, Sweden

18:30 – **Dinner**

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Wednesday 13 March

- 08:30 – 09:00 **Surface functionalization of additive manufactured components for high temperature space applications**
Manel Rodríguez Ripoll, AC2T research GmbH, Wiener Neustadt, Austria
- 09:00 – 09:30 **Multi-technique nanomechanical characterisation of hard coatings with relevance to tribological performance optimisation**
Andy Bird, Micro Materials, Wrexham, UK
- 09:30 – 10:00 **Coffe/Tea**
- 10:00 – 10:30 **Effect of surface engineered tool steels on friction and wear during sliding against aluminium at high temperatures**
Justine Decrozant-Triquenaux, Luleå University of Technology, Luleå, Sweden
- 10:30 – 11:00 **Sliding and erosive wear resistance of nano-particles alloyed high-strength steel at room and elevated temperature**
Bojan Podgornik, Institute of Metals and Technology, Ljubljana, Slovenia
- 11:00 – 11:30 **Qualification of new lubrication systems for hot forming of aluminum alloys**
Julia Degner, Lehrstuhl für Fertigungstechnologie, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany
- 11:30 – 13:00 **Lunch**
- 13:00 – 13:30 **Elevated temperature tribology of aluminium alloy in contact with conventional and additively manufactured tool steel: comparison between cases**
Elina Huttunen-Saarivirta, VTT Technical Research Centre of Finland, Tampere, Finland
- 13:30 – 14:00 **Effect of temperature on friction and wear during TiAlN PVD coating sliding against stainless steel**
Pouria Valizadeh Moghaddam, Luleå University of Technology, Luleå, Sweden
- 14:00 – 14:30 **How wrongly modelling the contact temperature can affect tool wear in a numerical cutting simulation**
Cédric Courbon, University of Lyon, Ecole Nationale d'Ingénieurs de Saint-Etienne, LTDS, Saint-Etienne, France
- 14:30 – 15:15 **Coffee/Tea**
- 15:15 – 15:45 **Self-lubricating laser claddings for the high temperature forming of aluminium alloys**
Hector Torres, AC2T research GmbH, Wiener Neustadt, Austria
- 15:45 – 16:15 **Basic friction and wear mechanisms within hot stamping**
Patrik Schwingenschlögl, Lehrstuhl für Fertigungstechnologie, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany
- 16:15 – 16:45 **Near surface transformations of stainless steel AM coatings deposited by cold spray and laser cladding**
Cédric Courbon, University of Lyon, Ecole Nationale d'Ingénieurs de Saint-Etienne, LTDS, Saint-Etienne, France
- 17:30 – **Dinner and activity in arctic conditions**



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Thursday 14 March

- 08:15 – 08:45 **Formation of wear resistant tribofilms by using Si-based organic precursors**
Carsten Gachot, Institute for Engineering Design and Logistics Engineering
Vienna University of Technology, Austria
- 08:45 – 09:15 **High temperature tribological performance of thermal spray coatings**
Leonardo Pelcastre, Luleå University of Technology, Luleå, Sweden
- 09:15 – 09:25 **Closing remarks**
Jens Hardell, Luleå University of Technology, Luleå, Sweden
- 09:25 – 09:45 **Coffe/Tea**
- 09:45 – **Departure for study visit**
- 10:15 – 12:00 **Study visit at Swerim AB - Swedish Research Institute for Mining, Metallurgy and Materials**
- 12:00 – 12:30 **Return to LTU**
- 12:30 – **Lunch**
- End of workshop**