**Computational Thermodynamics and Kinetics Seminar**

Welcome to the Thermo-Calc Software User Group Meeting 2025 in Aachen, Germany.

**PROGRAM:**

**Thursday February 06, 2025**

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| **09:00 – 12:00****12:00 – 13:00** | **Optional: Training / Demo on Thermo-Calc's Additive Manufacturing Module***A. Nicholas Grundy, Thermo-Calc Software AB****Registration***  |
| **13:00 – 14:00** | ***Lunch*** |
| **14:00 – 14.15** **14:15 – 14:40** | **Welcome and Introduction***Andre Schneider, Thermo-Calc Software AB, and Markus Apel, Access e.V.***News from Thermo-Calc, Overview of recent developments, Outlook to the future** *Andre Schneider, Thermo-Calc Software AB* |
| **14:40 – 15:05** | **How Thermo-Calc helps to investigate the Kinetics in a compositionally graded Ni-Based superalloy***Ahmadreza Riyahi Khorasgani, Julia Kundin, ICAMS, Ruhr Universität Bochum, Germany* |
| **15:05 – 15:30** | **Simulation of microstructure formation in additively manufactured materials using the software MICRESS** |
|  | *Bernd Böttger, Markus Apel, Access e.V., Aachen, Germany* |
| **15:30 – 15:55** | **CALPHAD and Phase-Field Modeling: A Successful Liaison, which is needing reinforcement on the interfaces***Suzana G. Fries, Ruhr University Bochum, Germany* |
| **15:55 – 16:30****16:30 – 16:55** | ***Coffee break*****ICME evaluation of AM powders for property control***Savya Sachi, David Linder, Ida Berglund, QuesTek Europe AB, Solna, Sweden* |
| **16:55 – 17:20** | **Investigation of nucleation kinetics in laser-induced melt pool** *Aman Gupta, Kim Vanmeensel, Joris Everaerts, Ruben Wauthle, Nele Moelans, KU Leuven & Ammonis BV, Belgium* |
| **17:20 – 17:45** | **Thermo-Calc Software´s Additive Manufacturing Module – from printability maps to microstructural evolution***Andre Schneider, Andreas Markström, Amer Malik, Minh-Do Quang, Johan Jeppsson, Thermo-Calc Software AB* |
| **17:45 – 18:10****18:10 – 18:35** | **Numerical design using TC and experimental analysis of Complex Concentrated****Alloys for heat exchangers used in Molten salt reactors***Loïc Videau, James Braun, Clara Desgranges, Caroline Toffolon-Masclet, CEA, France***Thermodynamic simulations of Alloy 625 weld metal with respect to microsegregation during solidification***Philippe Schaffnit, Charles Stallybrass, Salzgitter Mannesmann Forschung GmbH, Germany* |
| **19:30 – late** | ***Social gathering and dinner at “Pippin - die kleine Gastronomie”***Address: Hubertusstraße 43, 52064 Aachen, Germany |

**Friday February 07, 2025**

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| **08:40 – 09:05** | **Calculating Thermophysical Alloy Properties using CALPHAD-like Models***A. Nicholas Grundy, Thermo-Calc Software AB* |
| **09:05 – 09:30** | **Calculation of 2nd order bcc/B2 transitions (with examples from Fe-Al and Co-Fe-Al)***Bengt Hallstedt, RWTH Aachen University, Germany* |
| **09:30 – 09:55** | **CALPHAD-Aided Alloy Development in the System Al-Cr-Mo-Ta-Ti for High-Temperature Applications***Florian Häslich, Fraunhofer-Institut IFAM Dresden, Germany* |
| **09:55 – 10:20** | **Thermodynamic Design of Metal-Ceramic Composites***Ángel Biedma, Elena Gordo, Universidad Carlos III de Madrid* |
| **10:20 – 10:45****10:45 – 11:15** | **Thermodynamic-guided hydrogen-based direct reduction of metal oxide mixtures***Shiv Shankar, Barak Ratzker, Alisson Kwiatkowski da Silva, Dierk Raabe, Yan Ma,* *Max Planck Institute for Sustainable Materials, Düsseldorf, Germany****Coffee break*** |
| **11:15 – 11:40** | **Corrosion of Multicomponent Multiphase Materials in Aqueous Solutions under Various Temperature, Pressure and Molarity***Alisson Kwiatkowski da Silva, Thermo-Calc Software AB* |
| **11:40 – 12:05** | **Thermo-Calc as a supporting tool for a core catcher design in a GFR Nuclear Reactor***Jan Komrska, UJV Rez, Czech Republic* |
| **12:05 – 12:30** | **Calculation of nitrogen partial equilibrium utilizing data from EDS mapping analysis**Louis Becker, Santiago Benito, Sebastian Weber, Ruhr-Universität Bochum, Germany |
| **12:30 – 12:55** | **Thermodynamic modeling at Eramet Ideas***Gaurav Tripathi, Eramet, France* |
| **12:55 – 13:00** | **Closing remarks / Wrap up** |
| **13:00 – 14:00** | ***Lunch*** |
| **From 14:00****14:30 – 16:00** | ***Departure or drive to Access e.V. TechCenter*****Optional: Access e.V. TechCenter -****Prototype development and small series production of turbine blades**Jülicher Straße 322, 52070 Aachen, Germany |

 **LOCATION of the User Group Meeting:**

 Access e.V. in Aachen, Intzestraße 5, 52072 Aachen, Germany

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