**Computational Thermodynamics and Kinetics Seminar**

Welcome to the Thermo-Calc Software User Group Meeting Hosted by Thermo-Calc Software, Sweden and Phase Diagram and Thermodynamics Committee (PDTC) of the Materials Research Society-Taiwan (MRS-T) on November 12-13, 2024.

**PROGRAM Day 1, Nov. 12, Thermo-Calc User Group Meeting:**

**09:15 – 10:00*****Registration***

**10:00 – 10:15 Welcome and Introduction** *Shan Jin & Martin Xing, Thermo-Calc Software, Sweden*

**10:15 – 10:45 News from Thermo-Calc: Software and Databases** *Shan Jin, Thermo-Calc Software, Sweden*

**10:45 – 11:15 *Coffee/Tea Break***

**11:15 – 11:40 CALPHAD: the Ultimate Computational Thermodynamic Method for Multi-component Materials Systems - Case**

 **Studies on Free-cutting Steel and Ag-based Electronic Interconnection** *Shih-Kang Lin, National Cheng Kung University, Taiwan*

**11:40 – 12:05 Investigation of the Solidification and Heat Treatment Properties of Advanced Alloys using Experimentally**

 **Verifiable Multiscale Thermodynamic and Kinetic Computational Approaches** *Te-Cheng Su, National Taiwan University, Taiwan*

**12:10 – 13:30 *Lunch***

**13:30 – 13:55 Application of Thermo-Calc in Aluminum Billet Casting, Extrusion and Post Processes** *Sam Chiang, Taiwan Hodaka Technology Co. Ltd., Taiwan*

**13:55 – 14:20 Integration of High-Throughput CALPHAD and Machine Learning for Searching for Eutectic High Entropy Alloys***YingZhi Zeng, Institute of High Performance Computing, Agency for Science, Technology and Research, Singapore*

**14:20 – 14:45 Custom Thermo-Calc Databases: the Experience of Using the Parrot Module**

 *Wojtek Gierlotka, National Dong Hwa University, Taiwan*

**14:45 – 15:10 Autonomous Simulation in the Loop: A TC-Python Application***Zhonghan Zhang, Nanyang Technological University, Singapore*

**15:10 – 15:40 *Coffee/Tea Break***

**15:40 – 16:05 Application of Thermo-Calc to Investigate Microstructure Formation and Solute-element Segregation in Additive**

 **Manufacturing Processes** *Masayuki Okugawa, Osaka University, Japan*

**16:05 – 16:30 Investigation of Solidification and Homogenization Behavior of δ-ferrite in 304 SS Billet through DICTRA** *Sheng Yuan Cheng, Walsin Lihwa Corp., Taiwan*

**16:30 – 16:55 Capabilities and Limitations of CALPHAD in Designing Thermal-Sprayed High-Entropy Alloy Coatings** *Ecio Bosi Junior, Swinburne University of Technology, Australia*

**16:55 – 17:20 The Machine Learning Designs a New RHEA with Thermo-Calc and TC-Python Module** *Wei-Chih Lin, National Tsing Hua University, Taiwan*

**17:20 – 17:30 Roundup***Shan Jin & Martin Xing, Thermo-Calc Software*

**18:30 Dinner***Location TBD*

**PROGRAM Day 2, Nov. 13, Thermo-Calc Demonstration and Training:**

Cover different modules of the software, focusing on the basic functionalities of each module, primarily for beginners.

**08:30 – 9:00*****Registration***

**09:00 – 10:45 Demonstration and Training: Thermo-Calc** *Shan Jin, Thermo-Calc Software*

**10:45 – 11:15 *Coffee/Tea break***

**11:15 – 12:00 Demonstration and Training: Additive Manufacturing Module***Shan Jin, Thermo-Calc Software*

**12:00 – 13:00 *Lunch***

**13:00 – 14:00 Demonstration and Training: Diffusion Module (DICTRA)***Martin Xing, Thermo-Calc Software*

**14:00 – 14:30 Demonstration and Training: Precipitation Module (TC-PRISMA)***Shan Jin, Thermo-Calc Software*

**14:30 – 15:00 Demonstration and Training: Process Metallurgy Module***Shan Jin, Thermo-Calc Software*

**15:00 – 15:30 *Coffee/Tea break***

**15:30 – 16:30 Demonstration and Training: TC-Python***Martin Xing, Thermo-Calc Software*

**16:30 *End***

**LANGUAGE:** English

**REGISTRATION:**

Please send your registration form for the meeting via E-Mail to: Shan Jin at Thermo-Calc Software AB, shan@thermocalc.com. Please indicate any special requirements for food, such as allergies, vegetarian or non-dairy etc.

**LOCATION:** NTUH International Convention Center

 No. 2, Xuzhou Road, Zhongzheng District 100, Taipei City, Taiwan
http://www.nthcc.com.tw/traffic/traffic01?lang=en

**WELCOME!**