

Thermo-Calc™ Hands-on Training Course

Conducted by

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Organized by

Department of Metallurgical & Materials Engineering, IIT Madras

ASM International, Chennai Chapter

In collaboration with

Bhanu Scientific Systems Pvt. Ltd., Hyderabad

Date: 24—28 January 2022

Time: 3:00 pm—5:00 pm

Last date for registration: 17/January/2022 (strict deadline)

Requirements

- Internet enabled PC, laptop, or tablet (to connect with the training session using Google meet or similar)
- Another PC or laptop (Windows/Mac OS/Linux) which you will be using to practice calculations during the training session, where Thermo-Calc and Databases are installed (Bhanu Scientific will provide software license and installation support)

Outcomes

- You will learn how to use Thermo-Calc in GUI mode and Console mode
- Examples will cover applications to steels, aluminium alloys, superalloys, HEAs, ceramics, etc.

Day 1

- Introduction to Thermo-Calc and databases
- Single point calculations: volume fractions, phase constitution, solubility limits, driving forces, activities, chemical potentials, etc.
- Tracking phase changes in a material as a function of temperature, composition, etc.

Day 2

- Property diagrams: volume vs. temperature plot for a material
- Binary and ternary phase diagrams

Day 3

- Multicomponent phase diagrams (isopleths)
- Thermochemical and thermophysical properties (enthalpy, heat capacity, surface tension, viscosity, density, lattice parameter, etc.)

Day 4

- Phase relations in slag systems
- Solidification simulation (Equilibrium and Scheil-Gulliver)

Day 5

- Chemical equilibrium calculations (chemical reactions, stability diagrams)
- Glimpses of kinetic modules of Thermo-Calc (DICTRA, TC-Prisma, etc.)
- TPython programming interface (demonstration only)

Registration fees (including GST and other applicable taxes)

- Academic Institutes : ₹ 2900/-
- Government R&D : ₹ 3540/-
- Others : ₹ 5900/-

Payment must be made electronically to the following bank account

Account Name: ASM INTERNATIONAL CHENNAI CHAPTER

Account number: 032494600000404

Bank name: YES BANK

IFSC Code: YESB0000324

SWIFT CODE: YESBINBB

BRANCH: ANNA NAGAR CHENNAI - 600 102

After making the payment, email the participant details (i.e., full name, email address, mobile no.) and the payment transaction details to asmicc12@gmail.com (Mr N. Sampath Kumar, ASM Chennai Chapter) and copy to samyvg@iitm.ac.in (Mr Govindasamy, IIT Madras).

For organizing software license, we need to collect some details about your computer. Mr Bhanu Prasad (Bhanu Scientific Systems Pvt. Ltd.) will contact you regarding this.

Registration will be on first-come-first-serve basis (only 25 seats)