



MICRESS Basic Training Course 2015

ACCESS, Intzestr. 5, D-52072 Aachen, Germany

Tuesday, March 3rd 2015 (9:00-17:30)

9:00 -9:30	Welcome <ul style="list-style-type: none"> getting acquainted Introduction to ACCESS 	GJS
9:30 – 10:30	1) MICRESS- phenomenology	GJS
10:30 - 11:00	2.) Overview of a MICRESS simulation <ul style="list-style-type: none"> configuration of a simulation: the Dri-File, other files running the simulation evaluation of results: txt files, mcr files, vtk 	GJS
11:00 – 11:30	Coffee break	
11:30 – 12:15	3.) Creation of a dri file step by step <ul style="list-style-type: none"> command-line input/switch command modification of existing .dri files/in-files Example Delta-Gamma.dri 	GJS
12:15 – 13:00	4.) Post-Processing using DP_MICRESS	GJS
13:00 - 14:00	Lunch break	
14:00 – 14:30	5.) Further useful information.... <ul style="list-style-type: none"> The license system Creation of a .ges File using ThermoCalc ThermoCalc Scheil-calculation as basis for MICRESS simulations 	GJS
14:30 – 15:30	6.) Exercises: Post-Processing using DP_MICRESS <ul style="list-style-type: none"> Visualisation of a result Virtual-EDX Simultaneous visualisation of several results Visualisation options 	Tutors/ GJS/BB
15:30 – 16:00	Coffee break	
16:00 – 17:30	7.) Exercises: Simple modifications of existing .dri –files using the example of solidification of Fe-C-Mn <ul style="list-style-type: none"> modifying the initial conditions modifying the alloy composition modifying process conditions Modification of properties (e.g. diffusion) Modifications according to ideas of the participants 	Tutors/ GJS/BB



Wednesday, March 4th 2015 (9:00- 17:00)

9:00-10:00	Evaluation of simulation results of first day <ul style="list-style-type: none"> • Questions/Answers 	GJS/ BB
10:00 – 10:30	8.) Simulation of grain growth <ul style="list-style-type: none"> • The Multi-Phase-Field Model • Uncoupled Phase-Field: Grain Growth • Special Models for Grain Growth • Definition of Initial Grain Structures • Evaluation of Results 	BB
10.30 – 11.15	9.) Exercise: Grain Growth in Steel <ul style="list-style-type: none"> • Normal Grain Growth • Solute Drag, Particle Pinning 	Tutors/ BB/GJS
11:15- 11:30	Coffee break	
11:30 – 12:00	10.) Simulation of phase transitions <ul style="list-style-type: none"> • Coupling to Solute Diffusion • Nucleation • Categorization • Example: γ-α Transformation 	BB
12:00 – 13:00	11) Exercise: γ - α transition in Fe-C-Mn <ul style="list-style-type: none"> • linearized phase diagram, • nucleation 	Tutors/ BB/GJS
13:00 - 14:00	Lunch break	
14:00 – 14:30	12) Coupling to Thermodynamic Databases <ul style="list-style-type: none"> • General Considerations • Coupling to Thermodynamic Databases: Theory • Coupling to Thermodynamic Databases: Practice • Coupling to Multicomponent Diffusion Data • Simulation Example: γ-α Transformation 	BB
14:30 – 16:00	13.) Exercise: γ - α Transition in Fe-C-Mn <ul style="list-style-type: none"> • coupling to databases, diffusion data 	Tutors/ BB/GJS
16:00 -16:15	Coffee break	
16:15 – 17:00	14.) Exercises : <ul style="list-style-type: none"> • Discussion: Topics of interest of the individual participants • setting up a simulation 	Tutors/ BB/GJS
evening	Informal meeting in the city of Aachen	



Thursday, March 5th 2015 (9:00 - 17:30)

9:00 – 10:30	14.) Exercises (continued) <ul style="list-style-type: none"> • Evaluation of results • tips and tricks 	Tutors/ BB/GJS
10:30 – 11:15	15.) Linking to the Process <ul style="list-style-type: none"> • Thermal Boundary Conditions • Boundary Conditions for the Simulation Domain • Coupling to other Field Variables 	BB
11:15 -11:45	Coffee break	
11:30 – 12:30	16.) Examples of advanced MICRESS simulations <ul style="list-style-type: none"> • Superalloys • Steels • Light metals • others 	GJS
12:30 - 13:30	Lunch break	
13:30 – 14:30	17.) Solidification of technical alloys	BB
14:30 – 16:00	18.) Exercises: Solidification of technical alloys	BB
16:00 – 17:30	Final remarks/ optional lab tour/farewell	BB/NN

Tutors:

BB	-	Dr. Bernd Böttger
GJS	-	Dr. Georg J. Schmitz
JE	-	Dr. Janin Eiken
RB	-	Dr. Ralf Berger
GL	-	Dr. Gottfried Laschet
MA	-	Dr. Markus Apel



MICRESS Basic Training Course

March 3rd to 5th 2015

Registration Form

Please fill and fax to

Access e.V. , Intzestr. 5, D-52072 Aachen

Tel.: +49-241-8098014, Fax: +49-241-38578,
info@micress.de

Please register me for above MICRESS® training course:

Name	
First Name	
Affiliation	
Adress	
E-mail	
Phone	

The participation fee (excl. VAT) is 750 € for participants from academia and 1000 € for participants from industry. It comprises all coffee breaks, lunch at all three days of the course, participation in the evening event and an electronic documentation of the course lectures. The participation is limited to a maximum of 10 participants. One computer will be provided for use by each participant.

Please select payment options: cash on site or invoice

place,date

signature