



Indo-German Workshop on Integrated Computational Materials Engineering

Workshop Programme

Inauguration, Registration & Welcome Dinner

November 26, 2012 7:00 PM – 09:30 PM

Venue: Tango Hall, Vivanta by Taj, Blue Diamond

11, Koregaon Road, Pune, Ph: 91 20 66025555

Welcome Address

Mr. K Ananth Krishnan, CTO, Tata Consultancy Services

Prof. K A Padmanabhan, Chairman, Indo-German Workshop on ICME

Dr. Volker Mohles, Co- Chairman, Indo-German Workshop on ICME

Dr. A Mitra, International Division, DST, GoI

Dr. A Chakraborty, Director, IGSTC

Chief Guest's Address

Prof. R Ramaswamy, Vice Chancellor, University of Hyderabad

Vote of Thanks

Dr. B P Gautham, Tata Consultancy Services

Workshop Dinner

November 28, 2012 7:30 PM – 10:00 PM

Venue: Hotel Park Estique

Technical Programme

November 27-30, 2012

Venue: Tata Research Development and Design Centre

Tata Consultancy Services, 54 B Hadapsar Industrial Estate

Pune – 411 013; Ph: 91 20 66086333

Tuesday, 27 November 2012

08:30AM – 09:00AM	Registration	
09:00 AM – 09:40AM	Ulrich Prael	Session 1: Case Studies Examples of Successful ICME Through process modelling of aluminium sheet production ICME based design of cast product for quality AHSS sheet production TEA BREAK
09:40AM – 10:05 AM	Volker Mohles	
10:05 AM – 10:45 AM	Amarendra Singh	
10:45 AM – 11:05 AM		
11:05 AM – 11:45 AM	Georg Schmitz	Session 2: Integration Platforms Concepts of a standardized, modular simulation platform as a basis for successful future ICME PREM Δ P – A knowledge driven platform for ICME Discussion on Sessions 1 & 2 LUNCH
11:45 AM – 12:25 PM	S Sreedhar Reddy	
12:25 PM – 01:00 PM		
01:00 PM – 02:00 PM		
02:00 PM – 02:40 PM	Pradip Dutta	Session 3: Process Modelling Semisolid manufacturing of aluminium alloy components for automobiles Simulation for industrial development of materials and processes TEA BREAK ICME: An enabler for manufacturing, product design and material performance Machine health monitoring and life estimation Discussion on Session 3
02:40 PM – 03:20 PM	Thomas Göhler	
03:20 PM – 03:40 PM		
03:40 PM – 04:20 PM	M Arunkumar	
04:20 PM – 05:00 PM	Nalinaksh Vyas	
05:00 PM – 06:00 PM		

Wednesday, 28 November 2012

Session 4: Phase Field			
09:00 AM – 09:40 AM	T Abhinandan	Phase field study of grain boundary effects on spinodal decomposition	
09:40 AM – 10:20 AM	Abhik Choudhury	Microstructural modelling in materials science under influence of coupled fields	
10:20 AM – 11:00 AM	G Phanikumar	3D simulation of solidification microstructures	
11:00 AM – 11:20 AM		TEA BREAK	
11:20 AM – 11:40 AM		Discussion on Session 4	
Session 5: Multiscale Modelling			
11:40 AM – 12:20 PM	R Balamuralikrishnan	Cast single crystalline nickel base superalloys: Multi-scale modelling of microstructure	
12:20PM – 01:00PM	Ingo Steinbach	From 'atom to auto': Perspectives and challenges of multiscale materials modelling	
01:00 PM – 02:15 PM		LUNCH	
02:15 PM – 02:55 PM	Dirk Helm	Integral concept for the multiscale representation of process chains for sheet metal manufacturing	
02:55 PM – 03:35 PM	Andre Haufe	Damage and failure models for steel materials in the process chain of forming-to-crash in LS-DYNA	
03:35 PM – 03:55 PM		TEA BREAK	
03:55 PM – 04:35 PM	K Chandra Sekhar	Multi Scale Material Modelling	
04:35 PM – 05:15 PM	Siegfried Schmauder	Atomistic simulation of residual stresses due to nanoscale precipitates and their macroscopic relevance	
05:15 PM – 06:00 PM		Discussion on Session 5	

Thursday, 29 November 2012

<u>Session 6: Ab-initio</u>		
09:00 AM – 09:40 AM	Umesh Waghmare	Integrated computational materials science and engineering
09:40 AM – 10:20 AM	C S Sundar	Towards the development of radiation resistant steels : role of nano-dispersoids
<u>Session 7: Structure-properties</u>		
10:20 AM – 11:00 AM	KA Padmanabhan	Localised shear controlled flow: a mechanism too restricted for dislocation processes
11:00 AM – 11:20 AM		TEA BREAK
11:20 AM – 12:00PM	S Mahesh	Substructure development in f.c.c. polycrystals during plastic deformation
12:00 PM – 12:40 PM	I Samajdar	Structure-property correlations in forming/electrical grade steel
12:40 PM – 01:00 PM	Volker Mohles	On the importance of concurrent simulation of recrystallization, recovery, and precipitation
01:00 PM – 02:00 PM		LUNCH
02:00PM – 02:40 PM	Thomas Böhlke	Crystallographic texture simulation based on a new mean field approach
02:40 PM – 03:20 PM		Discussion on Sessions 6 & 7
03:20 PM – 03:40 PM		TEA BREAK
<u>Session 8: Thermodynamics</u>		
03:40 PM – 04:20 PM	S Srikanth	An integrated approach to model oxidation of multicomponent multiphase alloys
04:20 PM – 05:00 PM	Klaus Hack	3D-Phase Diagrams: A teaching aid as well as a practical tool for materials science
05:00 PM – 05:20 PM		Discussion on Session 8
05:20 PM – 06:00 PM		POSTER SESSION

Friday, 30 November 2012

<u>Session 9: Data & Experiments</u>		
09:00 AM – 09:40 AM	Tobias Loose	Material data for welding simulation
09:40 AM – 10:20 AM	Benjamin Milkereit	Advanced dilatometry and calorimetry for the validation of materials mechanical and transformation models
10:20 AM – 10:40 AM		TEA BREAK
<u>Session 10: Uncertainty</u>		
10:40 AM – 11:55AM	BP Gautham	Challenges in uncertainty management and decision making in ICME
11:55 PM – 01:00PM		Discussion on Sessions 9 & 10
01:00 PM – 02:00 PM		LUNCH
02:00 PM – 03:30 PM		Closure Discussion