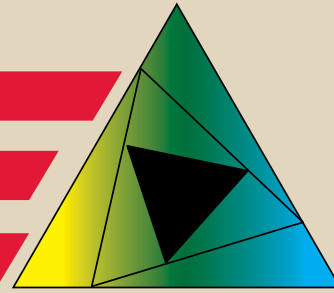# TMS ICME

MANUFACTURING

DESIGN

MATERIALS

2nd World Congress on Integrated Computational Materials Engineering

July 7-11, 2013
Salt Lake Marriott Downtown at City Creek
Salt Lake City, Utah, USA

PROGRAM PREVIEW

Register by June 14, 2013 and Save!

http://www.tms.org/meetings/2013/ICME2013/registration

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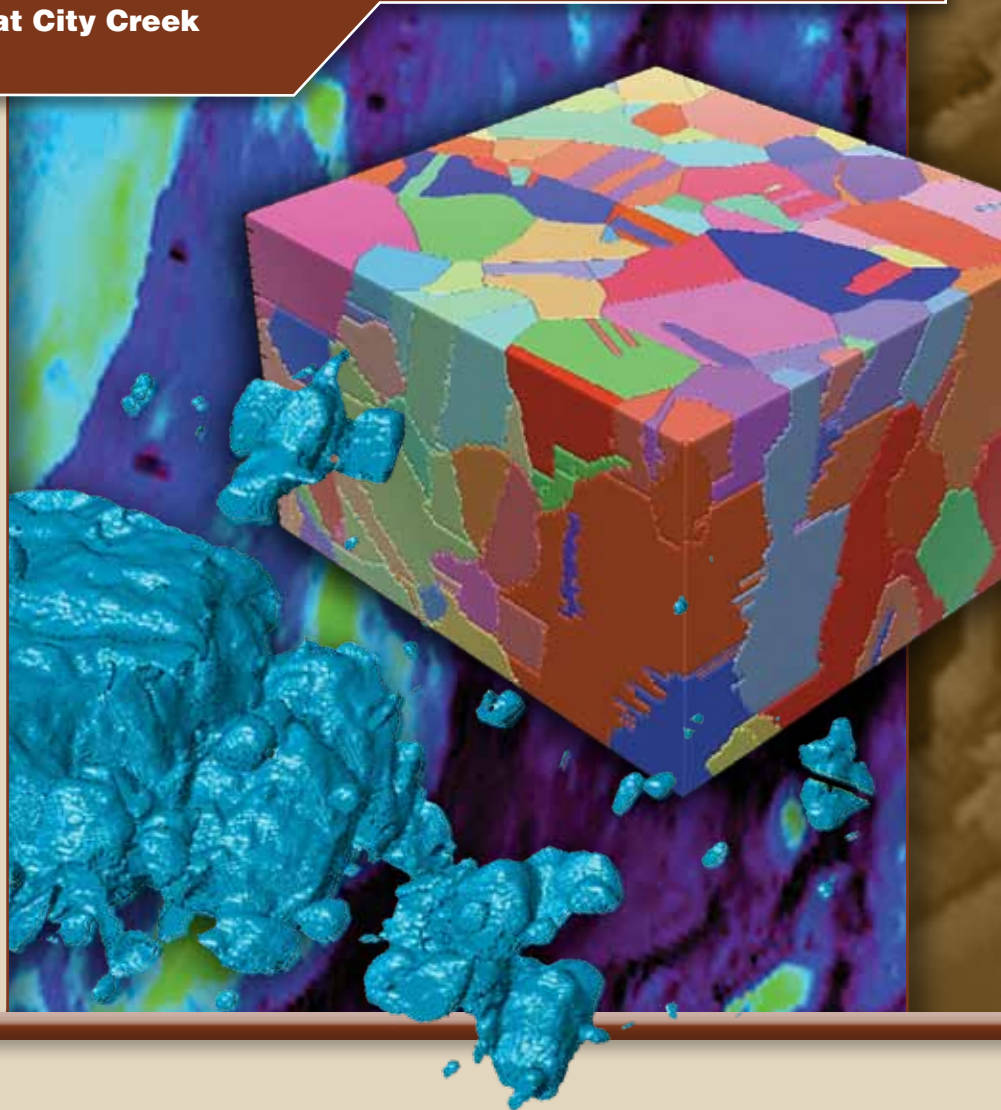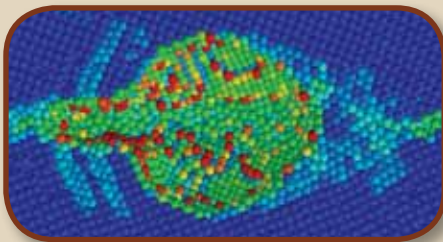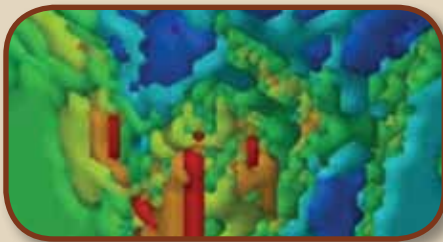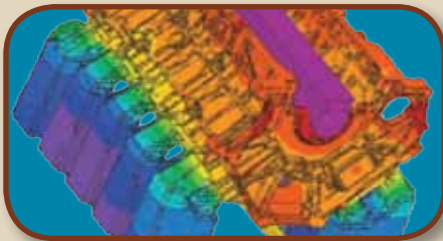
TMS
The Minerals, Metals & Materials Society

TMS ICME

MANUFACTURING

DESIGN MATERIALS

2nd World Congress on Integrated Computational Materials Engineering (ICME)

July 7-11, 2013
**Salt Lake Marriott Downtown at City Creek
Salt Lake City, Utah, USA**

REGISTER NOW for the 2nd World Congress on Integrated Computational Materials Engineering!

Integrated Computational Materials Engineering (ICME) has received international attention due to its great potential to shorten product and process development time, while lowering cost and improving outcome. Building on the great success of the 1st World Congress on Integrated Computational Materials Engineering in 2011, this 2nd World Congress on ICME will convene ICME stakeholders – including researchers, educators, and engineers – to examine topics relevant to the global advancement of ICME as an engineering discipline. This conference will provide a forum for presentations and discussions centering on both computational- and experimental-based ICME-related topics, including:

- ICME in Practice Issues with Application of ICME and Success Stories
- Designing for Performance and Production, Virtual Component Evaluation, Process Chains
- Data Storage, Standards, and Uncertainty
- Fundamental Building Blocks of ICME, Computational Methods, Advanced Experimental Techniques and Model Validation
- Education and Workforce Development for Future Growth and Application of ICME

Register by June 14, 2013 and save!

Organizing Committee:

Mei Li, *Ford Motor Company, USA*

Katsuyo Thornton, *University of Michigan, USA*

Elizabeth Holm, *Carnegie Mellon University, USA*

Carrie Campbell, *National Institute of Standards and Technology, USA*

Peter Gumbsch, *Fraunhofer Institute for Mechanics of Materials, Germany*

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Milo Kral, *University of Canterbury, New Zealand*

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Gary Purdy, *McMaster University, Canada*

Antonio J. Ramirez, *Brazilian Synchrotron Light Laboratory, Brazil*

K.K. Sankaran, *Boeing Company, USA*

James Warren, *NIST, USA*

Deb Whitis, *GE, USA*

REGISTRATION

All Congress attendees, including authors, presenters, and session chairs are required to register. To receive the advance registration rate, register at **www.tms.org/meetings/2013/ICME2013/registration** by **June 14, 2013.**

Registration Fees		
	Through June 14	On-site
Member	$575	$675
Nonmember**	$690	$790
Student Member*	$375	$375
Student Nonmember*	$475	$475

** Includes TMS membership for 2013.
* Copy of student school identification card must accompany form.

Registration Package Includes:
- Technical sessions and access to the exhibition
- One copy of the conference proceedings
- Welcome reception on Sunday evening
- Poster reception on Monday and Tuesday evenings
- One ticket to the conference dinner
- Final report of a TMS Study on ICME Implementation in the Automotive, Aerospace, and Maritime Industries

Online registration will remain open through June 24. After this date you must register on-site.

TECHNICAL PROGRAM

The ICME technical program will include invited, contributed and poster presentations on these topics:

- ICME Applications and Building Blocks
- Modeling, Data and Infrastructure Tools
- Process Optimization
- Materials Data for ICME
- Challenges and Education
- ICME Success Stories

Technical Sessions

All presentations will be held in Ballrooms D & E. To view the conference session sheets, visit the ICME Technical Program page at **www.tms.org/meetings/2013/ICME2013/techprog.**

NETWORKING/SOCIAL EVENTS

Sunday, July 7
Welcome Reception
10 p.m. to Midnight

Monday, July 8
Poster Session I and Reception
8 to 10 p.m.

Tuesday, July 9
Poster Session II and Reception
8 to 10 p.m.

Wednesday, July 10
Conference Dinner
8 to 10 p.m.

HOUSING & TRAVEL

A block of rooms has been reserved at the Salt Lake Marriott Downtown at City Creek at a special rate. Accommodations must be secured by June 14, 2013.

Single/double occupancy is $125/night. There are a limited number of rooms available at the current government rate.

Salt Lake Marriott Downtown at City Creek

The Salt Lake Marriott Downtown at City Creek is in the heart of downtown Salt Lake City convenient to shopping, dining, and entertainment, and approximately 15 minutes from the airport. Guests will appreciate the ideal location adjacent to the unique shopping environment of City Creek Center.

For details on booking your accommodations please visit **www.tms.org/meetings/2013/ICME2013/housing**

Getting There

The hotel is approximately a 15 minute drive from the Salt Lake City International Airport. Leaving the airport, take I-80 East to Exit 600 South, exit ramp and proceed on 600 South to West Temple, turn left on West Temple and continue approximately 5 blocks, the Hotel is on your right.

The hotel does not provide shuttle service but the following alternate forms of transportation are available.

- Xpress Shuttle (801-596-1600 or 800-397-0773); fee: $8 USD (one way); reservation required
- Bus service, fee: $2 USD (one way)
- Estimated taxi fare: $25 USD (one way)

EXHIBIT & SPONSORSHIP OPPORTUNITIES

Reservations are being accepted for a networking-focused exhibit relevant to session topics.

Corporate sponsorship offers high visibility at the conference receptions, refreshment breaks and attendee social activities as well as registration amenities, such as reusable canvas bags, badges, and lanyards.

For more information on exhibiting or purchasing a corporate sponsorship, visit **www.tms.org/meetings/2013/ICME2013/Exhibit-Sponsors**

SHORT COURSE:
Introduction to Computational Materials Science and Engineering Tools
Scheduled in conjunction with ICME 2013

July 11-12, 2013
Salt Lake Marriott Downtown at City Creek
Salt Lake City, Utah

Register now for this related educational event to continue the exploration of ICME. Participants will receive a brief introduction and hands-on practice with computational tools used in materials science and engineering.

Advance registration for this event will end June 14, 2013. Short course registration is offered on the 2nd World Congress on Integrated Computational Materials Engineering registration form.

For more information on this course, visit **www.tms.org/meetings/2013/ICME2013/Shortcourse**

Tentative Programming as of 3/26/13

Sunday, July 7, 2013

Opening Session • Room: Ballroom D&E

8:00 PM	**Introductory Comments**
8:10 PM	**Invited** **A Review and Perspective on ICME and MGI: Their Progress and Future:** TBD
9:00 PM	**The MGI After Two Years:** James Warren[1]; [1]NIST
9:20 PM	**Implementing ICME in the Automotive, Aerospace, and Maritime Industries: Results of a TMS-led Study on ICME Implementation:** George Spanos[1]; David Howe[1]; [1]TMS

Monday, July 8, 2013

ICME Success Stories and Applications • Room: Ballroom D&E

8:00 AM	**Introductory Comments**
8:05 AM	**Invited** **Validating ICME Models Across the Length Scales using 4D Synchrotron Imaging:** Peter D. Lee[1]; Chedtha Puncreobutr[2]; Biao Cai[2]; Shyamprasad Karagadde[2]; Lang Yuan[3]; [1]TMS; [2]The University of Manchester; [3]GE Global Research
8:35 AM	**Invited** **Microstructural Design for Higher Strength Al Alloys:** Hong Liu[1]; Yipeng Gao[2]; Yunzhi Wang[2]; Jian-Feng Nie[1]; [1]Monash University; [2]The Ohio State University
9:05 AM	**Question and Answer Period**
9:15 AM	**ICME Successes: From Genome to Flight:** Greg Olson[1]; [1]Northwestern University
9:35 AM	**Practical Approach to the ICME of Ceramic Matrix Composites:** Craig Przybyla[1]; [1]Air Force Research Laboratory

ICME Applications: Lightweight Materials • Room: Ballroom D

10:15 AM	**Application of Computational Thermodynamics and CALPHAD in Magnesium Alloy Development:** Alan Luo[1]; [1]General Motors Global Research and Development
10:35 AM	**ICME Modeling of a Super Vacuum Die Cast (SVDC) AZ91 Magnesium Automotive Component:** Mei Li[1]; Junsheng Wang[1]; Jiashi Miao[2]; Bita Ghaffari[1]; Long-Qing Chen[3]; John Allison[2]; [1]Ford Motor Company; [2]University of Michigan; [3]Penn State University
10:55 AM	**Modelling Precipitation Kinetics during Aging of Al-Mg-Si Alloys:** Qiang Du[1]; Jesper Friis[1]; [1]SINTEF
11:15 AM	**Modeling Processing-Property Relationships to Predict Final Aluminum Coil Quality:** Kai Karhausen[1]; Stefan Neumann[1]; Galyna Laptyeva[1]; [1]Hydro Aluminium Rolled Products GmbH

ICME Applications: Composites • Room: Ballroom E

10:15 AM	**Novel Braided and Woven Metallic Structures:** Richard Fonda[1]; Kevin Hemker[2]; Keith Sharp[3]; James Guest[2]; Andrew Geltmacher[1]; Timothy Weihs[2]; David Dunand[4]; Peter Voorhees[4]; Arthur Heuer[5]; [1]Naval Research Laboratory; [2]Johns Hopkins University; [3]3TEX Inc; [4]Northwestern University; [5]Case Western Reserve University
10:35 AM	**Sequential Approximate Optimization Based Robust Design of SiC-Si$_3$N$_4$ Nanocomposite Microstructures:** Vikas Tomar[1]; [1]Purdue University
10:55 AM	**Integrating the Influence of Manufacturing Processes in the Design of Composite Components:** Adi Sholapurwalla[1]; Mathilde Chabin[1]; [1]ESI Group
11:15 AM	**Simulation of Curing Process and Prediction of Material Properties for Thermosetting Polymers and Polymer-based Composites:** Chunyu Li[1]; Alejandro Strachan[1]; [1]Purdue University

ICME Applications: Non-Ferrous • Room: Ballroom D

1:35 PM	**Casting Simulation of an Aero Engine Structural Component to Characterize the Effect of Alloy Composition:** Benjamin Peterson[1]; Michael Vinup[1]; [1]Honeywell Aerospace
1:55 PM	**Process Simulation Role in the Development of Metal Casting Processes Based on an Integrated Computational Materials Engineering Approach:** Adrian Sabau[1]; Wallace Porter[1]; Hebi Yin[1]; [1]Oak Ridge National Laboratory
2:15 PM	**Incorporation of Residual Stresses into Design of Ni-Base Superalloy Structures: A Foundational Engineering Problem in Integrated Computational Materials Engineering (ICME):** Michael Caton[1]; [1]US Air Force Research Laboratory
2:35 PM	**Break**

	Tentative Programming as of 3/26/13
2:55 PM	**Residual Stress Modeling in Aluminum Wrought Alloys:** Bowang Xiao[1]; Qigui Wang[1]; Cherng-Chi Chang[1]; Josie Rewald[1]; [1]GM Powertrain
3:15 PM	**Finite Element Study of the Aluminum AA6111T4 Blanking Process and Its Influence on Sheet Stretchability:** Xiaohua Hu[1]; Dong Mhung Suh[1]; Kyoo Sil Choi[1]; Xin Sun[1]; Sergey Golovaschenko[2]; [1]Pacific Northwest National Laboratory; [2]Ford Research and Advanced Engineering
3:35 PM	**Effects of Pore Distribution Features on Ductility of Mg Castings:** Kyoo Sil Choi[1]; Xin Sun[1]; Dongsheng Li[1]; Mei Li[2]; John Allison[3]; [1]PNNL; [2]Ford Motor Company; [3]University of Michigan
3:55 PM	**Phase-field Simulations of Grain Growth in a Thermal Gradient:** Tao Jing[1]; Qiwei Zheng[1]; [1]Tsinghua University

ICME Applications: Ferrous • Room: Ballroom E

1:35 PM	**An Integrated Computational Approach to Predicting the Transition from Internal to External Oxidation of Advanced Alloys in Extreme Environments:** Zi-Kui Liu[1]; Adri van Duin[1]; John Kitchin[2]; Andrew Gellman[2]; Brian Gleeson[3]; Guofeng Wang[3]; Michael Gao[4]; DeNyago Tafen[4]; Youhai Wen[5]; Dominic Alfonso[5]; Bryan Morreale[5]; David Alman[5]; [1]The Pennsylvania State University; [2]Carnegie Mellon University; [3]The University of Pittsburgh; [4]National Energy Technoloy Laboratory - URS Corporation; [5]National Energy Technology Laboratory
1:55 PM	**ICME Approach to Corrosion Pit Growth Prediction:** Ken Smith[1]; Lei Chen[1]; Rob Darling[1]; Mark Jaworowski[1]; Susanne Opalka[1]; George Zafiris[1]; Thomas Garosshen[1]; Sonia Tulyani[1]; [1]United Technologies Research Center
2:15 PM	**Multiscale Model for Non-metallic Inclusions/Steel Composite System using Data Science Enabled Structure-Property Linkages:** Akash Gupta[1]; Ahmet Cecen[2]; Sharad Goyal[1]; Amarendra Singh[1]; Surya Kalidindi[3]; [1]TRDDC-TCS Innovation Labs, Tata Consultancy Services Ltd.; [2]Department of Mechanical Engineering and Mechanics, Drexel University; [3]Woodruff School of Mechanical Engineering, Georgia Institute of Technology
2:35 PM	**Break**
2:55 PM	**Steel - Ab initio: Quantum Mechanics Guided Design of New Fe Based Materials:** Ulrich Prahl[1]; Wolfgang Bleck[1]; Alireza Saeed-Akbari[1]; [1]RWTH Aachen University
3:15 PM	**An Integrated Model for Microstructure Development in the Heat Affected Zone of an X80 Linepipe Steel:** Warren Poole[1]; M. Militzer[1]; T. Garcin[1]; [1]The University of British Columbia
3:35 PM	**ICME Implementation for Steel Ingot Manufacturing & Conversion:** Patrick Anderson[1]; Stephanie Will[1]; E. Buddy Damm[1]; [1]The Timken Company
3:55 PM	**Finite Element Modeling of Gear Hobbing and Milling:** Troy Marusich[1]; Deyao Ren[1]; Shuji Usui[1]; Jon Wadell[1]; Wenyang Liu[1]; [1]Third Wave Systems

Poster Session I: Modeling, Data and Infrastructure Tools • Room: Ballroom AB&C

3D X-ray Diffraction Contrast Tomography Reconstruction of Polycrystalline Strontium Titanate during Sintering and EBSD Validation: Peter Gumbsch[1]; B. Loedermann[2]; A. Graff[1]; A. Trenkle[2]; M. Syha[2]; D. Weygand[2]; W. Ludwig[3]; [1]Fraunhofer IWM; [2]Institute for Applied Materials IAM; [3]European Synchrotron Radiation Facility

A Brief Review of Precipitation Hardening Models for Aluminum Alloys: Guannan Guo[1]; Qigui Wang[2]; Gang Wang[3]; Yiming Rong[1]; [1]Worcester Polytechnic Institute; [2]GM-Global Powertrain Engineering; [3]Tsinghua University

A Computational Method for Activation Energy Calculation using Non isothermal Conditions, Linear Heating Rate and Cubic Spline Interpolation Technique: Rabindranath Ray[1]; [1]NIT DURGAPUR

A Cross-slip Mechanism of Intermittent Plasticity in Nano- and Micro-pillars: Tamer Crosby[1]; Nasr Ghoniem[1]; [1]UCLA

A Machine Learning Framework for Efficient EBSD Microscopy Applied to AZ31: Travis Rampton[1]; David Fullwood[1]; [1]Brigham Young University

A Multi-scale Model to Simulate Forming Limit Diagram of Aluminum Sheets: Kaan Inal[1]; Abhijit Brahme[1]; Raja Mishra[2]; [1]University of Waterloo; [2]General Motors Research and Development

A Three-dimensional Lattice Boltzmann Model for Columnar Dendrite Growth: Mohsen Eshraghi[1]; Bohumir Jelinek[1]; Sergio Felicelli[1]; [1]Mississippi State University

A Phase Field Model for Stress Induced Martensitic Phase Transformation in Zirconia: Mahmood Mamivand[1]; Mohsen Asle Zaeem[2]; Haitham El Kadiri[1]; [1]Mississippi State University; [2]Missouri University of Science and Technology

Building 3D Microstructure Database using an Advanced Metallographic Serial Sectioning Technique and Robust 3D Segmentation Tools: Umesh Adiga[1]; Murali Gorantla[1]; James Scott[1]; Daniel Banks[1]; Yoon-Suk Choi[1]; [1]UES, Inc

CALPHAD File Repositories: Increasing Efficiency and Reproducibility: Carelyn Campbell[1]; Ursula Kattner[1]; Laura Bartolo[2]; [1]National Institute of Standards and Technology; [2]Kent State University

Coupled Composition-Microstructure Modeling of a U-Pu-Zr Fuel: Jordan Cox[1]; Eric Homer[1]; Veena Tikare[2]; [1]Brigham Young University; [2]Sandia National Laboratories

Creating an Integrated, Community-Sourced, First-Principles Data Repository: Richard Taylor[1]; Benjamin Burton[1]; Laura Bartolo[2]; [1]NIST; [2]Kent State University

Data Science Enabled Structure Property Correlation for Dual Phase Steel: Prabhash Kumar[1]; Akash Gupta[1]; Sharad Goyal[1]; Amarendra Singh[1]; Surya Kalidindi[2]; [1]TRDDC, Tata Consultancy Services; [2]Georgia Institute of Technology

Dislocation Density Based Crystal Plasticity Finite Element Model of Polycrystalline with Grain Boundary Effect: Zhe Leng[1]; Alankar Alankar[2]; David Field[1]; Nathalie Allain-Bonasso[3]; Francis Wagner[3]; [1]Washington State University; [2]Los Alamos National Laboratory; [3]University of Metz

Effect of Primary Al_3Sc Particles on Fatigue Behavior Studied through Experimentation and Simulation: Nilesh Kumar[1]; Mageshwari Komarasamy[1]; Rajiv Mishra[1]; [1]University of North Texas

Establishing the Ni-Fe-Cr-Al-O Thermodynamic Database: DFT Calculations, CALPHAD Modeling and Experiments: Bi-Cheng Zhou[1]; Michael Gao[2]; ShunLi Shang[1]; Cuiping Guo[1]; Ömer Dogan[3]; Zi-Kui Liu[1]; [1]The Pennsylvania State University; [2]National Energy Technology Laboratory; [3]URS Corporation

Fracture Mode of a Ni-based Single Crystal Superalloy Containing Topologically-Close-Packed Phases at Ambient Temperature: Qianying Shi[1]; Xianfei Ding[1]; Yunrong Zheng[1]; Jingyang Chen[1]; Qiang Feng[1]; [1]University of Science and Technology Beijing

Interaction of Point Defects with Twin Boundaries in Au: A Molecular Dynamics Approach: Babar Khan[1]; [1]Central China Normal University, Wuhan China

Investigation of γ' Precipitation in Ni-base Superalloy PWA1480 by Interrupted Cooling Coupled with Thermo-kinetic Simulation: Erwin Povoden-Karadeniz[1]; Markus Kozeschnik[2]; Ernst Kozeschnik[3]; [1]Vienna University of Technology; [2]Graz University of Technology; [3]Vienna University of Technology, Institute of Materials Science and Technology

Micromechanical Stereoinference: Thomas Hardin[1]; Brent Adams[1]; Eric Homer[1]; David Fullwood[1]; [1]Brigham Young University

Modifications to Classical Hardening Rule for Crystal Plasticity: Aboozar Mapar[1]; Thomas Bieler[1]; Farhang Pourboghrat[1]; Christopher Compton[2]; [1]Michigan State University; [2]Michigan State Univerity

Molecular Dynamics Study of Initial Morphology Evolution of Amorphous Carbon by Glancing Angle Deposition: Minwoong Joe[1]; Myoung-Woon Moon[1]; Kwang-Ryeol Lee[1]; [1]KIST

Multi-physics, Multi-scale Simulations of MEMS with Quantified Uncertainties: Alejandro Strachan[1]; [1]Purdue University

Multiscale Computational Modeling of Adsorption: Adam Donato[1]; Ranga Pitchumani[1]; [1]Virginia Tech

Numerical Simulation of Sintering in the Ceramic Oxide: Mohammed Kadhim[1]; Adill Alwan[2]; Elham Ibraheem[2]; [1]University of Technology; [2]University of Babylon

Phase Field Modeling of Metal Oxidation Behavior: Tianle Cheng[1]; Youhai Wen[2]; [1]ORISE; [2]National Energy Technology Laboratory

Phase Formation and Kinetics during Aluminization of Nickel and Nickel-Chromium Wires: Thomas Philippe[1]; Peter Voorhees[1]; Dinc Erdeniz[1]; David Dunand[1]; [1]Northwestern University

Precipitation Simulation of AZ91 Magnesium Alloys: Chuan Zhang[1]; Weisheng Cao[1]; Shuanglin Chen[1]; Jun Zhu[1]; Fan Zhang[1]; [1]CompuTherm LLC

Reducing the Microstructure Design Space of 2nd Order Homogenization Techniques Using Discrete Fourier Transforms: Tim Ruggles[1]; Travis Rampton[1]; Scott Rose[1]; David Fullwood[1]; [1]Brigham Young University

Research on Numerical Simulation of the Temperature Field of the Innovation Cathode Cells: Jiang YanLi[1]; Yu Liang[1]; Feng Naixiang[2]; [1]College of Materials Science and Engineering, Guilin University of Technology; [2]School of Materials & Metallurgy, Northeastern University

Screw Dislocations Cores in Bcc Transition Metals: The Influence of Alloying and Temperature: Lorenz Romaner[1]; Hong Li[2]; Claudia Ambrosch-Draxl[2]; Reinhard Pippan[3]; [1]Materials Center Leoben; [2]Humboldt-Universität zu Berlin; [3]Erich Schmid Institute

The Influence of Cr on the SFE of FeMn Alloys from First-principles: Andrei Reyes Huamantinco[1]; Manfred Wiessner[1]; Vsevolod Razumovskiy[1]; Peter Puschnig[2]; Andrei Ruban[3]; [1]Materials Center Leoben; [2]Karl-Franzens University Graz; [3]Royal Institute of Technology

The Simulation as Prediction Tool to Determine the Method of Riser Calculation More Efficient: Lazaro Suarez[1]; Norge Coello[1]; Alexis Alonso[1]; [1]UCLV

Towards the Interface Level Understanding of Internally Oxidized Metal-oxide Composite $Cu-Al_2O_3$: Yong Jiang[1]; Guoqiang Lan[1]; Canhui Xu[1]; [1]Central South University

Understanding and Predicting Fatigue Crack Growth from Physical Principles: Peter Huffman[1]; Scott Beckman[1]; [1]Iowa State University

Using of Automation in Generation of Engineering and Shop Drawings, and 3D Modeling in EPC Projects: Ali Soheilifar[1]; Erfan Alavi[1]; [1]Sazeh Consultants

Tentative Programming as of 3/26/13

Tuesday, July 9, 2013

Process Optimization • Room: Ballroom D

8:00 AM	**Multi-scale, Multi-physics Optimization Framework for Additively Manufactured Structural Components:** Tahany El-Wardany[1]; Mathew Lynch[1]; Wenjiong Gu[1]; Arthur Hsu[1]; Michael Klecka[1]; Aaron Nardi[1]; Daniel Viens[1]; [1]United Technologies Research Center
8:20 AM	**Towards an Integrated Simulation Environment for Through Process Modeling of Materials and Component Manufacturing:** Alain Jacot[1]; Gaël Couturier[1]; Andreas Floss[1]; Satyaprakash Narasimhamurthy[1]; Frédéric Boitout[1]; Yannick Vincent[1]; [1]ESI Group
8:40 AM	**Optimal Process Control through Feature-Based State Tracking along Process Chains:** Melanie Senn[1]; Norbert Link[1]; Peter Gumbsch[2]; [1]Karlsruhe University of Applied Sciences; [2]Fraunhofer Institute for Mechanics of Materials
9:00 AM	**Leveraging ICME for Industrial Applications: Prospects, Progress & Challenges:** Sanjay Sondhi[1]; John Warren[2]; Shesh Srivatsa[2]; Jason Parolini[3]; [1]GE Global Research; [2]GE Aviation; [3]GE Power & Water
9:20 AM	**Application of ICME Methods for the Development of Rapid Manufacturing Technologies:** Tobias Maiwald-Immer[1]; Thomas Goehler[1]; Andreas Fischersworring-Bunk[1]; Carolin Körner[2]; [1]MTU Aero Engines GmbH; [2]University Erlangen-Nürnberg
9:40 AM	**Break**
10:00 AM	**Introduction of Materials Modelling into Processing Simulation:** Zhanli Guo[1]; Gary Huang[2]; Richard Turner[3]; Alisson da Silva[4]; Nigel Saunders[1]; Hendrik Schafstall[2]; Jean-Philippe Schille[1]; [1]Sente Software Ltd.; [2]Simufact Engineering GmbH; [3]University of Birmingham; [4]Federal University of Minas Gerais
10:20 AM	**An Evolutionary Approach to the Design of Transformation Induced Plasticity (TRIP)-Aided Steels:** Shengyen Li[1]; Raymundo Arroyave[1]; Chung Wang[1]; Ruixian Zhu[1]; Pedro Rivera-Diaz-del-Castillo[2]; Ibrahim Karaman[1]; [1]Texas A & M University; [2]University of Cambridge
10:40 AM	**Analytical Modeling and Performance Prediction of Remanufactured Gearbox Components:** Raja Pulikollu[1]; Nathan Bolander[1]; Sandeep Vijayakar[2]; Matthew Spies[3]; [1]Sentient Science Corporation; [2]Advanced Numerical Solutions LLC; [3]US Army Research Development and Engineering Command
11:00 AM	**A Mechanism-based Hierarchical Model Validated by Experimental Data:** Dongsheng Li[1]; Hussein Zbib[1]; Xin Sun[1]; Mohammad Khaleel[1]; [1]Pacific Northwest National Laboratory
11:20 AM	**Strategies for Embedding Validated Microstructure-sensitive Material Models to Solve Engineering Problems:** Ricardo Lebensohn[1]; [1]Los Alamos National Laboratory

Materials Data for ICME • Room: Ballroom E

8:00 AM	**Challenges and Approaches in Materials Data Management for ICME:** Warren Hunt[1]; Ross Brindle[1]; Scott Henry[2]; [1]Nexight Group LLC; [2]ASM International
8:20 AM	**Structuring the Genome: Fundamental Materials Databases:** Greg Olson[1]; [1]Northwestern University
8:40 AM	**Tools to Support the Flow of Traceable Materials Information Needed by ICME:** Will Marsden[1]; Beth Cope[1]; [1]Granta
9:00 AM	**Data Informatics for Phase-Based Property Data:** Carelyn Campbell[1]; Ursula Kattner[1]; Alden Dima[1]; Doug Foxvog[1]; Philippe Dessauw[1]; Pierre Savonitto[1]; [1]National Institute of Standards and Technology
9:20 AM	**Consideration of Ecosystem for Integrated Computational Materials Engineering:** Weiju Ren[1]; [1]Oak Ridge National Laboratory
9:40 AM	**Break**
10:00 AM	**Exploiting Prior Physical Insights via Bayesian Statistics to Develop Accurate Localization Relationships via the Materials Knowledge System:** Tony Fast[1]; [1]University of California Santa Barbara
10:20 AM	**Cross-Scale Cross-Domain Model Validation based on Generalized Hidden Markov Model and Generalized Interval Bayes' Rule:** Yan Wang[1]; David McDowell[1]; Aaron Tallman[1]; [1]Georgia Institute of Technology
10:40 AM	**On the Use of Neural Networks to Develop an Understanding of the Roles of Continuum, Microstructural, and Compositional Variables on the Fracture Toughness of a/ß-processed TIMETAL®6-4:** Peter Collins[1]; Santhosh Koduri[2]; Vikas Dixit[3]; Hamish Fraser[3]; [1]University of North Texas; [2]Intel Corporation; [3]Ohio State University
11:00 AM	**Application of Statistical and Machine Learning Techniques for Correlating Properties to Composition and Manufacturing Process of Steels:** Parijat Deshpande[1]; BP Gautham[1]; Ahmet Cecen[2]; Surya Kalidindi[2]; Ankit Agrawal[3]; Alok Choudhary[3]; [1]Tata Consultancy Services; [2]Drexel University; [3]Northwestern University
11:20 AM	**The GeoDict Virtual Material Laboratory: Integrated Software for Material Analysis and Synthesis:** Andreas Wiegmann[1]; Jürgen Becker[1]; Erik Glatt[1]; Matthias Kabel[2]; Heiko Andrä[2]; [1]Math²Market GmbH; [2]Fraunhofer ITWM

Tentative Programming as of 3/26/13

Materials Data and Tools • Room: Ballroom D&E

2:00 PM	**Introductory Comments**
2:05 PM	**Invited** **Nanostructuring 1 Billion Tons: Integrating Multiscale Models, High-resolution Characterization and Combinatorial Synthesis for Designing Metallic Alloys:** Dierk Raabe[1]; M. Friak[1]; T. Hickel[1]; J. Millan[1]; S. Sandlöbes[1]; D. Ponge[1]; H. Springer[1]; I. Gutierrez[1]; P. Choi[1]; F. Roters[1]; D. Steinmetz[1]; S. Zaefferer[1]; J. Neugebauer[1]; [1]Max-Planck-Institut
2:35 PM	**Invited** **Microstructure Informatics for Mining Structure-Property-Processing Linkages from Large Datasets:** Surya Kalidindi[1]; [1]Drexel University
3:05 PM	**Invited** **Big Data: A NIST Perspective:** Mary Brady[1]; Alden Dima[1]; [1]National Institute of Standards and Technology
3:35 PM	**Break**
3:45 PM	**Panel Discussion Building a Materials Data Infrastructure for ICME:** Greg Olson, Northwestern University; John Agren, KTH; Matthew J. Zaluzec, Ford; Stephen Christensen, Boeing; James Warren, NIST

Poster Session II: ICME Applications • Room: Ballroom AB&C

A Computational and Experimental Study of the Vapor Deposition of Thermal Barrier Coatings onto Doublet Turbine Guide Vanes: Theron Rodgers[1]; Hengbei Zhao[1]; Haydn Wadley[1]; [1]University of Virginia

A Computational Framework for Integrated Process Design for High Performance Parts: Rajiv Shivpuri[1]; Kuldeep Agarwal[2]; [1]Ohio State University; [2]Minnesota State University

A Large Strain Visoplastic Self-consistent Model with Dynamic Recrystallization Behavior Considered for FCC Polycrystalline Materials at Elevated Temperature: Xiaohui Fan[1]; Mei Li[2]; Dayong Li[1]; Shaorui Zhang[1]; Yinghong Peng[1]; [1]Shanghai Jiao Tong University; [2]Ford Motor Company

A Microstructure-Strength Calculation Model for Predicting Tensile Strength of AlSi$_7$Mg Alloy Castings: Shi Feng[1]; Liu Baicheng[1]; Xu Qingyan[1]; Wu Qinfang[2]; Yang Hongwei[2]; [1]Tsinghua University; [2]Mingzhi Technology Co., Ltd.

A New Multi-scale Modeling Approach for Characterizing the Mechanical Properties of CNT Composites: Saeed Herasati[1]; Liangchi Zhang[1]; [1]The University of New South Wales

An Experimental and Modeling Investigation on High-Rate Formability of Aluminum: Aashish Rohatgi[1]; Richard Davies[1]; Ayoub Soulami[1]; Elizabeth Stephens[1]; Mark Smith[1]; Gary Vanarsdale[1]; [1]Pacific Northwest National Laboratory

An ICME Approach to Solute Strengthening of Aluminum and Magnesium Alloys: Louis Hector Jr[1]; Gerard Leyson[2]; William Curtin[3]; David Howe[4]; [1]General Motors; [2]Brown University; [3]Ecole Polytechnique Federal de Lausanne; [4]TMS

An Integrated Approach to Determine Complex Phenomenological Equations in Metallic Systems: Peter Collins[1]; Iman Ghamarian[1]; [1]University of North Texas

An Integrated Computational and Experimental Study for the Size Effect of the Cu Precipitation on the Mechanical Response of Microalloyed Steel: Shijin Zhao[1]; Lijuan Hu[1]; [1]Shanghai University

Applying ICME to Solve Manufacturing Challenges: Computational Approaches to Joining, Forming, and NDE: Edward Herderick[1]; [1]EWI

Computational Modeling of Electrochemical Charge/Discharge Behavior of Li-ion Cells: Madhu Jagannathan[1]; K. S. Ravi Chandran[1]; [1]University of Utah

Ductility Prediction for Complex Magnesium Alloy Castings Using Quality Mapping: Jiang Zheng[1]; Mei Li[1]; Joy Forsmark[1]; Jacob Zindel[1]; John Allison[1]; [1]Ford Motor Company

Geometric Analysis of Casting Component: Quan Zhibin[1]; Gao Zhiqiang[1]; Wang Qigui[2]; Sun Yunxia[1]; Chen Xin[1]; [1]Southeast University, China; [2]General Motors Holdings LLC

ICME as a Promising Tool in Materials Research Culture: Khurram Iqbal[1]; Jianjun Sha[1]; Asghari Maqsood[2]; [1]Dalian University of Technology; [2]National University of Sciences and Technology

Identifying Challenges in the Integrated Design of Materials and Products: Janet Allen[1]; Farrokh Mistree[1]; Jitesh Panchal[2]; BP Gautham[3]; Amarendra Singh[3]; Nagesh Kulkarni[3]; Prabhash Kumar[3]; [1]University of Oklahoma; [2]Purdue University; [3]TRDDC, Tata Consultancy Services

Integrated Computational Materials Education Summer School: Larry Aagesen[1]; Anton Van der Ven[1]; Jonathan Guyer[2]; Laura Bartolo[3]; Greg Olson[4]; John Allison[1]; Paul Mason[5]; Edwin Garcia[6]; Mark Asta[7]; Katsuyo Thornton[1]; [1]University of Michigan; [2]National Institute of Standards and Technology; [3]Kent State University; [4]Northwestern University; [5]Thermo-Calc Software; [6]Purdue University; [7]University of California Berkeley

Integrated Computational Model for Resistance Spot Welds in Auto-body Crashworthiness CAE: Process, Properties, and Performance: Lili Zheng[1]; Yanli Wang[1]; Srdjan Simunovic[1]; Wei Zhang[1]; Zhili Feng[1]; [1]Oak Ridge National Laboratory

Tentative Programming as of 3/26/13

Microstructure Mediated Design of Material and Product: Ayan Sinha[1]; Jitesh Panchal[1]; Farrokh Mistree[2]; Janet Allen[2]; [1]Purdue University; [2]University of Oklahoma, Norman

Modeling and Verification of Vacuum Carburizing Process for 20Cr$_2$Ni$_4$A Steel: Xianhui Zhao[1]; Gang Wang[1]; Yiming Rong[1]; [1]Tsinghua University

Modelling the Process Chain of Cold Rolled Dual Phase Steel for Automotive Application: Ulrich Prahl[1]; Ali Ramazani[1]; [1]RWTH Aachen University

Multi-objective Optimization of Wrought Magnesium Alloy Microstructure for Strength and Ductility: Bala Radhakrishnan[1]; Sarma Gorti[1]; Srdjan Simunovic[1]; [1]Oak Ridge National Laboratory

Multi-scale Modeling of Ni/YSZ Fuel Cell Anode: Ji Hoon Kim[1]; Wing Kam Liu[2]; Christopher Lee[2]; [1]Korea Institute of Materials Science; [2]Northwestern University

Quantitative Characterization of Precipitate Microstructures for Use in ICME Models for Magnesium Alloys: Jiashi Miao[1]; [1]University of Michigan

Study of Numerical Simulation on Quenching Distortion in a Steel Component with Internal Thread: ZhenGuo Nie[1]; Gang Wang[1]; Yiming (Kevin) Rong[1]; [1]Tsinghua University

The Finite Element Analysis Of Thermal Field and Stress Field in the Heavy Locomotive Wheels: ZhenGuo Nie[1]; Wei Shi[1]; Gang Wang[1]; Yiming (Kevin) Rong[1]; [1]Tsinghua University

The Microstructure and Micromechanical Properties of Zr-Cu-Fe-Al Bulk Metallic Glass Irradiated by High-energy Ar+ Ion: Bin Yang[1]; Wendong Luo[1]; Lu Yang[2]; Xitao Wang[1]; [1]University of Science and Technology Beijing; [2]Department of Metallurgical Engineering, The University of Utah

The Numerical Simulation and Technique Optimization of the Casting Process for Primary Coolant Bend Pipes Used for Pressurized Water Reactor Power Plants: Xiaoxia Ji[1]; Genqi Wang[2]; Bin Yang[1]; Xitao Wang[1]; [1]University of Science and Technology Beijing; [2]Yantai Taihai Marnoir Nuclear Equipment Co. Ltd.

The Study on the Induction Heating System: The Establishment of Analytical Model with Experimental Verification and the Phenomenological Study on the Process from Simulation Perspective: Tianxing Zhu[1]; Feng Li[1]; Xuekun Li[1]; Yiming Rong[2]; [1]Tsinghua University; [2]Worcester Polytechnic Institute

Towards an Integrative Simulation of Microstructural Response to Case Hardening of Microalloyed Steels: Patrick Fayek[1]; Thomas Petermann[1]; Ulrich Prahl[1]; [1]RWTH Aachen University

Two Thermal Conductivity Analysis of the Fuel Cell Zirconia Electrolyte, Evaluating the Point of Inflection: Oleksandr Kyrpa[1]; [1]Frantsevich Institute of Problems of Materials Science

Validation of High Strength Cast Al-Zn-Cu-Mg Aluminum for Use in Manufacturing Process Design: Maria Diana David[1]; Robin Foley[1]; John Griffin[1]; Charles Monroe[1]; [1]University of Alabama at Birmingham

Vanadium Carbide Formation and Stabilization for High Strength Steel Applications: Krista Limmer[1]; Julia Medvedeva[1]; [1]Missouri S&T

Virtual Prototyping of Lightweight Designs Made with Cold and Hot Formed Tailored Solutions: Harald Porzner[1]; [1]ESI North America

Wednesday, July 10, 2013

ICME Building Blocks: Opening Session • Room: Ballroom D&E

8:00 AM	**Invited** **The Role of First-principles Calculations in ICME Approaches:** Chris Wolverton[1]; [1]Northwestern University
8:30 AM	**Invited** **High-Throughput Experimental Tools for ICME:** Ji-Cheng Zhao[1]; [1]The Ohio State University
9:00 AM	**Question and Answer Period**
9:10 AM	**Break**

ICME Building Blocks: Experimental Tools • Room: Ballroom D

9:30 AM	**Experimental Advances for ICME:** Richard Fonda[1]; David Rowenhorst[1]; [1]Naval Research Laboratory
9:50 AM	**Quantitative Characterization of Precipitate Microstructures for Use in ICME Models for Magnesium Alloys:** Jiashi Miao[1]; Emmanuelle Marquis[1]; Mei Li[2]; John Allison[1]; [1]University of Michigan; [2]Ford Research Laboratory
10:10 AM	**Advanced Dilatometry and Calorimetry for the Validation of Materials Mechanical and Transformation Models:** Michael Reich[1]; Benjamin Mikereit[1]; Olaf Kessler[1]; Matthias Krawutschke[1]; Christoph Schick[1]; Jan Kalich[2]; [1]University of Rostock; [2]Dresden University of Technology
10:30 AM	**Non-contact Methods for Determination of Thermodynamic and Thermophysical Properties of High-temperature Materials:** Robert Hyers[1]; Jan Rogers[2]; [1]University of Massachusetts; [2]NASA MSFC

10:50 AM	**Break**
11:10 AM	**3D Image Based Modelling for Computational Materials Applications - Taking 3D Imaging beyond Visualisation:** Philippe Young[1]; Simon Richards[2]; [1]University of Exeter; [2]Simpleware Ltd.
11:30 AM	**The 3D X-ray Crystal Microscope: An Unprecedented Tool for ICME:** Gene Ice[1]; John Budai[1]; Eliot Specht[1]; Bennett Larson[1]; Judly Pang[1]; Rozaliya Barabash[1]; Wenjun Liu[2]; Jonathan Tischler[2]; [1]Oak Ridge National Laboratory; [2]Argonne National Laboratory
11:50 AM	**Model Validation for Microstructural Sensitivities Using High Energy Diffraction Microscopy:** Nathan Barton[1]; Joel Bernier[1]; Moono Rhee[1]; Shui Li[1]; John Bingert[2]; Jonathan Lind[3]; [1]Lawrence Livermore National Laboratory; [2]Los Alamos National Laboratory; [3]Carnegie Mellon University
12:10 PM	**Atom Probe Microscopy:** Anna Ceguerra[1]; Simon Ringer[1]; [1]The University of Sydney

ICME Building Blocks: First Principles and Atomistic Tools • Room: Ballroom E

9:30 AM	**Validation of Atomistic Models within an Integrated Computational Environment:** Paul Saxe[1]; Clive Freeman[1]; Erich Wimmer[2]; [1]Materials Design, Inc.; [2]Materials Design, S.A.R.L.
9:50 AM	**What Are the Challenges to Acceptance of Molecular Simulation in Engineering and Design?:** Chandler Becker[1]; Eric Lass[1]; [1]NIST
10:10 AM	**Thermodynamic Properties of Paramagnetic Iron from Non-collinear DFT Calculations:** Vsevolod Razumovskiy[1]; Andrei Ruban[2]; Andrei Reyes-Huamantinco[1]; [1]Materials Center Leoben; [2]KTH Royal Institute of Technology
10:30 AM	**3D Hybrid Atomistic Modeling of ß" in Al–Mg–Si: Putting the Full Coherency of a Needle Shaped Precipitate to the Test:** Flemming Ehlers[1]; Stéphane Dumoulin[2]; Randi Holmestad[1]; [1]Norwegian University of Science and Technology, NTNU; [2]SINTEF, Materials and Chemistry
10:50 AM	**Break**
11:10 AM	**First Principles Computational Determination of Anisotropic Elastic Constants of Hard Compounds (Borides) Through Density Functional Theory:** K. S. Ravi Chandran[1]; K. Panda[1]; [1]University of Utah
11:30 AM	**Ab Initio Determination of Interfacial Energetics of Alloys:** Liang Qi[1]; Maarten de Jong[1]; Mark Asta[1]; [1]University of California,Berkeley
11:50 AM	**Molecular Dynamics and Experimental Characterization of Martensitic Transformations in CoNiAl Alloys:** Vesselin Yamakov[1]; Terryl Wallace[2]; John Newman[2]; Ganga Purja Pun[3]; Yuri Mishin[3]; [1]National Institute of Aerospace; [2]NASA Langley Research Center; [3]George Mason University
12:10 PM	**Site Preference and Interaction Energies of Co and Cr in Gamma Prime Ni_3Al: A First Principles Study:** Jincheng Du[1]; Mrunal Chaudhari[1]; [1]University of North Texas
12:30 PM	**Online Atomistic Polymer Simulations at NanoHUB.org:** Benjamin Haley[1]; Chunyu Li[1]; Nathaniel Wilson[1]; Eugenio Jaramillo[2]; Alejandro Strachan[1]; [1]Purdue University; [2]Texas A&M International University

ICME Building Blocks: Computational Thermodynamics and Kinetics • Room: Ballroom D

2:30 PM	**The Role of the CALPHAD Approach in ICME:** Fan Zhang[1]; Weisheng Cao[1]; Shuanglin Chen[1]; Chuan Zhang[1]; Jun Zhu[1]; [1]CompuTherm, LLC
2:50 PM	**An Open Source Thermodynamic Software and Database Structure as Backbone for Application Software in Materials Science:** Bo Sundman[1]; Ursula Kattner[2]; Mauro Palumbo[3]; Suzana Fries[3]; [1]CEA Saclay; [2]NIST; [3]ICAMS, RUB
3:10 PM	**Assessment of Thermodynamic Data by Physically-based Thermo-kinetic Modeling:** Erwin Povoden-Karadeniz[1]; Peter Lang[2]; Ernst Kozeschnik[3]; [1]Vienna University of Technology, CDLESOP; [2]Materials Center Leoben Forschung GmbH; [3]Vienna University of Technology, Institute of Materials Science and Technology
3:30 PM	**Thermodynamic and Kinetic Simulation and Experimental Results Homogenizing Advanced Alloys:** Paul Jablonski[1]; Jeffrey Hawk[1]; [1]US Department of Energy
3:50 PM	**Optimizing Alloy and Process Design Using Thermodynamic and Properties Databases and a Direct Search Algorithm:** Aimen Gheribi[1]; Eve Belisle[1]; Christopher Bale[1]; Sebastien Le Digabel[1]; Charles Audet[1]; Arthur Pelton[1]; [1]Ecole Polytechnique de Montreal
4:10 PM	**Break**
4:30 PM	**Simulations of Precipitate Microstructure Evolution during Heat Treatments:** Kaisheng Wu[1]; Gustaf Sterner[2]; Qing Chen[2]; Herng-Jeng Jou[3]; Johan Jeppsson[2]; Johan Bratberg[2]; Anders Engstrom[2]; Paul Mason[1]; [1]Thermo-Calc Software Inc; [2]Thermo-Calc Software AB; [3]QuesTek Innovations LLC
4:50 PM	**Development of Gradient Cemented Carbides through ICME Strategy:** Yong Du[1]; Yingbiao Peng[1]; Weibin Zhang[1]; Weimin Chen[1]; Peng Zhou[1]; Wen Xie[2]; Kaiming Cheng[1]; Lijun Zhang[1]; Guanghua Wen[2]; Shequan Wang[2]; [1]State Key Lab of Powder Metallurgy, Central South University; [2]Zhuzhou Cemented Carbide Cutting Tools Limited Company

Tentative Programming as of 3/26/13

5:10 PM	**Computational Study of Pearlite Growth in Mixed Diffusion-controlled Regime:** Kumar Ankit[1]; Britta Nestler[1]; [1]Institute of Materials and Processes, Karlsruhe Institue of Technology
5:30 PM	**Phase-field Modeling of Microstructure Evolution in Nuclear Fuels under Elastic-plastic Deformation:** Shenyang Hu[1]; Yulan Li[1]; Xin Sun[1]; [1]Pacific Northwest National Laboratory

ICME Building Blocks: Process and Performance Modeling • Room: Ballroom E

2:30 PM	**Microstructure-based Modeling and Experimental Validations of Dislocation and Twinning Plasticity in Metals:** Jaafar El-Awady[1]; [1]Johns Hopkins University
2:50 PM	**A Study for the Constitutive Model of Stainless Steel Subjected to High Strain Rate and Temperature:** Yu Jianchao[1]; Jiang Feng[1]; Rong Yiming[1]; [1]Tsinghua University
3:10 PM	**Full-field Multi-scale Modelling of Sheet Metal Forming Taking the Evolution of Texture and Plastic Anisotropy into Account:** Paul Van Houtte[1]; Jerzy Gawad[2]; Eyckens Philip[1]; Albert Van Bael[1]; Giovanni Samaey[1]; Dirk Roose[1]; [1]KULeuven; [2]AGH University of Science and Technology
3:30 PM	**Integrating Quench Modeling into the ICME Workflow:** Andrew Banka[1]; Jeffrey Franklin[1]; William Newsome[1]; [1]Airflow Sciences Corporation
3:50 PM	**Modeling Crack Propagation in Polycrystalline Alloys using Crystal Plasticity Finite Element Method:** Veera Sundararaghavan[1]; Shang Sun[1]; [1]University of Michigan
4:10 PM	**Break**
4:30 PM	**A Coupled Approach to Weld Pool, Phase and Residual Stress Modelling of Laser Direct Metal Deposition (LDMD) Processes:** Mustafa Megahed[1]; Mushtaq Khan[2]; Juansethi Ibara-Medina[2]; Michael Vogel[2]; Narcisse N'Dri[1]; Andrew Pinkerton[3]; [1]ESI Group; [2]University of Manchester; [3]Lancaster University
4:50 PM	**Process Model for Accelerated Cooling of Hot-rolled Low-carbon Steels:** Matthias Militzer[1]; Vladan Prodanovic[1]; Tao Jia[2]; Thomas Garcin[1]; [1]The University of British Columbia; [2]Northeastern University
5:10 PM	**Prediction of the Uncertainty in the Response of Lightweight Structures Consisting of Solid Foams:** Jörg Hohe[1]; Carla Beckmann[1]; [1]Fraunhofer-Institut für Werkstoffmechanik IWM

Thursday, July 11, 2013

ICME Challenges and Education • Room: Ballroom D&E

8:00 AM	**Introductory Comments**
8:05 AM	**Invited** **Enabling Elements of Integrated Computational Materials and Manufacturing Science and Engineering (ICM2SE):** David Furrer[1]; [1]Pratt & Whitney
8:35 AM	**ICME – A Mere Coupling of Models or a Discipline on Its Own?:** Markus Bambach[1]; Georg Schmitz[1]; Ulrich Prahl[1]; [1]RWTH Aachen University
8:55 AM	**Knowledge Assisted Integrated Design of a Component and its Manufacturing Process:** BP Gautham[1]; Nagesh Kulkarni[1]; Danish Khan[1]; Pramod Zagade[1]; Rohith Uppaluri[1]; [1]TRDDC, Tata Consultancy Services
9:15 AM	**Break**
9:35 AM	**Invited** **Integrated Computational Materials Education:** Mark Asta[1]; Katsuyo Thornton[2]; [1]University of California, Berkeley; [2]University of Michigan
10:05 AM	**Integrated Computational Materials Engineering (ICME): Education and Workforce Development:** Mark Horstemeyer[1]; [1]Mississippi State University
10:25 AM	**Break**
10:35 AM	**Panel Discussion:** John Allison, University of Michigan; Julie Christodoulou, ORNL; Tresa Pollock, UCSB; George Spanos, TMS
11:25 AM	Concluding Comments