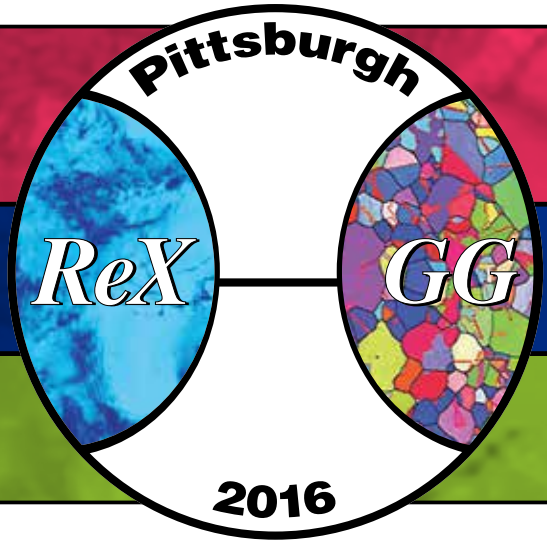
TMS The Mineral, Metals & Materials Society Presents:



The 6th International Conference on Recrystallization and Grain Growth (ReX&GG 2016)

July 17–21, 2016

Omni William Penn Hotel • Pittsburgh, Pennsylvania, USA

FINAL PROGRAM

Sponsored by: TMS The Minerals, Metals & Materials Society and the TMS Advanced Characterization, Testing & Simulation Committee of the Structural Materials Division

www.tms.org/ReXGG2016

SCHEDULE OF EVENTS & TABLE OF CONTENTS

Date	Function	Time	Location
Sunday, July 17	Registration	4:00 p.m. to 7:30 p.m.	17th Floor Coat Check
	Welcome Reception	6:00 p.m. to 7:30 p.m.	Grand Ballroom
Monday, July 18	Registration	7:00 a.m. to 6:00 p.m.	17th Floor Coat Check
	Plenary Session	8:00 a.m. to 8:55 a.m.	Urban - 17th Floor
	Technical Sessions	9:00 a.m. to 10:00 a.m.	see page 10 for locations
	Morning Break	10:00 a.m. to 10:35 a.m.	Alcove - 17th Floor
	Technical Sessions	10:35 a.m. to 12:15 p.m.	see page 10 for locations
	Lunch	12:15 p.m. to 2:00 p.m.	On Your Own
	Technical Sessions	2:00 p.m. to 3:50 p.m.	see pages 11-12 for locations
	Exhibition Set-up	3:00 p.m. to 5:00 p.m.	Grand Ballroom
	Poster Set-up	3:00 p.m. to 5:00 p.m.	Grand Ballroom
	Afternoon Break	3:40 p.m. to 4:20 p.m.	Alcove - 17th Floor
	Church Organ Lecture/Demo - Meet in hotel lobby at 6:15 p.m.	6:30 p.m. to 7:30 p.m.	First Presbyterian Church of Pittsburgh
Tuesday, July 19	Registration	7:00 a.m. to 7:00 p.m.	17th Floor Coat Check
	Plenary Session	8:00 a.m. to 8:45 a.m.	Urban - 17th Floor
	Technical Sessions	8:50 a.m. to 10:10 a.m.	see pages 12-13 for locations
	Exhibition	10:00 a.m. to 7:30 p.m.	Grand Ballroom
	Morning Break	10:10 a.m. to 10:45 a.m.	Grand Ballroom
	Technical Sessions	10:45 a.m. to 12:05 p.m.	see pages 12-13 for locations
	Lunch	12:05 p.m. to 2:00 p.m.	On Your Own
	Technical Sessions	2:00 p.m. to 3:50 p.m.	see pages 14-15 for locations
	Afternoon Break	3:50 p.m. to 4:10 p.m.	Grand Ballroom
	Technical Sessions	4:10 p.m. to 6:10 p.m.	see pages 14-15 for locations
	Poster Viewing/Networking Reception	6:30 p.m. to 7:30 p.m.	Grand Ballroom
Wednesday, July 20	Registration	7:00 a.m. to 1:00 p.m.	17th Floor Coat Check
	Plenary Session	8:00 a.m. to 8:45 a.m.	Urban - 17th Floor
	Exhibition	8:00 a.m. to 11:00 a.m.	Grand Ballroom
	Technical Sessions	8:50 a.m. to 10:20 a.m.	see pages 17-18 for locations
	Morning Break	10:20 a.m. to 10:45 a.m.	Alcove - 17th Floor
	Technical Sessions	10:45 a.m. to 12:25 p.m.	see pages 17-18 for locations
	Poster Tear-down	11:00 a.m. to 12:00 p.m.	Grand Ballroom
	Exhibition Dismantle	11:00 a.m. to 12:00 p.m.	Grand Ballroom
	Lunch	12:25 p.m. to 1:00 p.m.	On Your Own
	Social Tour: Frick Art and Historical Society	1:00 p.m. to 5:00 p.m.	Meet in Omni William Penn Hotel Lobby
	Social Tour: Pittsburgh Treasures	1:00 p.m. to 5:00 p.m.	Meet in Omni William Penn Hotel Lobby
	Conference Dinner	6:30 p.m. to 9:00 p.m.	Grand Ballroom
Thursday, July 21	Registration	7:00 a.m. to 12:00 p.m.	17th Floor Coat Check
	Plenary Session	8:00 a.m. to 8:45 a.m.	Urban - 17th Floor
	Technical Sessions	8:50 a.m. to 10:10 a.m.	see pages 18-19 for locations
	Morning Break	10:00 a.m. to 10:35 a.m.	Alcove - 17th Floor
	Technical Sessions	10:35 a.m. to 12:15 p.m.	see pages 18-19 for locations

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WELCOME TO THE

6th International Conference on Recrystallization and Grain Growth

On behalf of The Minerals, Metals & Materials Society (TMS) and the conference organizers, I am pleased to welcome you to the 6th International Conference on Recrystallization & Grain Growth (ReX&GG 2016) in the beautiful city of Pittsburgh, Pennsylvania. I hope you find this conference valuable, both professionally and personally.

This well-established conference series is uniquely dedicated to covering all aspects of recrystallization and grain growth in conventional and advanced materials. Building on the success of previous conferences, ReX&GG 2016 will facilitate informal networking and in-depth discussion around a highly focused technical program through plenary, invited, contributed, and poster presentations.

I look forward to an exciting, successful meeting and thank you for your participation in the sixth installment of this dynamic conference!

Warmest regards on behalf of the ReX&GG 2016 Organizing Committee.

Elizabeth Holm
Conference Chair

ORGANIZING COMMITTEE & AWARD RECIPIENTS

LOCAL ORGANIZING COMMITTEE

Chair: Elizabeth Holm, *Carnegie Mellon University*
Susan Farjami, *U.S. Steel*
Priyadarshan Manohar, *Robert Morris University*
Greg Rohrer, *Carnegie Mellon University*
A.D. "Tony" Rollett, *Carnegie Mellon University*
David J. Srolovitz, *University of Pennsylvania*
Hasso Weiland, *Alcoa*

INTERNATIONAL SCIENTIFIC COMMITTEE

Chair: Giuseppe Carlo Abbruzzese, *Italy*
Brigitte Bacroix, *France*
Julian Driver, *France*
Michael Ferry, *Australia*
Niels Hansen, *Denmark*
Elizabeth Holm, *USA*
W. Bevis Hutchinson, *Sweden*
Yuichi Ikuhara, *Japan*
Dorte Juul Jensen, *Denmark*
John J. Jonas, *Canada*
Rustum Kaibyshev, *Russia*
Suk-Joong Kang, *Korea*
Sung-Joon Kim, *Korea*
Leo Kestens, *Belgium*
Qing Liu, *China*
Weimin Mao, *China*
Knut Marthinsen, *Norway*
Dimitri Molodov, *Germany*
Eric Palmiere, *United Kingdom*
Elena Pereloma, *Australia*
Paulo Rios, *Brazil*
A.D. "Tony" Rollett, *USA*
Lasar Shvindlerman, *Germany*
David J. Srolovitz, *USA*
Nobuhiro Tsuji, *Japan*
Kohsaku Ushioda, *Japan, USA*

C.S. SMITH AWARD 2016 AWARD RECIPIENT

Dorte Juul Jensen
Technical University of Denmark, Denmark

Cyril Stanley Smith was one of the first scientists to study microstructure in a quantitative manner and paid particular attention to the aspects relevant to recrystallization and grain growth. Many of the topological relationships that we take for granted were first quantified by Smith. He also wrote many papers on the metallurgy of various systems and was a leader in the development of plutonium metallurgy during World War II. He is most famous for the development of a theory for pinning of grain boundaries by particles that was published by Clarence Zener, leading many people to refer to the limiting grain size as the "Zener Limit." When Mats Hillert was given this award in 2004, however, he made a strong argument for calling it the Smith-Zener limit since he felt that Smith was the one who had originated the idea and that Zener found it attractive enough in discussion with him to make the effort to publish it.

The C.S. Smith award is now awarded by the international committee of this conference series and has a strong history of awardees:

- 1998: William Mullins, USA
- 2001: Kurt Lücke, Germany
- 2004: Mats Hillert, Sweden
- 2007: John Humphreys, United Kingdom
- 2010: Roger Doherty, USA
- 2013: Günter Gottstein, Germany
- 2013: Lasar Shvindlerman, Russia

ABOUT THE CONFERENCE

REGISTRATION

Your full registration badge ensures admission to each of these events:

- Technical and Poster Sessions
- Sunday Welcome Reception
- Tuesday Networking Reception
- Wednesday Social Tour*
- Wednesday Conference Dinner

**Please note that although one tour ticket is included, registration was required through the conference registration form. We are no longer accepting tour registrations.*

Registration Hours

The registration desk will be located at the 17th floor coat check.

Sunday: 4:00 p.m. to 7:30 p.m.
Monday: 7:00 a.m. to 6:00 p.m.
Tuesday: 7:00 a.m. to 7:00 p.m.
Wednesday: 7:00 a.m. to 1:00 p.m.
Thursday: 7:00 a.m. to 12:00 p.m.

Internet Access

Complimentary internet access is available for attendees in some public areas of the hotel and in all hotel guest rooms. Internet access is not provided in the session rooms.

Technical Sessions

All oral presentations will be held in the Allegheny, Monongahela, Urban, and Sky rooms on the 17th floor of the Omni William Penn Hotel. All poster presentations will be held in the Grand Ballroom. See the Technical Program section on pages 9-19 for room locations.

EXHIBITION

Exhibition Hours

The exhibition will be located in the Grand Ballroom.

Tuesday: 10:00 a.m. to 7:30 p.m.
Wednesday: 8:00 a.m. to 11:00 a.m.

NETWORKING & SOCIAL EVENTS

Welcome Reception

The Welcome Reception will be held on Sunday, July 17, from 6:00 p.m. to 7:30 p.m. in the Grand Ballroom.

Tour/Lecture

Meet in the hotel lobby at 6:15 p.m. on Monday, July 18, for a lecture and demonstration of the pipe organ at the Frist Presbyterian Church of Pittsburgh by organizer Tony Rollett and his wife, Rebecca. The church is a short walk from the hotel.

Poster Viewing/Networking Reception

A Networking Reception is planned for Tuesday, July 19 from 6:30 p.m. to 7:30 p.m. in the Grand Ballroom. Don't miss this great networking opportunity!

Social Tours

Social tours will take place on Wednesday, July 20, from 1:00 p.m. to 5:00 p.m. For those attendees who signed up to participate* in either the Frick Art and Historical Society Tour or the Pittsburgh Treasures Tour, please meet in the Omni William Penn Hotel lobby at 12:45 p.m. to depart for your tour.

**Please note that although one tour ticket is included, registration was required through the conference registration form. We are no longer accepting tour registrations.*

Conference Dinner

The dinner will be held on Wednesday, July 20 from 6:30 p.m. to 9:00 p.m. in the Grand Ballroom.

ABOUT THE CONFERENCE

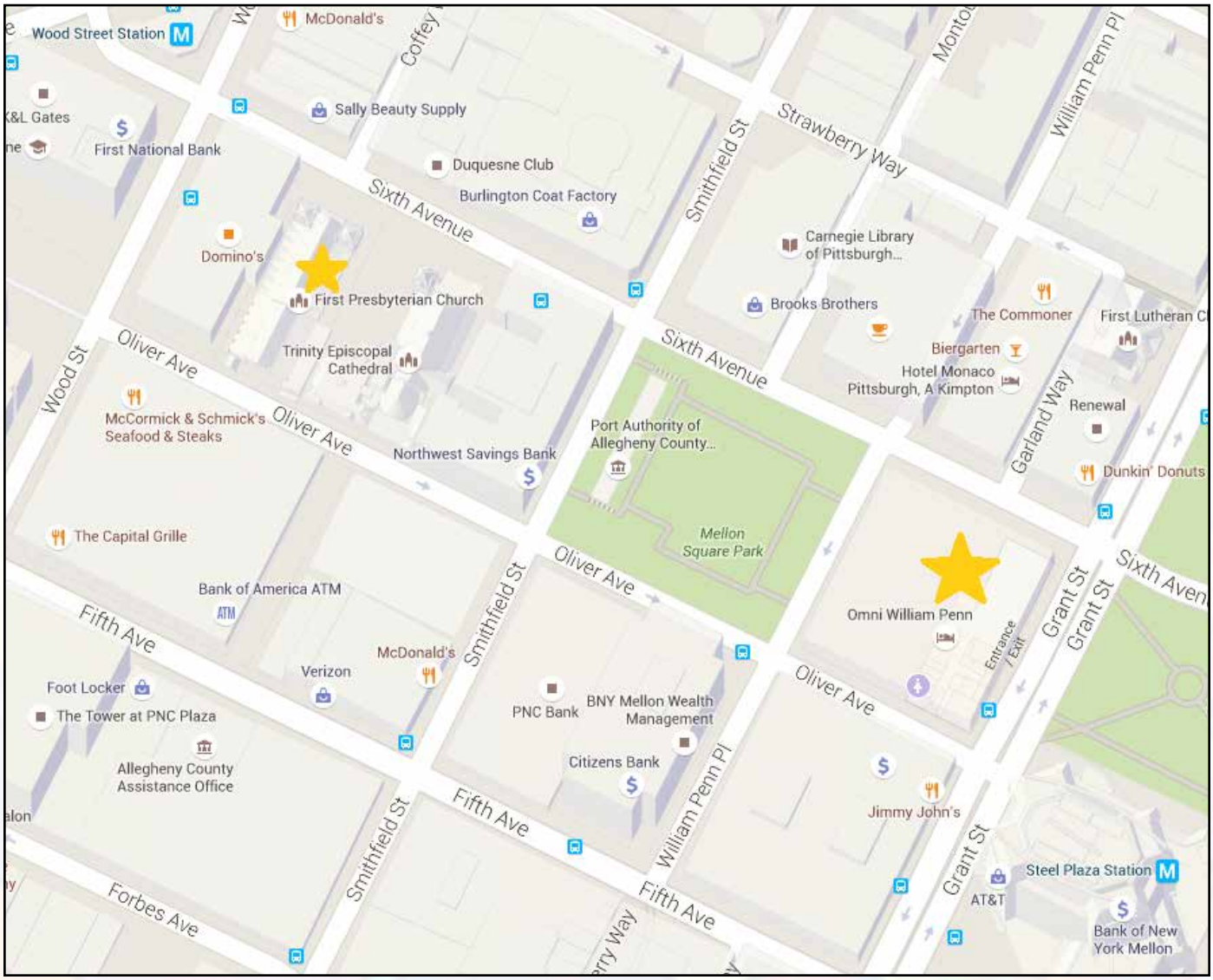
ABOUT THE VENUE

This conference will take place at the Omni William Penn Hotel in downtown Pittsburgh, Pennsylvania, where you will be within easy walking distance to plenty of unique dining options and the Pittsburgh Cultural District. Omni William Penn Hotel is just 18 miles from Pittsburgh International Airport and 11 miles from Allegheny County Airport.

About the Omni William Penn Hotel

Designed by renowned architects Benno Janssen and Franklin Abbott, the Omni William Penn Hotel was the last building venture of Henry Clay Frick, one of Pittsburgh's wealthiest industrialists, and completed at a cost of $6 million in 1916. Frick envisioned the William Penn as Pittsburgh's showplace, designed to rival the great hotels of Europe in Old World style and enhanced with the sophisticated technology offered by the 20th century.

The Omni William Penn Hotel is within easy walking distance to a number of dining options and local attractions in downtown Pittsburgh. Explore the Cultural District or Market Square, both just a 10-minute walk from the hotel.



SPONSORS & EXHIBITORS

TMS would like to thank the following Sponsors and Exhibitors for their support of the event:

SPONSORS

Carnegie Mellon University
Carnegie Mellon University is a private, internationally ranked research university with a history of leadership in materials science and engineering. Founded in 1900, CMU's first class of graduates included eight in the field of Metallurgical Engineering Practice. The Department of Materials Science and Engineering now includes 24 active faculty and over 250 bachelors, masters, and doctoral students. Microstructural science has been and remains a cross-cutting research area within the department, with significant research support and state-of-the-art facilities.

Oxford Instruments
Oxford Instruments NanoAnalysis provides leading-edge tools that enable materials characterization and sample manipulation at the nanometer scale. Used on electron microscopes (SEM and TEM) and ion-beam systems (FIB), our tools are used for R&D across a wide range of academic and industrial applications including semiconductors, renewable energy, mining, metallurgy, and forensics.

EXHIBITORS

EDAX
EDAX is a leading provider of innovative materials characterization systems encompassing Energy Dispersive Spectrometry (EDS), Wavelength Dispersive Spectrometry (WDS), Electron Backscatter Diffraction (EBSD) and Micro X-ray Fluorescence (XRF). The company designs, manufactures, distributes and services hardware and software solutions for a broad range of industries, educational institutions and research organizations.

Gleeble
Dynamic Systems manufactures the Gleeble® line of thermal-mechanical physical simulators. Samples of material are heated and mechanically worked while performance parameters are measured and analyzed, providing a cost effective way to physically simulate high temperature processes and applications at a far lower cost than full scale tests. Process simulation capabilities include: Hot Rolling, Continuous Casting, Recrystallization, Weld HAZ Cycles, Butt Welding, Diffusion Bonding, Mushy Zone Processing, Forging, Extrusion, Continuous Strip Annealing, Heat Treating, Quenching and more. More information on Gleeble Systems can be found on the company website: www.Gleeble.com.

CONFERENCE POLICIES AND INFORMATION

Badges

All attendees must wear registration badges at all times during the conference to ensure admission to events included in the paid fee such as technical sessions, exhibition, and receptions.

Refunds

The deadline for all refunds was June 1, 2016. No refunds will be issued at the conference. Fees and tickets are nonrefundable.

Americans with Disabilities Act

The federal Americans with Disabilities Act (ADA) prohibits discrimination against, and promotes public accessibility for, those with disabilities. In support of, and in compliance with ADA, we ask those requiring specific equipment or services to contact TMS Meeting Services at mtgserv@tms.org in advance.

Cell Phone Use

In consideration of attendees and presenters, we kindly request that you minimize disturbances by setting all cell phones and other devices on "silent" while in meeting rooms.

Anti-Harassment

In all activities, TMS is committed to providing a professional environment free of harassment, disrespectful behavior, or other unprofessional conduct.

TMS policy prohibits conduct that is disrespectful, unprofessional, or harassing as related to any number of factors including, but not limited to, religion, ethnicity, gender, national origin or ancestry, physical or mental disability, physical appearance, medical condition, partner status, age, sexual orientation, military and veteran status, or any other characteristic protected by relevant federal, state, or local law or ordinance or regulation.

Failure to comply with this policy could lead to censure from the TMS Board of Directors, potential legal action, or other actions.

Anyone who witnesses prohibited conduct or who is the target of prohibited verbal or physical conduct should notify TMS staff member as soon as possible following the incident. It is the duty of the individual reporting the prohibited conduct to make a timely and accurate complaint so that the issue can be resolved swiftly.

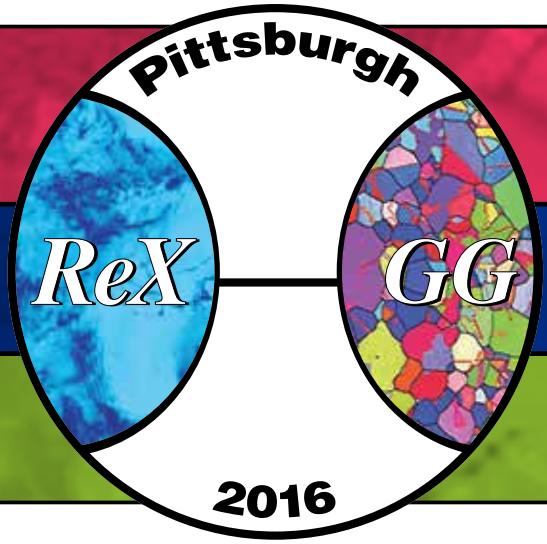
Photography and Recording

TMS reserves the right to all audio and video reproduction of presentations at TMS-sponsored meetings. By registering for this meeting, all attendees acknowledge that they may be photographed by TMS personnel while at events and that those photos may be used for promotional purposes, in and on TMS publications and websites, and on social media sites.

Any recording of sessions (audio, video, still photography, etc.) intended for personal use, distribution, publication, or copyright without the express written consent of TMS and the individual authors is strictly prohibited. Attendees violating this policy may be asked to leave the session.

Antitrust Compliance

TMS complies with the antitrust laws of the United States. Attendees are encouraged to consult with their own corporate counsel for further guidance in complying with U.S. and foreign antitrust laws and regulations.



The 6th International Conference on Recrystallization and Grain Growth (ReX&GG 2016)

TECHNICAL PROGRAM

TECHNICAL PROGRAM

Plenary Session I

Monday AM
July 18, 2016

Room: Urban
Location: Omni William Penn Hotel

8:00 AM Opening Ceremony

8:10 AM Cyril Stanley Smith Award Lecture - Dorte Juul Jensen, Technical University of Denmark

8:55 AM Break

Grain Growth I: Theory

Monday AM
July 18, 2016

Room: Urban
Location: Omni William Penn Hotel

9:00 AM Invited
Theoretical Foundation of Aboav-wearie Equation: *Giuseppe Carlo Abbruzzese*[1]; [1]Centro Sviluppo Materiali

9:30 AM
Un-normal Grain Growth in Nanocrystalline Metals: *Spencer Thomas*[1]; David Srolovitz[1]; [1]University of Pennsylvania

9:50 AM
Self-similar Coarsening and the Envelope Theorem: Peter Streitenberger[1]; *Dana Zöllner*[1]; [1]Otto von Guericke University Magdeburg

10:10 AM Break

10:35 AM
Grain Boundary, Triple Junction, and Quadruple Point Grain Growth Dynamics: *Paulo Rios*[1]; Martin Glicksman[2]; [1]UFF-EEIMVR; [2]Florida Institute of Technology

10:55 AM
Effect of Grain Boundary Geometry on Boundary Motion and Grain Rotation: *Luis Barrales-Mora*[1]; Dmitri Molodov[1]; Jann-Erik Brandenburg[1]; [1]Institut fuer Metallkunde und Metallphysik

11:15 AM
Integral Mean Curvature Derivation of the Rhines-craig Topological Model of Grain Growth: *Burton Patterson*[1]; Catherine Sahi[1]; Robert DeHoff[1]; [1]University of Florida

11:35 AM
Stereological Description of Integral Mean Curvature Driven Grain Growth: *Robert DeHoff*[1]; Burton Patterson[1]; Catherine Sahi[1]; [1]University of Florida

Recrystallization I: Modeling and Simulation

Monday AM
July 18, 2016

Room: Allegheny
Location: Omni William Penn Hotel

9:00 AM
Simulation of Recrystallization Textures with Crystal Plasticity Models: *Leo Kestens*[1]; T. Nguyen-Minh[1]; J. Sidor[1]; R. Petrov[1]; [1]Ghent University

9:20 AM
Predicting Texture Evolution using Coupled Polycrystal Plasticity and Recrystallization Models: *Marko Knezevic*[1]; Miroslav Zecevic[1]; Ricardo Lebensohn[2]; Rodney McCabe[2]; [1]University of New Hampshire; [2]Los Alamos National Laboratory

9:40 AM
Multiphase-field Method for Static Recrystallization Including Texture Evolution: *Ephraim Schoof*[1]; Jan Pagenkopf[2]; Alexander Vondrous[3]; Michael Selzer[4]; Daniel Schneider[4]; Britta Nestler[4]; Dirk Helm[2]; [1]Karlsruhe University of Applied Sciences; [2]Fraunhofer IWM Freiburg; [3]Karlsruhe University of Applied Sciences (former); [4]Karlsruhe Institute of Technology

10:00 AM Break

10:35 AM
Statistical Ensemble Cellular Automaton for the Simulation of Primary Recrystallization: *Markus Kühbach*[1]; Luis Antonio Barrales-Mora[1]; Günter Gottstein[1]; [1]RWTH Aachen University, Institut für Metallkunde und Metallphysik

10:55 AM
3D Phase-field Simulation of Recrystallization Starting from EBSD Texture Measurements: *Yoshihiro Suwa*[1]; Miho Tomita[1]; Yasuaki Tanaka[1]; Kohsaku Ushioda[1]; [1]Nippon Steel & Sumitomo Metal Corporation

11:15 AM
Grain Size Distribution in Recrystallized Thin Sheets and Rods: *Jitesh Vasavada*[1]; Harsh Narula[1]; Sushil Mishra[1]; Asim Tewari[1]; [1]IIT Bombay

Steel I: Electrical Steels

Monday AM
July 18, 2016

Room: Monongahela
Location: Omni William Penn Hotel

9:00 AM Invited
Evolution of Recrystallization Textures in a 1.2 wt.% Si Electrical Steel after Warm and Cold Asymmetric Rolling: *T. Nguyen-Minh*[1]; Leo Kestens[1]; R. Petrov[1]; [1]Ghent University

9:30 AM
Effect of Temper Rolling Reduction Prior to Hot Band Annealing on the Goss Texture Formation in Grain-oriented Electrical Steels: *Kyung-Jun Ko*[1]; Jong-Tae Park[1]; Chan-Hee Han[1]; [1]POSCO

9:50 AM
A New Process for Developing {100}-Textured Electrical Steels and Their Magnetic Properties: *Nam Heo*[1]; Sung Kim[1]; [1]GIFT, POSTECH

10:10 AM Break

10:35 AM
Texture Evolution during Recrystallization and Grain Growth in Heavily Cold Rolled Fe-3%Si Alloy: *Masato Yasuda*[1]; Takashi Kataoka[1]; Yoshiyuki Ushigami[1]; Kenichi Murakami[1]; [1]Nippon Steel & Sumitomo Metal

10:55 AM
Observation of Sub-boundaries within Goss Grains in Fe-3wt%Si Steel using Synchrotron X-ray Microdiffraction: *Hyung-Seok Shim*[1]; Tae-Wook Na[2]; Jin-Seok Chung[3]; Soo-Bin Kwon[1]; Tae-Young Kim[1]; Nong-Moon Hwang[1]; [1]Seoul National University; [2]Korea Institute of Industrial Technology; [3]Soongsil University

11:15 AM
Mechanism of Normal Grain Growth Before Secondary Recrystallization of Grain Oriented Electrical Steels: *Weimin Mao*[1]; [1]University of Science and Technology Beijing

11:35 AM
Effect of Annealing on Magnetic Properties and Microstructure of Fe-based Soft-magnetic Powder: *Soobin Kwon*[1]; Hyungseok Shim[1]; Taewook Na[1]; Nongmoon Hwang[1]; [1]Seoul National University

TECHNICAL PROGRAM

Grain Growth II: Simulation

Monday PM
July 18, 2016

Room: Urban
Location: Omni William Penn Hotel

2:00 PM
The Materials Point Monte Carlo Method: A Random Lattice Simulation for Deformation and Microstructural Evolution in Polycrystalline Materials: *Philip Goins*[1]; Elizabeth Holm[1]; [1]Carnegie Mellon University

2:20 PM
Grain Growth in a System Containing Finely Dispersed Mobile Second-phase Particles: A GPU-accelerated Multi-phase-field Study: *Akinori Yamanaka*[1]; Masashi Okamoto[1]; [1]Tokyo University of Agriculture and Technology

2:40 PM
Moving towards Material-specific Monte Carlo Simulation of Grain Growth: *Phaneesh Kalale*[1]; Anirudh Bhat[2]; Gautam Mukherjee[3]; K. T. Kashyap[4]; [1]M. S. Ramaiah Institute of Technology; [2]Georgia Institute of Technology; [3]Private Consultant; [4]Atria Institute of Technology

3:00 PM
Mesoscale Modeling of Grain Growth in Graded Nanocrystalline Materials with Spatial Grain Size Gradients: *Ying Chen*[1]; Zhanyang Chen[1]; [1]Rensselaer Polytechnic Institute

3:20 PM
Phase-field and Mean Field Study of Normal Grain Growth: *Reza Darvishi Kamachali*[1]; Ingo Steinbach[1]; [1]ICAMS

3:40 PM Break

Advanced Characterization

Monday PM
July 18, 2016

Room: Allegheny
Location: Omni William Penn Hotel

2:00 PM Invited
Analysis of Integral Mean Curvature Driven Grain Growth in Iron Using Diffraction-contrast Tomography: *Burton Patterson*[1]; Catherine Sahi[1]; Erik Lauridsen[2]; Yubin Zhang[3]; Dorte Juul Jensen[3]; Robert DeHoff[1]; Christian Holzner[4]; [1]University of Florida; [2]Xnovo Technology; [3]Technical University of Denmark; [4]Carl Zeiss X-ray Microscopy, Inc.

2:30 PM
Methods for Determining Integral Mean Curvature of Boundaries in 3D Reconstructed and Simulated Grain Structures: *Robert DeHoff*[1]; David Rowenhorst[2]; Burton Patterson[1]; Catherine Sahi[1]; [1]University of Florida; [2]U.S. Naval Research Laboratory, Code 6350

2:50 PM
Laboratory-based Diffraction Contrast Tomography (LabDCT) for 3D Crystallographic Imaging: *Erik Lauridsen*[1]; Christian Holzner[2]; Florian Bachmann[1]; Kenneth Nielsen[1]; Leah Lavery[2]; William Harris[2]; Peter Reischig[1]; Allan Lyckegaard[1]; [1]Xnovo Technology ApS; [2]Carl Zeiss X-ray Microscopy, Inc.

3:10 PM
Automated Orientation Mapping using Scripted Electron Channeling Pattern Acquisition and the Dictionary Indexing Approach: *Saransh Singh*[1]; Marc De Graef[1]; [1]Carnegie Mellon University

3:30 PM
Point-group Sensitive Orientation Mapping Using EBSD: *Aimo Winkelmann*[1]; Gert Nolze[2]; Marcel Himmerlich[3]; Vadim Lebedev[4]; Angelika Reichmann[5]; [1]Bruker Nano; [2]BAM, Federal Institute for Materials Research and Testing; [3]Technische Universität Ilmenau; [4]Fraunhofer Institute for Applied Solid State Physics; [5]Graz University of Technology

3:50 PM Break

4:20 PM
Assessment of Grain Growth and Recrystallization Using Laser Ultrasonics: *Thomas Garcin*[1]; Mykola Kulakov[1]; Jean Hubert Schmitt[2]; Warren J. Poole[1]; Matthias Militzer[1]; [1]The University of British Columbia; [2]Centrale Supélec, Laboratoire MSSMat, UMR CNRS 8579

4:40 PM
Real Time Recrystallization and Grain Growth Measurements in Cobalt Based Super Alloys: *Mahsa Keyvani*[1]; Thomas Garcin[1]; Matthias Militzer[1]; Damien Fabrègue[2]; [1]The University of British Columbia; [2]INSA de Lyon

5:00 PM
Studying the Mechanical Response of Regions within Grains and Near Grain Boundaries using Spherical Nanoindentation: *Siddhartha Pathak*[1]; [1]University of Nevada, Reno

5:20 PM
In-situ Characterization of Dislocation Interaction with Grain Boundary in $SrTiO_3$ Using TEM Nanoindentation: *Shun Kondo*[1]; Tasuku Mitsuma[1]; Naoya Shibata[1]; Yuichi Ikuhara[1]; [1]The University of Tokyo

5:40 PM To be announced

Superalloys

Monday PM
July 18, 2016

Room: Monongahela
Location: Omni William Penn Hotel

2:00 PM Invited
Heteroepitaxial Recrystallization, a New Recrystallization Mechanism in Sub-solvus Forged γ -γ ' Nickel Base Superalloys with Low Lattice Mismatch: Marie-Agathe Charpagne[1]; Thomas Billot[2]; Jean-Michel Franchet[3]; *Nathalie Bozzolo*[1]; [1]MINES ParisTech; [2]Snecma; [3]Safran

2:30 PM
Inconel 718 Microstructural Evolution Modeling During Sequential Forming Steps (Hot Forging Followed by Ring-rolling): *Oscar Beltran*[1]; [1]Safran

2:50 PM
Recrystallized Grain Size Distribution of Formed Components in Incoloy 800H: *Shaun Mucalo*[1]; Milo Kral[1]; Catherine Bishop[1]; [1]University of Canterbury

3:10 PM
Effect of Stress Relieving Treatments on the Recovery and Recrystallisation Behaviour of Nickel-based Superalloys Processed by Selective Laser Melting: Rocio Munoz Moreno[1]; Divya VD[2]; *Olivier Messé*[2]; Trevor Illston[3]; Scarlett Baker[3]; Fionnán Mc Namara[3]; Howard Stone[2]; [1]University of Cambridge ; [2]University of Cambridge; [3]Materials Solutions

3:30 PM
The Effect of Strain Heterogeneity on Recrystallisation during Forging in a Newly Developed Nickel Base Superalloy: *Soran Birosca*[1]; [1]Swansea University

3:50 PM Break

4:20 PM To be announced

4:40 PM
Microstructural Modelling of Thermo-mechanically Processed Ni-base Superalloys: *Markus Rath*[1]; Alfred Krumphals[2]; Martin Stockinger[2]; Ernst Kozeschnik[1]; [1]Vienna University of Technology; [2]Böhler Schmiedetechnik GmbH & Co KG

5:00 PM
Effect of Deformation Parameters on Dynamic Recrystallization and Grain Growth of IN718: Experimental and Modeling Study: *Ajit Gaikwad*[1]; Shreyas Kirwai[1]; Rajkumar Singh[1]; [1]Bharat Forge Limited

5:20 PM
Grain Growth Modeling for Additive Manufacturing of Nickel Based Super Alloys: Huiliang Wei[1]; *Tuhin Mukherjee*[1]; Tarasankar DebRoy[1]; [1]Pennsylvania State University

Steel II: Specialty Steels

Monday PM
July 18, 2016

Room: Urban
Location: Omni William Penn Hotel

4:20 PM Invited
Hardening and Softening by Low Temperature Annealing of Pearlitic Steel Wire: *Niels Hansen*[1]; Xiaodan Zhang[1]; Xiaoxu Huang[1]; [1]Technical University of Denmark

4:50 PM
Control of the Recrystallization of Ferritic ODS Steels by Deformation Texture and Nano-precipitates Content: *Benjamin Hary*[1]; Thierry Baudin[2]; Roland Logé[3]; Yann de Carlan[1]; [1]CEA; [2]Université Paris-Sud; [3]Ecole Polytechnique Fédérale de Lausanne

5:10 PM
Deformation and Recrystallization Textures in a High-Mn Steel Subjected to Large Strain Cold Rolling: *Zhanna Yanushkevich*[1]; Andrey Belyakov[1]; Christian Haase[2]; Dmitri A. Molodov[2]; Rustam Kaibyshev[1]; [1]Belgorod National Research University; [2]Institute of Physical Metallurgy and Metal Physics, RWTH Aachen University

5:30 PM
Modelling Microstructure and Mechanical Properties of High Strength Steels during Hot Rolling in a ESP Plant: *Andrea Di Schino*[1]; Ali Smith[2]; [1]University of Perugia; [2]Centro Sviluppo Materiali SpA

5:50 PM
Recrystallization Behavior of d-ferrite in the Ti-alloyed Low Density Steel: Xiangyu Xu[1]; *Xuemin Wang*[1]; [1]Collaborative Innovation Center of Steel Technology, University of Science and Technology Beijing

Plenary Session II

Tuesday AM
July 19, 2016

Room: Urban
Location: Omni William Penn Hotel

8:00 AM Plenary
Recrystallisation Mechanisms and Crystallographic Preferred Orientations in Ice: *David Prior*[1]; Matthew Vaughan[1]; Meike Seidemann[1]; Lisa Craw[1]; Lauren Tooley[1]; Narayana Golding[2]; William Durham[2]; Tom Mitchell[3]; Nicolas Brantut[3]; David Goldsby[4]; [1]University of Otago; [2]MIT; [3]UCL; [4]UPenn

8:45 AM Break

Grain Boundary Structure and Properties

Tuesday AM
July 19, 2016

Room: Urban
Location: Omni William Penn Hotel

8:50 AM
Atomistic Simulations of Solute Interaction with Grain Boundaries: *Tegar Wicaksono*[1]; Liam Huber[2]; Ilya Elfimov[1]; Matthias Militzer[1]; [1]The University of British Columbia; [2]Max-Planck-Institut für Eisenforschung GmbH

9:10 AM
Atomic Density Function Modeling of Segregation at Grain Boundaries: *Antoine Vaugeois*[1]; Helena Zapolsky[1]; Renaud Patte[1]; Oleksander Kapikranyan[2]; [1]University of Rouen; [2]ENSICAEN

9:30 AM
Atomic Scale Segregation Effects on Ductility Enhancement in Dilute Magnesium-rare Earth Alloys: *Indranil Basu*[1]; Konda Pradeep[2]; Christian Miessen[1]; Luis Barrales-Mora[1]; Talal Al-Samman[1]; [1]Institut fuer Metallkunde und Metallphysik; [2]Materials Chemistry

9:50 AM
Complexion and Grain Growth Transitions in Yttria-doped Alumina and Strontium Titanate: Characterized by Relative Grain Boundary Energy: *Madeleine Kelly*[1]; Gregory Rohrer[1]; Wolfgang Rheinheimer[2]; Michael Hoffmann[3]; [1]Carnegie Mellon University; [2]Karlsruhe Institute of Technology; [3]Karlsruhe Institute of Technology

10:10 AM Break

10:45 AM
Grain Boundary Curvature as a Function of Five Crystallographic Parameters: *Xiaoting Zhong*[1]; Gregory Rohrer[1]; [1]CMU

11:05 AM
Interfacial Segregation in FCC Metallic Alloys: Atomistic Approach: *Balahouane Lezzar*[1]; [1]Constantine University

11:25 AM
Secondary Faceting Behavior of Incoherent Boundaries and Its Role in Grain Boundary Mobility: *Elizabeth Holm*[1]; Jonathan Humberson[1]; [1]Carnegie Mellon University

11:45 AM
Continuum Framework for Dislocation Structure, Energy and Dynamics of Dislocation Arrays and Low Angle Grain Boundaries: *Yang Xiang*[1]; [1]Hong Kong University of Science and Technology

Recrystallization II: Dynamic Recrystallization

Tuesday AM
July 19, 2016

Room: Allegheny
Location: Omni William Penn Hotel

8:50 AM
An Integrated Full-field Model of Concurrent Plastic Deformation and Microstructure Evolution: Application to 3D Simulation of Dynamic Recrystallization in Polycrystalline Copper: *Stephen Niezgoda*[1]; Yunzhi Wang[1]; Pengyang Zhao[1]; [1]The Ohio State University

9:10 AM
An Extended Mean Field Approach for Modelling Realistic Grain Size Distribution Evolutions during Discontinuous Dynamic RX and Post-dynamic RX: Guillaume Smagghe[1]; David Piot[1]; Franck Montheillet[1]; Aurore Montouchet[2]; Marc Bernacki[3]; John J. Jonas[4]; *Guillaume Kermouche*[1]; [1]Ecole des Mines de Saint-Etienne; [2]AREVA NP; [3]Ecole des Mines de Paris, CEMEF; [4]McGill University, Department of Mining and Materials Engineering

9:30 AM
Mean Field Modelling of Dynamic and Post-dynamic Recrystallization in 316L Steel and Inconel 718: Meriem Zouari[1]; Nathalie Bozzolo[1]; Ke Huang[2]; *Roland Loge*[2]; [1]Mines Paristech; [2]EPFL

9:50 AM
Dynamic Recrystallization in Friction Stir Processed Fine-grained Mg-Al-Zn Alloys: *Fang Chai*[1]; Datong Zhang[2]; [1]Key Laboratory for Ferrous Metallurgy and Resources Utilization of Ministry of Education, Wuhan University of Science and Technology, Wuhan, Hubei 430081, China; [2]National Engineering Research Center of Near-net-shape Forming for Metallic Materials, South China University of Technology, Guangzhou 510640, P. R. China

10:10 AM Break

10:45 AM
Dynamic Recrystallization during Dynamic Tensile Extrusion of Copper - nucleation Mechanisms and Grain Growth Simulations: Magnus Hörnqvist Colliander[1]; Nooshin Mortazavi[1]; *Andrew Ruggiero*[2]; Nicola Bonora[2]; [1]Chalmers University of Technology; [2]University of Cassino and Southern Lazio

11:05 AM
Dynamic Recrystallization Behaviour at Grain Boundaries in Cu-Sn Alloy Bicrystals and Polycrystals: *Hiromi Miura*[1]; Masakazu Kobayashi[1]; [1]Toyohashi University of Technology

11:25 AM
Simulation of Grain Refinement at Multidirectional Forging and New Dislocation-based Dynamic Recrystallization Model: *Elijah Borodin*[1]; Vladimir Bratov[1]; [1]Chelyabinsk State University

11:45 AM
Mechanical Manifestations of Dynamic Recrystallization: *Evgueni Poliak*[1]; [1]ArcelorMittal USA

Steel VI: Iron and Low Carbon Steels

Tuesday AM
July 19, 2016

Room: Sky
Location: Omni William Penn Hotel

8:50 AM
A Multi-class Approach for the Description of Static and Dynamic Recrystallization in Steel: Ernst Kozeschnik[1]; Jiri Svoboda[2]; *Ernst Kozeschnik*[1]; [1]TU Vienna; [2]Academy of Science of the Czech Republic

9:10 AM
The Effect of the Heating Rate in the Recrystallization of Pure Iron and Carbon Steel: *Felipe Castro*[1]; Florian Vercruysse[1]; Constantinos Goulas[2]; Leo Kestens[1]; Alberto Monsalve[3]; Roumen Petrov[1]; [1]Ghent University; [2]TU Delft; [3]Universidad de Santiago de Chile

9:30 AM
Nucleation Stage during If Steel Recrystallization and Internal Misorientation Parameters: Abdelhak Ayad[1]; Meriem Ramoul[2]; Nadjet Rouag[2]; *Anthony Rollett*[3]; Francis Wagner[4]; [1]Département de pharmacie, Faculté de Médecine, Université de Constantine 3; [2]Laboratoire des Microstructures et Défauts dans les Matériaux, Université des Frères Mentouri Constantine; [3]Department of Materials Science and Engineering, Carnegie Mellon University; [4]LEM3, (CNRS-UMR 7239), Université de Lorraine

9:50 AM
Effect of B and Ti Addition on Recrystallization Behavior of Ultra-low Carbon Cold-rolled Steel Sheets: *Jun Haga*[1]; Jun Takahashi[1]; Hideaki Sawada[1]; Naomitsu Mizui[1]; Kohsaku Ushioda[1]; [1]Nippon Steel & Sumitomo Metal Corporation

10:10 AM Break

10:35 AM
In-situ Observations of the α - γ Phase Transformation in a Low Carbon Steel by EBSD and FSE Imaging: *Seiichi Suzuki*[1]; Tatsuya Fukino[1]; Stuart Wright[2]; Matthew Nowell[2]; [1]TSL Solutions KK; [2]EDAX Inc,

10:55 AM
Contrasting the Use of Contact and Non-contact Dilatometers to Measure Ferrite Recrystallization in Cold-rolled Low Carbon Steel: *Larrin Thomas*[1]; Kester Clarke[2]; David Matlock[1]; [1]Colorado School of Mines; [2]Los Alamos National Laboratory

Aluminum Alloys

Tuesday AM
July 19, 2016

Room: Monongahela
Location: Omni William Penn Hotel

8:50 AM Invited
Deformation and Recrystallization Microstructure of Asymmetric Extruded AA6063 Flat Profiles: Kai Zhang[1]; *Knut Marthinsen*[1]; Bjørn Holmedal[1]; Antonio Segatori[2]; Trond Aukrust[3]; [1]Norwegian University of Science and Technology; [2]SAPA Technology; [3]SINTEF Materials and Chemistry

9:20 AM
Effect of Sc and Zr Addition on Recrystallization Behavior in Al-Mg-Si Alloy: *Ken-ichi Ikeda*[1]; Ryutaro Akiyoshi[2]; Satoshi Hata[3]; Hideharu Nakashima[3]; Kazuhiro Yamada[3]; Kenji Kaneko[3]; [1]Hokkaido University; [2]Kyushu University (present: Kobe Steel, Ltd.); [3]Kyushu University

9:40 AM
On the Interaction between Precipitation and Recrystallization of a Cold–rolled Al–Mn–Fe–Si Alloy: *Ke Huang*[1]; Knut Marthinsen[2]; Roland Logé[3]; [1]Thermomechanical Metallurgy Laboratory – PX Group Chair, Ecole Polytechnique Fédérale de Lausanne (EPFL); [2]Department of Materials Science and Engineering, Norwegian University of Science and Technology (NTNU); [3]Thermomechanical Metallurgy Laboratory – PX Group Chair, Ecole Polytechnique Fédérale de Lausanne (EPFL)

10:00 AM
Recrystallization Kinetics of Al-Cu-Mg-Ag/TiB_2 PMMC: *Martha Indriyati*[1]; Vit Janik[1]; Richard Dashwood[1]; [1]University of Warwick

10:20 AM Break

10:45 AM
Dynamic Recrystallization and Grain Growth in Additively Manufactured Aluminum Parts Fabricated via Additive Friction Stir (AFS): Nanci Hardwick[1]; Jianqing Su[1]; *Oscar Rivera*; [1]Aeroprobe Corporation

11:05 AM
Mechanism of Grain Refinement During Equal-Channel Angular Pressing at Intermediate Temperature in an Al-Mg-Sc Alloy: Sergey Malopheyev[1]; Kulitskiy Vladislav[1]; Gazizov Marat[1]; *Rustam Kaibyshev*[1]; [1]Belgorod State University

11:25 AM
Effect of Strain Path Change on Deformation and Recrystallization Behaviour of Al-Mg Alloy: *Latimuni Patra*[1]; Sumeet Mishra[1]; Nilesh Gurao[1]; [1]IIT Kanpur

11:45 AM
Controlling Recrystallization Texture through Prior Recovery in Warm-rolled Al-2.5wt.%Mg Alloy: *Pinaki Bhattacharjee*[1]; Jagga Gatti[1]; Mohammed Jahazi[2]; [1]IIT hyderabad; [2]ETS Montreal

TECHNICAL PROGRAM

Grain Growth III: Abnormal Grain Growth

Tuesday PM
July 19, 2016

Room: Urban
Location: Omni William Penn Hotel

2:00 PM Invited
Modeling of Abnormal Grain Growth: Ying Liu[1]; *Matthias Militzer*[1]; Michel Perez[2]; [1]The University of British Columbia; [2]INSA Lyon

2:30 PM
Probing Abnormal Grain Growth in Polycrystalline Materials in 4D Using 3DXRD Measurement and Phase Field Simulation: *Mingyan Wang*[1]; Jules Dake[1]; Anton Manin[1]; Jette Oddershede[2]; Henning Sørensen[3]; Søren Schmidt[2]; Carl Krill[1]; [1]Ulm University; [2]Technical University of Denmark; [3]University of Copenhagen

2:50 PM
Modeling Abnormal Grain Growth Mechanisms using Graph Kernels on the Transgranular Network: *Brian DeCost*[1]; Elizabeth Holm[1]; [1]Carnegie Mellon University

3:10 PM
A Potts Model Investigation of Complexion Transitions and Abnormal Grain Growth: *William Frazier*[1]; Gregory Rohrer[1]; Anthony Rollett[1]; [1]Carnegie Mellon University

3:30 PM
Integral Mean Curvature Description of Abnormal Grain Growth: *Catherine Sahi*[1]; Burton Patterson[1]; Robert DeHoff[1]; [1]University of Florida

3:50 PM Break

4:10 PM
Dynamic Abnormal Grain Growth in a Mo Rod during High-temperature Plastic Deformation: *Philip Noell*[1]; Paul Aimone[2]; Eric Taleff[1]; [1]University of Texas at Austin; [2]H.C. Starck, Inc.

4:30 PM
Comparison of 3-Dimensional Microstructure Evolutions of Abnormally-growing Goss Grains in Fe-3%Si Steel between Experiments and Monte Carlo Simulations: *Nong-Moon Hwang*[1]; Da-Hee Cho[2]; Tae-Wook Na[1]; [1]Seoul National University; [2]Research Institute of Industrial Science and Technology

4:50 PM
Quantification of Abnormal Grain Growth Using Canonical Correlation Analysis: *Jeffrey Rickman*[1]; Abigail Lawrence[1]; Anthony Rollett[2]; Martin Harmer[1]; [1]Lehigh University; [2]Carnegie Mellon University

5:10 PM
Abnormal Grain Growth in Electrodeposited Nanocrystalline Ni and Ni-Al Nanocomposites: *Sumit Chhangani*[1]; M.J.N.V. Prasad[1]; [1]Indian Institute of Technology Bombay

Recrystallization III: Nucleation

Tuesday PM
July 19, 2016

Room: Allegheny
Location: Omni William Penn Hotel

2:00 PM
Recrystallization Nucleation and Grain Growth in Al-1%wt.Mn Alloy Single Crystals of Stable Orientations: Magdalena Miszczyk[1]; *Henryk Paul*[1]; Julian Driver[2]; [1]Polish Academy of Sciences, Institute of Metallurgy and Materials Science; [2]Ecole des Mines de Saint Etienne

2:30 PM
Simulation and Data-Analytics of Sub-grain Growth with Consideration of Stored Elastic Energy and Anisotropic Grain Boundary Properties: *Markus Kühbach*[1]; Christian Mießen[1]; Luis Antonio Barrales-Mora[1]; Günter Gottstein[1]; [1]RWTH Aachen University, Institut für Metallkunde und Metallphysik

2:50 PM
Strategies for a Quantitative Description of Deformation Substructures in View of Recrystallization Nucleation Modelling: *Charbel Moussa*[1]; Victor-Manuel Trejo Navas[1]; Marc Bernacki[1]; Rémy Besnard[2]; Nathalie Bozzolo[1]; [1]Mines ParisTech, PSL - Research University; [2]CEA DAM

3:10 PM To be announced

3:30 PM To be announced

3:50 PM Break

Steel V: Stainless Steels

Tuesday PM
July 19, 2016

Room: Sky
Location: Omni William Penn Hotel

2:00 PM Invited
Role of Martensite on Deformation Structure and Recrystallization Behavior in Ferritic Stainless Steel: Ken Kimura[1]; *Kohsaku Ushioda*[1]; Eiichiro Ishimaru[2]; Akihiko Takahashi[2]; [1]Nippon Steel & Sumitomo Metal Corp.; [2]Nippon Steel & Sumikin Stainless Steel Corp.

2:30 PM Invited
The Effect of Grain Orientation on the Deformation Substructure Characteristics of a Hot Deformed Fe-30Ni-Nb Model Austenitic Steel: *Hossein Beladi*[1]; Debasis Poddar[2]; Pavel Cizek[1]; Peter Hodgson[1]; [1]Deakin University; [2]Northwestern University

3:00 PM
Hot Deformation Behaviour and Recrystallization Mechanisms in a Niobium Stabilized Austenitic Stainless Steel (AISI 316 Nb): *Alexandre Hermant*[1]; Anne-Françoise Gourgues[1]; Jacques Bellus[2]; Philippe Petit[2]; François Cortial[3]; Eric Suzon[4]; [1]MINES ParisTech, PSL Research University, MAT-Centre des Matériaux; [2]Aubert & Duval-Usine des Ancizes; [3]DCNS RESEARCH/CESMAN; [4]CEA-Centre de Valduc

3:20 PM
Recrystallization of Cold Pilgered Heat Resistant Austenitic Stainless Steel Seamless Tubes under Anisothermal Annealing Conditions: *Amaia Iza-Mendia*[1]; Isabel Gutiérrez[1]; Raquel Rodríguez[2]; Alejandra López[2]; [1]CEIT and Tecnun (University of Navarra); [2]TUBACEX GROUP

3:40 PM
Annealing Behavior of An Austenitic Stainless Steel Subjected to Warm Deformation: *Marina Tikhonova*[1]; Rustam Kaibyshev[1]; Andrey Belyakov[1]; [1]Belgorod State University

4:00 PM Break

Unconventional Materials: Ceramics, Ice, Refractories

Tuesday PM
July 19, 2016

Room: Monongahela
Location: Omni William Penn Hotel

2:00 PM
Grain Growth in Specialty Aluminas: *Yan Wang*[1]; Abigail Lawrence[1]; Christopher Marvel[1]; Zhiyang Wu[1]; Animesh Kundu[1]; Jeffrey Rickman[1]; Martin Harmer[1]; Charles Compson[2]; Joe Atria[2]; Marcel Spreij[3]; [1]Lehigh University; [2]Almatis Inc.; [3]Almatis B. V.

2:30 PM
The Effect of Recrystallization on Titanium Concentrations in Quartz, an Example From New Zealand's Alpine Fault: *Steven Kidder*[1]; Virginia Toy[2]; David Prior[2]; [1]City College New York; [2]University of Otago

2:50 PM
Grain Growth of Ice: New Laboratory Experiments: *Harriet Love*[1]; Leeza Becroft[1]; David Prior[1]; Kat Lilly[1]; Vladimir Luzin[2]; Sandra Piazolo[3]; Meike Seidemann[1]; Tess Caswell[4]; Narayana Golding[5]; [1]University of Otago; [2]ANSTO; [3]Macquarie University; [4]Brown University; [5]MIT

3:10 PM
Microstructure Evolution during Rolling and Recrystallization of Uranium: *Rodney McCabe*[1]; Daniel Coughlin[1]; Miroslav Zecevic[2]; Kester Clarke[1]; Ricardo Lebensohn[1]; Marko Knezevic[2]; [1]Los Alamos National Laboratory; [2]University of New Hampshire

3:30 PM
Non-destructive Measurements of Microstructure Evolution in Depleted Uranium Dioxide at High- temperatures: Comparison between Experiment and Simulation: *Reeju Pokharel*[1]; Donald Brown[1]; Matt Reiche[1]; David Menasche[1]; Bjorn Clausen[1]; Jun-Sang Park[1]; Peter Kenesei[1]; Anthony Rollett[1]; [1]Los Alamos National Laboratory

3:50 PM Break

4:10 PM
An Effective Method to Homogenize the Microstructure of High Purity Tantalum in Sputtering Targets: *Yahui Liu*[1]; [1]College of Materials Science and Engineering, Chongqing University

4:30 PM
The Effect of Heat Treatment on the Microstructural and Morphological Properties of Sol-Gel ZnO Thin Films: *Esteban Broitman*[1]; J. Miller[2]; [1]Linköping University; [2]Carnegie Mellon University

4:50 PM
The Microstructural Evolution of Quartzite during Gradually Increasing Stress: *Hamidreza Soleymani*[1]; Steven Kidder[2]; Greg Hirth[3]; [1]City University of New York, The Graduate Center; [2]The City College of New York; [3]Brown University

5:10 PM
Non-destructive 3D Characterization of the Microstructural Evolution of Additively Manufactured Materials: *Tugce Ozturk*[1]; David Menasche[1]; Robert Suter[1]; Anthony Rollett[1]; [1]Carnegie Mellon University

Recrystallization IV: Novel Materials Systems

Tuesday PM
July 19, 2016

Room: Allegheny
Location: Omni William Penn Hotel

4:10 PM
Annealing Behaviors of Lamellar Structures in Nickel Processed by Dynamic Plastic Deformation: Zhaoping Luo[1]; *Hongwang Zhang*[2]; Dorte Juul Jensen[3]; Niels Hansen[3]; Ke Lu[1]; [1]Institute of Metal Research; [2]Yanshan University; [3]Technical University of Denmark

4:30 PM
A Mesoscale Model for Fission-induced Recrystallization in U-Mo Alloys: *Linyun Liang*[1]; Zhi-Gang Mei[1]; Yeon Soo Kim[1]; Mihai Anitescu[1]; Abdellatif M. Yacout[1]; [1]Argonne National Laboratory

4:50 PM
Effect of Recrystallization on Fission Induced Swelling of U-Mo Nuclear Fuel: *Yeon Soo Kim*[1]; Bei Ye[1]; Laura Jamison[1]; Z. Mei[1]; L. Liang[1]; [1]Argonne National Laboratory

5:10 PM
Recrystallization and Grain Growth of Cu Matrix during Annealing in Cu-Nb Microcomposite Wires: *Xiaofang Yang*[1]; Yanxiang Liang[1]; Liping Deng[1]; Qing Liu[1]; [1]Chongqing University

5:30 PM
Recrystallization and Grain Growth of OFHC Copper and GLIDCOP Al-15.: *Daudi Waryoba*[1]; [1]Penn State University, DuBois

5:50 PM
Examination of High Burnup Structure using an "n-fold" Method Potts Model: *Richard Hoffman III*[1]; Chaitanya Deo[1]; [1]Georgia Institute of Technology

Poster Session

Tuesday PM
July 19, 2016

Room: Grand Ballroom
Location: Omni William Penn Hotel

P-1: A Mesoscale Model for Fission-induced Recrystallization in U-Mo Alloys: *Linyun Liang*[1]; Zhi-Gang Mei[1]; Yeon Soo Kim[1]; Mihai Anitescu[1]; Abdellatif M. Yacout[1]; [1]Argonne National Laboratory

P-2: A Principle Curvature Analysis to Reveal the Isothermal Evolution of Nanoporous Gold: *Markus Ziehmer*[1]; Kaixiong Hu[1]; Ke Wang[2]; Erica Lilleodden[1]; [1]Helmholtz-Zentrum Geesthacht; [2]Hamburg University of Technology

P-3: Anisotropic Deformation Characteristics and Strain Hardening Behavior of Rolling-textured Pure Titanium: *Dae Hwan Kim*[1]; Jong Woo Won[1]; Chong Soo Lee[1]; [1]Pohang University of Science and Technology

P-4: Characteristics and Textures of the ZnO Thin Film Perpared on the Different Al Substrates: *Juan Jia*[1]; Xin Jiang[1]; Jun Wu[1]; [1]Wuhan University of Science and Technology

P-5: Characteristics of Boronized Titanium by Power-pack Process: *Byungchul Cha*[1]; Junghwan Kim[1]; Jinyoung Park; Eoksoo Kim[1]; [1]Korea Institute of Industrial Technology

P-6: Cube Texture Control by Retaining from Columnar Grains in a Fe-3%Si Alloy: *Ning Zhang*[1]; Ping Yang[1]; Weimin Mao[1]; [1]University of Science and Technology Beijing

P-7: Development of Ultrafine Grained Austenitic Stainless Steel by Reverse Phase Transformation and Recrystallization: *Marina Odnobokova*[1]; Andrey Belyakov[1]; Rustam Kaibyshev[1]; [1]Belgorod State University

P-8: Driving and Retarding Forces in Tempered Martensite Lath Structure: *Alexandra Fedoseeva*[1]; Nadezhda Dudova[1]; Rustam Kaibyshev[1]; [1]Belgorod State University

P-9: Dynamic Recrystallization in Friction Stir Processed Fine-grained Mg-Al-Zn Alloys: *Fang Chai*[1]; Datong Zhang[2]; [1]Key Laboratory for Ferrous Metallurgy and Resources Utilization of Ministry of Education, Wuhan University of Science and Technology, Wuhan, Hubei 430081, China; [2]National Engineering Research Center of Near-net-shape Forming for Metallic Materials, South China University of Technology, Guangzhou 510640, P. R. China

P-10: Effect of Annealing Processes on Recrystallization Texture and Deep Drawability of Cold-rolled IF Steel: Juan Jin[1]; Run Wu[1]; [1]Wuhan University of science&technology

P-11: Effect of Cold Rolling Reduction on Recrystallization Texture and Magnetic Anisotropy of Non-oriented Electrical Steel: *Hunju Lee*[1]; Jong-Tae Park[1]; [1]POSCO

P-12: Effect of Electric Current Density on Recrystallization Kinetics in Interstitial-free Steel: *Ju-Won Park*[1]; Heung Nam Han[1]; Moon-Jo Kim[1]; Hye-Jin Jeong[1]; Hyun-Min Sung[1]; Kyooyoung Lee[1]; [1]Seoul National University

TECHNICAL PROGRAM

P-13: Effect of Heating Rate of Annealing on Recrystallization of AA5182 Sheet: *Qianning Guo*[1]; Xiaofang Yang[1]; Robert Sanders[1]; Qing Liu[1]; [1]Chongqing University

P-14: Effect of Recrystallization on Fission Induced Swelling of U-Mo Nuclear Fuel: *Yeon Soo Kim*[1]; Bei Ye[1]; Laura Jamison[1]; Z. Mei[1]; L. Liang[1]; [1]Argonne National Laboratory

P-15: Effects of Strain Rate on Flow Stress Behavior and Dynamic Recrystallization Mechanism of Al-Zn-Mg-Cu Aluminum Alloy during Hot Deformation: Qunyin Yang[1]; *Zhiqing Zhang*[1]; Zanhui Deng[1]; zhihong Jia[1]; Guangjie Huang[1]; Qing Liu[1]; [1]Chongqing University

P-16: Evolution of Anelastic Behaviour and Twinning in Cyclic Loading for Extruded Magnesium Alloys: *Hossein Fallahi*[1]; [1]Monash University

P-17: Evolution of Annealing Twin Boundaries during Low-temperature Annealing in Highly Rolled Pure Nickel: *Lixia Wang*[1]; Xingpin Chen[1]; Hongfu Sun[1]; Qing Liu[1]; [1]Chongqing University

P-18: Experimental and Phase Field Model Study of Grain Growth during Annealing of Cold Rolled Nickel: *Jeyaraam R*[1]; Mukil Venthan A[1]; Subramanya Sarma V[1]; Srikanth Vedantam[1]; [1]Indian Institute of Technology Madras

P-19: Triple junction energy and mobility controlled microstructural evolution in 2D and 3D polycrystals: *Dana Zöllner*[1]; Peter Streitenberger[1]; [1]Otto von Guericke University Magdeburg

P-20: Grain Refinement and Texture Evolution in Highly Deformed Ferrite during High-Temperature Torsion Deformation of IF Steel: *Reza Gholizadeh*[1]; Akinobu Shibata[1]; Nobuhiro Tsuji[1]; [1]Kyoto University

P-21: Influences of Cr Contents on the Microstructure and Mechanical Properties of Fe-18Mn Based Steels: *Young-Bum Chun*[1]; [1]Korea Atomic Energy Research Institute

P-22: Interfacial Segregation in FCC Metallic Alloys: Atomistic Approach: *Balahouane Lezzar*[1]; [1]Constantine University 1(UC1)

P-23: Large-scale Monte Carlo Potts Models of the Three Dimensional Grain Growth: *Xiangge Qin*[1]; Longxiao Huang[1]; [1]Jiamusi University

P-24: Localized Plasticity and Fracture in Polycrystalline Aluminum: *Lev Zuev*[1]; [1]ISPMS, SB RAS

P-25: Mechanism of Grain Refinement under Friction Stirs Welding in an Al-Mg-Sc-Zr Alloy: *Vladislav Kulitskiy*[1]; Sergey Malopheyev[1]; Sergey Mironov[2]; Rustam Kaibyshev[1]; [1]Laboratory of Mechanical Properties of Nanoscale Materials and Superalloys; [2]Department of Materials Processing, Graduate School of Engineering

P-26: Mechanisms of Grain Growth in an Ultrafine Grained Ferrite Steel with Strong Rolling Texture: *Laura Ahmels*[1]; Enrico Bruder[1]; [1]Technische Universität Darmstadt

P-27: Micro-scale Inhomogeneous Deformation Behavior in a Mg-Gd-Y Alloy: *Jie Sun*[1]; Li Jin[1]; Jie Dong[1]; Alan Luo[2]; [1]National Engineering Research Center of Light Alloy Net Forming, Shanghai Jiao Tong University, Shanghai 200240, PR China; [2]Department of Materials Science and Engineering, The Ohio State University, Columbus, OH 43210, USA

P-28: Microstructure and Texture of Microlaminated Mg Processed via Cryomilling and Spark Plasma Sintering: *Xin Wang*[1]; Lin Jiang[1]; Dalong Zhang[2]; Enrique Lavernia[1]; Julie Schoenung[1]; [1]University of California, Irvine; [2]University of California, Davis

P-29: Multi-phase-field and Crystal Plasticity Modeling for Grain Growth during Large Deformation of Metals: *Tomohiro Takaki*[1]; Eisuke Miyoshi[1]; [1]Kyoto Institute of Technology

P-30: Multiphase-field Method for Static Recrystallization Including Texture Evolution: *Ephraim Schoof*[1]; Jan Pagenkopf[2]; Alexander Vondrous[3]; Michael Selzer[4]; Daniel Schneider[4]; Britta Nestler[4]; Dirk Helm[2]; [1]Karlsruhe University of Applied Sciences; [2]Fraunhofer IWM Freiburg; [3]Karlsruhe University of Applied Sciences (former); [4]Karlsruhe Institute of Technology

P-31: Recrystallization and Grain Growth Modeling at the Mesoscopic Scale Thanks to a Level-set/FE Framework: Benjamin Scholtes[1]; Romain Boulais-Sinou[2]; Amico Settefrati[3]; Nathalie Bozzolo[2]; Daniel Pino Muñoz[2]; *Charbel Moussa*[2]; Rémy Besnard[4]; Joëlle Demurger[5]; Marc Bernacki[2]; [1]Mines ParisTech, PSL - Research University / TRANSVALOR SA; [2]Mines ParisTech, PSL - Research University; [3]TRANSVALOR SA; [4]CEA DAM; [5]ASCOMETAL

P-32: Recrystallization and Precipitation of AA6014 Aluminum Alloy during Solution Treatment: *Zhenzhen Fan*[1]; Xiaofang Yang[1]; Robert Sanders[1]; Qing Liu[1]; [1]Chongqing University

P-33: Repetitive Abnormal Grain Growth in BaTiO3 : Experimental Support for the Principle of Microstructural Evolution: *Seung-Yoon Moon*[1]; Suk-Joong L Kang[1]; [1]Korea Advanced Institute of Science and Technology

P-34: Research on the Recrystallization Texture Evolution in Rolled Ag: *Danmin Liu*[1]; Sijing Tan[1]; Weiqiang Xiao[1]; Yuan Ji[1]; [1]Beijing University of Technology

P-35: Scaling Behaviour of Misorientation Angle Distribution during Recrystallization of Cold Rolled Cu-Zn Alloy: *Nitin Sharma*[1]; Shashank Shekhar[1]; [1]IIT Kanpur

P-36: Softening of EN AW 3003-based Alloys after Constrained Groove Pressing: *Jan Bajer*[1]; Miroslav Cieslar[1]; Michaela Šlapáková[1]; Maria Zimina[1]; Josef Zrník[2]; Aleš Materna[3]; [1]Charles University; [2]COMTES FHT a.s.; [3]Czech Technical University in Prague

P-37: Spheroidization and Coarsening of Cementite in a 2C-4Cr Ultrahigh Carbon Steel.: *Matthew Hecht*[1]; Bryan Webler[1]; Yoosuf Picard[1]; [1]Carnegie Mellon University

P-38: Study of the Microstructure and Mechanical Properties on Hypoeutectoid Ti-xFe-6Mo Alloys by Vacuum Sintering Processes: *Yung-Chin Yang*[1]; Wei-Shiang Li[1]; Te-Wei Chiu[1]; I-Ming Hung[2]; Yu-Chuan Wu[1]; [1]National Taipei University of Technology; [2]Yuan Ze University

P-39: Texture and Precipitates Characteristic in Low Temperature High Magnetic Induction Hot Rolled Grain-oriented Silicon Steel: *Xinli Song*[1]; Biao Liu[1]; [1]Wuhan University of Science and Technology

P-40: Texture Evolution during Annealing Process in Medium Manganese Steel Sheets: *Kaneharu Okuda*[1]; Tomoya Ishikawa[1]; Toshihiro Omori[1]; Ryosuke Kainuma[1]; [1]Japan

P-41: The Effect of Aluminum Content on Recrystallization and Grain-growth of Magnesium: *Aeriel Murphy*[1]; John Allison[1]; [1]University of Michigan

P-42: The Effect of Cold Deformation on Recrystallization of AA5182 Sheet: *Xiuchuan Lei*[1]; Xiaofang Yang[1]; Lingfei Cao[1]; Robert Sanders[1]; Qing Liu[1]; [1]Chongqing University

P-43: The Effect of Cross-rolling on the Growth of Goss Grains in a Grain Oriented Silicon Steel: *Fatayalkadri Citrawati*[1]; Md Zakaria Quadir[1]; Paul Munroe[1]; [1]University of New South Wales

P-44: The Effect of Dynamic Recrystallization on the Hot Deformation and the Relationship between Hot Rolled Microstructure and the n Value of DP600 Steel : Teng Wu[1]; Run Wu[1]; [1]Wuhan University of science&technology

P-45: The Effect of Heat Input on Grain Growth and Hardness of SMAW Welded A516 Steel Sheets: *Kahila Baghchesaraee*[1]; [1]Semnan University

P-46: The Effect of Recrystallization on Titanium Concentrations in Quartz, an Example From New Zealand's Alpine Fault: *Steven Kidder*[1]; Virginia Toy[2]; David Prior[2]; [1]City College New York; [2]University of Otago

P-47: The Microstructural Evolution of Quartzite during Gradually Increasing Stress: *Hamidreza Soleymani*[1]; Steven Kidder[2]; Greg Hirth[3]; [1]City University of New York, The Graduate Center; [2]The City College of New York; [3]Brown University

P-48: The Role of Dynamic Recrystallization in the Formation of Ultra-fine Grained Structures of TiNi Based Alloys by Methods of the Severe Plastic Deformation: *Aleksander Lotkov*[1]; Anatolii Baturin[2]; Victor Grishkov[1]; Vladimir Kopylov[3]; Dorzhima Zhapova[1]; Victor Timkin[1]; [1]Institute of Strength Physics and Materials Science of Siberian Branch Russian Academy of Sciences; [2]National Research Tomsk Polytechnic University; [3]The Physical and Technical Institute of NAS of Belarus

P-49: Through-process Modeling for Hot Processing of Advanced High Strength Steel Strips: *Priyadarshan Manohar*[1]; [1]Robert Morris University

P-50: Twin-dependent Dynamic Recrystallization Behaviors during High Speed Rolling in Mg-3Al-1Zn Alloy: *Jeong Hun Lee*[1]; Junghwan Kim[1]; Seok Won Song[2]; Chong Soo Lee[2]; Eok Soo Kim[1]; [1]Korea Institute of Industrial Technology; [2]Pohang University of Science and Technology

P-51: Two-dimensional Grain-growth Kinetics with Anisotropic Grain-boundary Properties Analyzed by Multi-phase-field Simulations: *Eisuke Miyoshi*[1]; Tomohiro Takaki[1]; [1]Kyoto Institute of Technology

P-52: Two-step Annealing for Grain Refinement in Twin-roll Cast Al-Mn Alloys: *Li Huang*[1]; Guangjie Huang[1]; Lingfei Cao[1]; Xiaodong Wu[1]; Qing Liu[1]; [1]College of Material Science and Engineering, Chongqing University

P-53: In-situ Observation of Boundary Character Changes during Microstructure Evolution: *Stuart Wright*[1]; Seiichi Suzuki[2]; Matthew Nowell[1]; Tatsuya Fukino[2]; [1]EDAX; [2]TSL Solutions KK

P-54: A Novel Hierarchical Grain Boundary Smoothing Method: *Siddharth Maddali*[1]; Robert Suter[1]; [1]Carnegie Mellon University

P-55: Connection between Strain Hardening Inhomogeneity in Rolled BCC-metals and Their Recrystallization Texture: *Yuriy Perlovich*[1]; Margarita Isaenkova[1]; [1]National Research Nuclear University

P-56: Direction of [001] Symmetrically Tilt Small Angle Boundaries Developed during Recrystallization of Cross Rolled Al: *Mohammad Shamsuzzoha*[1]; Sameer Mulani[1]; William Engelke[1]; [1]University of Alabama

P-57: Examination of High Burnup Structure using an "n-fold" Method Potts Model: *Richard Hoffman III*[1]; Chaitanya Deo[1]; [1]Georgia Institute of Technology

P-58: Grain Boundary Migration of Zr-1Sn-0.3Nb Alloy during Dynamic Recrystallization: Baifeng Luan[1]; *Qinghui Zeng*[1]; Wen Zeng[1]; Risheng Qiu[1]; Qing Liu[1]; [1]College of Materials Science and Engineering, Chongqing University

P-59: Hot Deformation Behaviour and Recrystallization Mechanisms in a Niobium Stabilized Austenitic Stainless Steel (AISI 316 Nb): *Alexandre Hermant*[1]; Anne-Françoise Gourgues[1]; Jacques Bellus[2]; Philippe Petit[2]; François Cortial[3]; Eric Suzon[4]; [1]MINES ParisTech, PSL Research University, MAT-Centre des Matériaux; [2]Aubert & Duval-Usine des Ancizes; [3]DCNS RESEARCH/CESMAN; [4]CEA-Centre de Valduc

P-60: Microstructure Analysis of Cu Thin Films on Flexible Substrates after Large Tensile Deformation: *So-Yeon Lee*[1]; Young-Chang Joo[1]; Majid Abbasi[2]; Dong-ik Kim[3]; In-Suk Choi[3]; [1]Seoul national university; [2]Korea Institute of Science and Technology ; [3]Korea Institute of Science and Technology

P-61: Non-destructive 3D Characterization of the Microstructural Evolution of Additively Manufactured Materials: *Tugce Ozturk*[1]; David Menasche[1]; Robert Suter[1]; Anthony Rollett[1]; [1]Carnegie Mellon University

P-62: Physical and Numerical Modelling of Microstructural Evolution during Hot Deformation of Ti Microalloyed Steel: *Deepak Kundalkar*[1]; Rajkumar Singh[2]; Asim Tewari[1]; [1]IIT Bombay; [2]KCTI, Bharat Forge Ltd.

P-63: The Effect of d-ferrite to Austenite Transformation Path on the Characteristics of Austenite/Austenite CSL Boundaries in Duplex Stainless Steel: *Nima Haghdadi*[1]; Pavel Cizek[1]; Peter Hodgson[1]; Vahid Tari[2]; Gregory Rohrer[2]; Hossein Beladi[1]; [1]Institute for Frontier Materials, Deakin University; [2]Department of Materials Science and Engineering, Carnegie Mellon University

P-64: Recovery and Recrystallization in Ti Alloys: *Dipankar Banerjee*[1]; Shanoob Balachandran[2]; [1]Indian Institute of Science; [2]Michigan State University

P-65: Microstructure Evolution and Mechanical Properties of a Thermally Stabilized Nanocrystalline Alloy under Irradiation: *Prince Singh*[1]; Yoosuf Picard[1]; Maarten de Boer[1]; [1]Carnegie Mellon University

P-66: A Solid-State Approach to Textured Anisotropic Alnico-based Sintered Permanent Magnets: *Aaron Kassen*[1]; Emma White[1]; Wei Tang[1]; Iver Anderson[1]; [1]Iowa State University

Plenary Session III

Wednesday AM
July 20, 2016

Room: Urban
Location: Omni William Penn Hotel

8:00 AM Plenary
Three-dimensional Analysis of Grain Boundary Curvatures in Crystalline Materials during Grain Growth: *David Rowenhorst*[1]; [1]The US Naval Research Laboratory

8:45 AM Break

Twinning

Wednesday AM
July 20, 2016

Room: Urban
Location: Omni William Penn Hotel

8:50 AM Invited
Effects of Twin Boundary Junctions on Grain Growth: *David Srolovitz*[1]; Spencer Thomas[1]; [1]University of Pennsylvania

9:20 AM
Characterizing Annealing Twin Formation during Grain Growth: Brian Lin[1]; Christopher Hefferan[2]; Robert Suter[3]; Gregory Rohrer[3]; *Anthony Rollett*[3]; [1]NIST; [2]RJ Lee; [3]Carnegie Mellon University

9:40 AM
Why Recrystallization Generates More Annealing Twins in Nickel than Grain Growth?: Yuan Jin[1]; Brian Lin[2]; Marc Bernacki[1]; Greg Rohrer[2]; Anthony D. Rollett[2]; *Nathalie Bozzolo*[1]; [1]MINES ParisTech; [2]CMU

10:00 AM
Effects of Prior Strain on Recrystallization Mechanisms and Twin Nucleation in Cu and Cu-Zn Alloys: *Asher Leff*[1]; Austin Nye[1]; Mitra Taheri[1]; [1]Drexel University

10:20 AM Break

10:45 AM
On Recrystallization Twinning in Al-1%wt.Mn Alloy Single Crystals of Two Stable Orientations: *Magdalena Miszczyk*[1]; Henryk Paul[1]; Julian Driver[2]; Piotr Drzymala[1]; [1]Polish Academy of Sciences, Institute of Metallurgy and Materials Science; [2]Ecole des Mines de Saint Etienne

11:05 AM
Twin Effects on the Dynamic Recrystallization of AZ31 Mg Alloy: *Li Jin*[1]; Yuan Li Chen[1]; Jie Dong[1]; [1]Shanghai Jiao Tong University

11:25 AM
Effect of Extension {10.2} Twins on Texture Evolution at Elevated Temperature Deformation Accompanied by Dynamic Recrystallization: *Abhijit Brahme*[1]; Evdokia Popova[2]; Raja Mishra[3]; Kaan Inal[1]; [1]University of Waterloo; [2]Georgia Tech; [3]General Motors Research and Development Center

11:45 AM
Evolution of Annealing Twins during Recrystallization and Grain Growth of Cold Rolled 316L Stainless Steel: *Nitin Sharma*[1]; Shashank Shekhar[1]; [1]Indian Institute of Technology, Kanpur

TECHNICAL PROGRAM

Deformation, Substructure, and Texture

Wednesday AM
July 20, 2016

Room: Allegheny
Location: Omni William Penn Hotel

8:50 AM Invited
Microstructure and Texture Development in a Model Ni-30Fe-Nb-C Alloy during High Temperature Plane Strain Compression: Parvez Mannan[1]; *Ahmed Saleh*[1]; Azdiar Gazder[1]; Gilberto Casillas[1]; Elena Pereloma[1]; [1]University of Wollongong

9:20 AM
Direct Observation of a New Dynamic Recovery Mechanism during High Strain Deformation: *Tianbo Yu*[1]; Niels Hansen[1]; Xiaoxu Huang[1]; Andy Godfrey[2]; [1]Technical University of Denmark; [2]Tsinghua University

9:40 AM
Microtexture Analysis of Restoration Mechanisms during High Pressure Torsion of Pure Nickel: *Pradipta Ghosh*[1]; Reinhard Pippan[1]; [1]Erich Schmid Institute of Material Science

10:00 AM
Improving the Formability of UFG Gradient Microstructures by Laser-annealing: *Jörn Niehuesbernd*[1]; Clemens Müller[1]; Enrico Bruder[1]; [1]Technische Universität Darmstadt

10:20 AM Break

10:45 AM
Micro-texture Analysis during Plane Strain Compression of Ni–30Fe-Nb-C Model Alloy: *Ahmed Saleh*[1]; Parvez Mannan[1]; Elena Pereloma[1]; [1]University of Wollongong

11:05 AM
Characterization of Locally Deformed Grain Microstructure in Aluminum Alloy Containing Small Lead Particles: *Masakazu Kobayashi*[1]; Hiromi Miura[1]; [1]Toyohashi University of Technology

11:25 AM
Texture and Recrystallization Behavior of Wrought Magnesium Alloy ZE20 in Hot Compression: *Scott Sutton*[1]; Alan Luo[1]; [1]The Ohio State University

11:45 AM
New Families of Random Crystallographic Texture: *Harsh Narula*[1]; Jitesh Vasavada[1]; Sushil Mishra[1]; Asim Tewari[1]; [1]IIT Bombay

12:05 PM
Deformation Textures in Low Stacking Fault Energy FCC Materials: Rajib Kalsar[1]; *Madhavan Radhakrishnan*[2]; Satyam Suwas[1]; [1]Indian Institute of Science; [2]University of Illinois

Steel III: HSLA and Microalloyed Steels

Wednesday AM
July 20, 2016

Room: Monongahela
Location: Omni William Penn Hotel

8:50 AM Invited
Metallurgical Modeling of Industrial Multipass Hot Rolling of Microalloyed Steels: *Susan Farjami*[1]; Matthew Merwin[1]; [1]United States Steel Corporation

9:20 AM
A Model for the Influence of Micro-alloying Elements on Static Recrystallization of Austenite: *Heinrich Buken*[1]; Sabine Zamberger[2]; Ernst Kozeschnik[1]; [1]TU Vienna; [2]voestalpine Stahl Donawitz GmbH & Co KG

9:40 AM
Effect of Grain Size Distribution on Recrystallisation Kinetics of a Model Alloy: *Mo Ji*[1]; Vit Janik[1]; Martin Strangwood[2]; Claire Davis[1]; [1]University of Warwick; [2]University of Birmingham

10:00 AM
Effect of Niobium on Grain Size Control in Modern Microalloyed Steels: Lenka Kuzmikova[1]; *Frank Barbaro*[2]; [1]University of Wollongong; [2]CBMM

10:20 AM Break

10:45 AM
On Control of Grain Coarsening of Austenite by Nanoscale Precipitate Engineering of TiN-NbC Composite in Ti-Nb Microalloyed Steel: *Sunderasa Subramanian*[1]; Xiaoping Ma[1]; Kashif Rehman[2]; Hatem Zurob[1]; [1]McMaster University; [2]Algoma Steel Inc.

11:05 AM
Development and Industrial Application of the Model of Austenite Grain Size Evolution in Nb-microalloyed Steels.: *Andrey Chastukhin*[1]; Dmitry Ringinen[1]; [1]Vyksa Steel Works

11:25 AM
Annealing Studies of HSLA Steels Using EBSD: *Anthony Deardo*[1]; Yu Gong[1]; J. Uusitalo[2]; M. Hua[1]; [1]University of Pittsburgh; [2]University of Oulu

Plenary Session IV

Thursday AM
July 21, 2016

Room: Urban
Location: Omni William Penn Hotel

8:00 AM Plenary
Recrystallization and Grain Growth of High Entropy Alloys: Yoshihiko Nakamura[1]; Xiang Li[1]; Nokeun Park[2]; Yu Bai[1]; Akinobu Shibata[1]; *Nobuhiro Tsuji*[1]; [1]Kyoto Univ; [2]Yeungnam University

8:45 AM Break

Grain Growth IV: Nanocrystalline Materials

Thursday AM
July 21, 2016

Room: Urban
Location: Omni William Penn Hotel

8:50 AM Invited
Fractal Migration of Grain Boundaries in Nanocrystalline Materials: Christian Braun[1]; Mingyan Wang[2]; Dennis Wilhelm[1]; Jules Dake[2]; Rainer Birringer[1]; *Carl Krill*[2]; [1]University of the Saarland; [2]Ulm University

9:20 AM
Orientation-resolved Molecular Dynamics Simulations of Grain Growth in Nanocrystalline Aluminium: *Luis Barrales-Mora*[1]; Paul Wilhelm Hoffrogge[1]; [1]Institut fuer Metallkunde und Metallphysik

9:40 AM
Coupling *In situ* Transmission Electron Microscopy and Phase Field Modelling to Better Understand Grain Growth in Nanocrystalline Metals: *Daniel Bufford*[1]; Fadi Abdeljawad[1]; Stephen Foiles[1]; Khalid Hattar[1]; [1]Sandia National Laboratories

10:00 AM Break

10:35 AM
Grain Growth in Nanocrystalline Ni Investigated by In Situ TEM Annealing and Post Mortem TKD Analysis: *Josh Kacher*[1]; Khalid Hattar[2]; Bryan Miller[3]; Ian Robertson[4]; [1]Georgia Tech; [2]Sandia National Laboratories; [3]Bechtel Marine Propulsion Corp.; [4]University of Wisconsin - Madison

10:55 AM
High Temperature Grain Growth Behavior and Phase Stability of Nanocrystalline Stainless Steels: *Hasan Kotan*[1]; Kris Darling[2]; [1]Konya NEU; [2]US Army Research Laboratory

11:15 AM
Recrystallization in Nanostructured Stainless Steel 316LVM Annealed under High Hydrostatic Pressure: *Agnieszka Krawczynska*[1]; M. Lewandowska[1]; [1]Warsaw University of Technology

Steel IV: TRIP and TWIP Steels

Thursday AM
July 21, 2016

Room: Allegheny
Location: Omni William Penn Hotel

8:50 AM
Experiments and Simulations of Recrystallization Behavior of a Cold-rolled Fe-28Mn-0.28C TWIP Steel: Christian Haase[1]; *Markus Kühbach*[1]; Luis A. Barrale-Mora[1]; Su Leen Wong[2]; Franz Roters[2]; Dmitri A. Molodov[1]; Günter Gottstein[1]; [1]Institute of Physical Metallurgy and Metal Physics, RWTH Aachen University; [2]Max-Planck-Institut für Eisenforschung GmbH

9:10 AM
Reverse Transformation and Recrystallization during Annealing of a Cold Rolled Transformation-twinning Induced Plasticity (TRIP-TWIP) Steel: *Azdiar Gazder*[1]; Sudipta Pramanik[1]; Elena Pereloma[1]; Ahmed Saleh[1]; [1]University of Wollongong

9:30 AM
On the Hot Deformation and Static Recrystallization Characteristics of Al-bearing Microalloyed TWIP Steels: *Mahesh Somani*[1]; David Porter[1]; Leo Karjalainen[1]; [1]University of Oulu

9:50 AM
Effects of Deformation Texture and Microstructure in Recrystallization and Grain Growth in Medium Mn TWIP Steels: *Rajib Kalsar*[1]; Pampa Ghosh[2]; Satyam Suwas[3]; [1]Indian Institute of Science; [2]R&D Division, Tata Steel Ltd.; [3]Indian Institute of Science

10:10 AM Break

Magnesium Alloys

Thursday AM
July 21, 2016

Room: Monongahela
Location: Omni William Penn Hotel

8:50 AM
Recrystallization Dependent Textural Evolution during Grain Growth in Mg Alloy AZ31B: *Matthew Steiner*[1]; Jishnu Bhattacharyya[1]; Sean Agnew[1]; [1]University of Virginia

9:10 AM
Strength and Ductility of Ultrafine Grained ZKX600 Mg Alloy: *Ruixiao Zheng*[1]; Tilak Bhattacharjee[1]; Akinobu Shibata[1]; Taisuke Sasaki[2]; Kazuhiro Hono[2]; Nobuhiro Tsuji[1]; [1]Department of Materials Science and Engineering, Kyoto University; [2]National Institute for Materials Science

9:30 AM
Effect of Temperature and Strain Rate on Dynamic Recrystallization in Mg-10Gd-3Y-0.5Zr Alloy during Hot Deformation: *Dejiang Li*[1]; [1]Shanghai Jiao Tong University

9:50 AM
The Predominant Dynamic Recrystallization Mechanism during Extrusion in RE-containing Mg Alloys: *Aidin Imandoust*[1]; Haitham El Kadiri[1]; [1]Mississippi State University

10:10 AM Break

Grain Boundary Migration

Thursday AM
July 21, 2016

Room: Allegheny
Location: Omni William Penn Hotel

10:35 AM
Insights into Deformation Induced Grain Boundary Migration in Ultrafine-grained Metals: *Oliver Renk*[1]; Anton Hohenwarter[2]; Reinhard Pippan[1]; [1]Erich Schmid Institute of Materials Science; [2]Montanuniversität Leoben

10:55 AM
In-situ Observation of Boundary Character Changes during Microstructure Evolution: *Stuart Wright*[1]; Seiichi Suzuki[2]; Matthew Nowell[1]; Tatsuya Fukino[2]; [1]EDAX; [2]TSL Solutions KK

11:15 AM
Quantification of the Local Migration of Recrystallization Boundaries in 2D and 3D: *Yubin Zhang*[1]; Andy Godfrey[2]; Dorte Juul Jensen[1]; [1]Technical University of Denmark; [2]Tsinghua University

Titanium Alloys

Thursday AM
July 21, 2016

Room: Monongahela
Location: Omni William Penn Hotel

10:35 AM
An Integrated Phase-field and Finite-element Model of Grain Growth: Insights Into the ß-grain Structure and Texture in Additive Manufacturing of Ti-6Al-4V: *Lei Chen*[1]; Yanzhou Ji[2]; Nima Shamsaei[1]; Scott Thompson[1]; Steven Daniewicz[1]; Long-Qing Chen[2]; [1]Mississippi State University; [2]The Pennsylvania State University

10:55 AM
The Effects of Aluminum Content and Thermomechanical Processing on Recrystallization and Grain Growth in Alpha Titanium Alloys: *Anna Trump*[1]; John Allison[1]; [1]University of Michigan

11:15 AM
Columnar to Equiaxed Transition of ß Grains in EBM Fabricated Ti-6Al-4V During Post-processing Treatments: *Peeyush Nandwana*[1]; William Peter[1]; Ryan Dehoff[1]; Anders Eklund[1]; Magnus Ahlfors[1]; Sudarsanam Babu[1]; [1]Oak Ridge National Laboratory

11:35 AM
Deformation, Recovery and Recrystallization in a TiAl Alloy Investigated by TEM: Zofia Trzaska[1]; *Jean-Philippe Monchoux*[1]; Alain Couret[1]; Daniel Caillard[1]; Marc Thomas[2]; [1]CEMES-CNRS; [2]ONERA-DMSM

11:55 AM
Evolution of the a+ß Morphology during Thermo-mechanical Processing of Ti-6Al-4V Alloy: *Atul Patil*[1]; Santosh Kumar[1]; Ashish Dawari[1]; Afroz Shaikh[1]; Shreyas Kirwai[1]; Santosh Hosmani[1]; [1]Bharat Forge LTD

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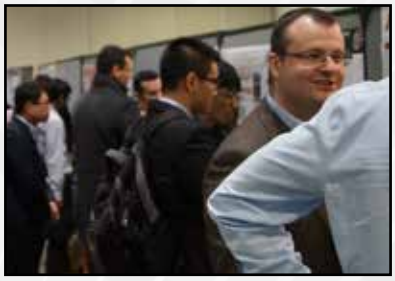

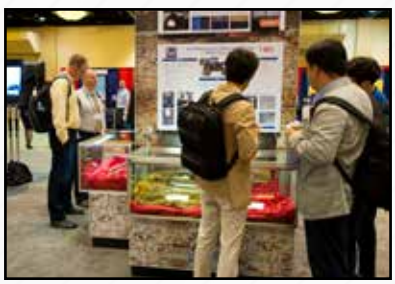

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