INTERNATIONAL CONFERENCE on

Solid-Solid Phase Transformations in Inorganic Materials 2005 (PTM 2005)

May 29 – June 3, 2005
Pointe Hilton Resort at Squaw Peak
Phoenix, Arizona, USA

PTM
ADVANCE MAILER

Sponsored by: TMS

The Minerals, Metals & Materials Society

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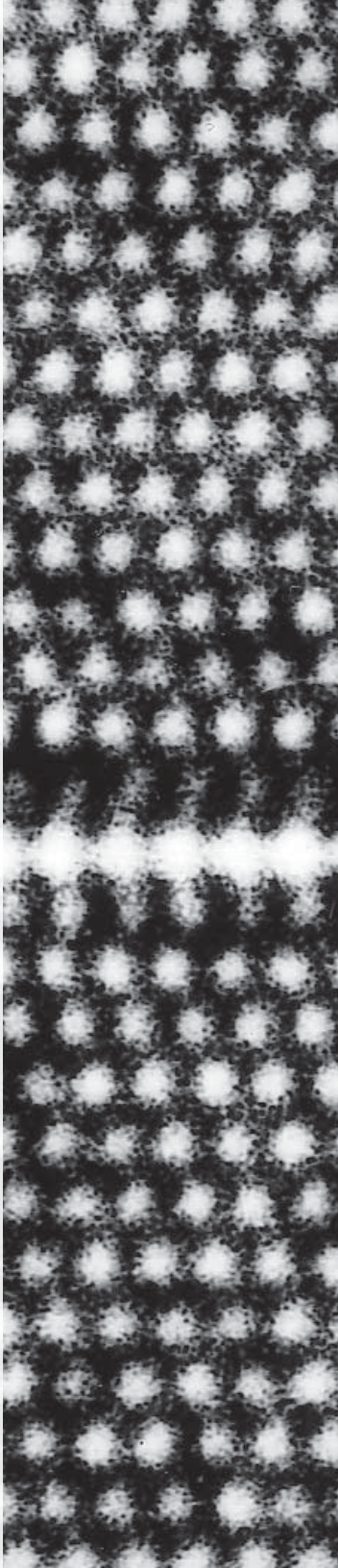
REGISTRATION AND HOUSING FORMS INCLUDED



GENERAL INFORMATION

This conference on Solid-to-Solid Phase Transformations in Inorganic Materials, PTM2005, follows the tradition of the International Solid-to-Solid Phase Transformation Conferences held at Carnegie Mellon in 1981, Cambridge University in 1987, Nemacolin Woodlands in 1994 and Kyoto, Japan in 1999.

The goals of the conference are:

1. to discuss the most current developments in understanding fundamental aspects of solid-to-solid phase transformations in inorganic materials;
2. to provide researchers with a survey of new experimental, mathematical, theoretical and computational techniques applicable to the understanding of solid-to-solid phase transformations;
3. to present critical comparisons between theory and experiment;
4. to compare fundamental aspects of phase transformation in ceramics, metals, minerals and other materials;
5. to provide those who are involved in practical applications of phase transformations an opportunity to familiarize themselves with new developments in the field; and
6. to provide an informal and relaxed atmosphere in which scientists can discuss their work with colleagues from many countries.

A series of invited papers will be presented at the conference. Most of these papers will be oriented towards either a critical comparison of theory and experiment, new experimental approaches or new theoretical developments and paradigms. They will focus upon understanding fundamental mechanisms and governing principles of solid-to-solid phase transformations.

SCOPE

Nearly 400 papers concerning original contributions to the study of solid-to-solid phase transformations will be presented. Papers will be experimental or theoretical in nature or concerned with computer simulation of phase transformations. Emphasis will be placed on inorganic materials including ceramic, metallic and mineral systems. Studies on phase transformations in other materials will also be given. Areas of interest include, but are not limited to:

- well focused experimental studies of fundamental phase transformation phenomena;
- experimental investigations which critically test theory or which are designed to differentiate between theories;
- computer simulations of fundamental aspects of solid to-solid phase transformations, a new approach to a problem or presenting a new paradigm for understanding solid-to solid phase transformations;
- new experimental work for which no explanation exists.

ORGANIZING COMMITTEE

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D. E. Laughlin, Carnegie Mellon University

U. Dahmen, Lawrence Berkeley Laboratory

J. K. Lee, Michigan Technological University

D. J. Srolovitz, Princeton University

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SUPPORT PROVIDED BY:

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ADVANCE REGISTRATION

Take advantage of the discounted advance registration fees. Complete the PTM 2005 Advance Registration form in this brochure on page 5 and return it to TMS no later than **Monday, May 9, 2005.** ***Advance registration is encouraged.*** For your convenience, you may charge your registration fees on MasterCard, VISA, American Express, or Diners Club credit cards. Full payment of registration fees must accompany the completed Advance Registration form. Complete the registration form in this brochure and mail or fax it today.

You may register any time, day or night, via the PTM Home Page at http://www.tms.org/meetings/specialty/ptm/home.html. TMS On-Line provides detailed information on this and all TMS sponsored conferences.

Advance Registration Deadline: Monday, May 9, 2005

Included in the registration fees are:

- Full conference registration fee includes access to the technical sessions, Welcoming Reception, four luncheons, conference banquet and a copy of the post conference proceedings.
- Student registration fee includes access to the technical sessions, Welcoming Reception, and four luncheons.

For questions on advance registration:

TMS Meeting Services
184 Thorn Hill Road, Warrendale, PA 15086
Telephone: (724) 776-9000, ext. 243, Fax: (724) 776-3770
E-mail: mtgserv@tms.org

VENUE

The conference on Solid-to-Solid Phase Transformations in Inorganic Materials, PTM2005, will take place at the Pointe Hilton Squaw Peak Resort in Phoenix, Arizona, USA. The Pointe Hilton Squaw Peak Resort is a self-contained haven on 27 acres, nestled adjacent to 3,000 acres of Phoenix Mountain Preserve. The resort is about 10 miles (20 minutes) from Sky Harbor International Airport, which is easily accessible from around the world. The close environment of the resort will give participants ample opportunity to interact. Each room is a luxurious suite with a separate living area that may be shared by several participants if desired.

At the heart of the resort is the Hole-in-the-Wall River Ranch. This exciting recreation area is making a splash with guests of all ages. Nine acres of shimmering pools and cascading waterfalls are just the beginning of an unforgettable resort experience.

Take advantage of the discounted housing cost for PTM 2005 attendees only. Complete the PTM 2005 Housing form in this brochure on page 7 and return it to The Pointe Hilton Squaw Peak Resort no later than **Friday, April 29, 2005** or call 1-800-Hiltons (Group Code: TMS). ***Early arrangements are encouraged.***

Housing Deadline: Friday, April 29, 2005

Attendees looking to share a sleeping room with another attendee can contact Michael Packard at TMS to coordinate this aspect of the conference for them. Rooms will be assigned on a first-come, first-served basis. Please contact Michael Packard at packard@tms.org.

SOCIAL FUNCTIONS

The following social functions will take place at the Pointe Hilton Squaw Peak Resort and are included in the full conference registration fee:

Sunday, May 29, 2005
Welcoming Reception

Monday, May 30, 2005
Conference Luncheon

Tuesday, May 31, 2005
Conference Luncheon

Thursday, June 2, 2005
Conference Luncheon
Conference Banquet

Friday, June 3, 2005
Conference Luncheon

OPTIONAL CONFERENCE TOUR

On Wednesday, June 1, 2005, an optional full-day tour to the Grand Canyon has been arranged. No sessions are scheduled for Wednesday so that you can enjoy the tour along with the other PTM 2005 attendees. The cost of the full-day tour is $80 per person.

The drive to Arizona's high country is a scenic experience as you drive through sagebrush country through historic areas like Dead Man's Gulch and Bloody Basin, on to bright sycamore-lined washes. See the earth begin to change color, from white to orange to red. See the cacti of the Sonoran Desert give way to the grassland of the High Chaparral, and finally, the Juniper and Piñon Pine of Northern Arizona, a 6,000 foot change.

A brief stop at Montezuma Castle National Monument gives you the chance to stretch your legs on the Sycamore-lined trail beneath the spectacular cliff dwelling built more than 800 years ago by the Sinagua Indians. Walk along Beaver Creek under shady Sycamore trees, and enjoy a fresh, boxed lunch at the picnic tables along the creek.

The trip out of Oak Creek Canyon is a delightful climb via a series of switchback roads through the forest that follows the path of the "Black Canyon Stagecoach". Stop at the summit to view the entire canyon from an outlook in the Ponderosa Pine forests of Flagstaff, where Native Americans frequently set up their wares for sale on blanket displays.

At the gateway to the Grand Canyon, stop to view the IMAX movie, "The Hidden Secrets of Grand Canyon". The towering six-story screen will engulf you with images from hang-gliding to soaring to rafting in this mighty chasm. Located entirely in northern Arizona, Grand Canyon National Park encompasses 277 miles of the Colorado River and adjacent uplands. One of the most spectacular examples of erosion anywhere in the world, the Grand Canyon is unmatched in the incomparable vistas it offers to visitors on the rim.

Experience the spectacle—the grandeur—the awe that is the Grand Canyon! Once you've stood at its edge and gazed upon the many colors and marveled at the scope of it, you'll understand why the Grand Canyon is the greatest of the natural wonders of the world.

The day is spent at the south rim area of the Grand Canyon, with leisurely sightseeing, hiking, shopping and picture-taking on the agenda. Guides pass out maps which outline a spectacular hiking path along the canyon's rim which you may enjoy at your own pace. Native American and southwestern souvenir shops offer exciting remembrances of your trip. Daily informative programs by the park rangers are conducted and schedules are posted throughout the park. There is a free shuttle bus that covers all of the most popular viewpoints and museums along the rim.

A video aboard the motorcoach makes the drive home pass quickly. A brief stop at a Flagstaff shopping center affords the chance to buy pizza or a sandwich or salad before arriving back to your hotel.

Included in the cost is:

- Iced bottled water aboard the buses
- Admissions at Montezuma Castle Indian ruins
- Boxed lunch
- Admissions to IMAX theater
- Admissions to Grand Canyon National Park
- Stop at scenic lookout points along the Grand Canyon rim
- Leisure time for shopping and sightseeing at the South Rim
- Stop in Flagstaff for a snack on the drive back to the hotel
- Video aboard the bus

BREAKOUT WORKSHOPS

The PTM 2005 Organizing Committee wants to have "Breakout Workshops", or focus groups at the meeting, to discuss important topics in solid-solid phase transformations of commom interest to the participants in an open and informal setting. These workshops can be organized by any participant. If you are interested in organizing a workshop, please contact:

Jim Howe
University of Virginia
Department of Materials Science & Engineering
Thornton Hall
Charlottesville, VA 22904-4745
jh9s@virginia.edu

STUDENT ASSISTANCE

Students who need financial assistance to attend PTM 2005 should contact the organizing committee by e-mail (jh9s@virginia.edu) before April 15, 2005. Please include a brief statement of your financial needs. Limited assistance is available.

AMERICANS WITH DISABILITIES ACT

TMS strongly supports the federal Americans with Disabilities Act (ADA), which prohibits discrimination against, and promotes public accessibility for those with disabilities. In support of and compliance with this Act, we ask that those requiring specific equipment or services contact the TMS Meeting Services Department and advise of any specific requirements in advance.

AUDIO/VIDEO RECORDING POLICY

TMS reserves the right to any audio and video reproduction of all presentations at every TMS-sponsored meeting. 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. Contact the TMS Technical Programming Department to obtain a copy of the waiver release form.

PROCEEDINGS

The proceedings from the conference will be published as a hardcover book planned for completion in October 2005. One copy of the proceedings will be shipped to each full registrant when the book is available. Additional proceedings volumes can be purchased in advance on the registration form. The cost of each volume is $116 (shipping and handling included).

TMS NON-MEMBER ATTENDEES

Membership offer for new members!

Become a TMS Member today and pay only $52.50 for the remainder of 2005. Discover a wealth of information, plus enjoy all of the benefits that TMS Membership has to offer, including:

- A print and electronic subscription to *JOM*, the magazine that explores the traditional, innovative, and revolutionary issues in the minerals, metals, and materials fields.
- A members-only discount on an individual subscription to *JEM*, a joint TMS and IEEE publication.
- Free electronic subscription to *TMS Letters*, a peer reviewed journal consisting of two-page technical updates of research presented at TMS meetings but not published elsewhere.
- Networking opportunities with a prestigious membership through international conferences.
- Discount on TMS publications and conference fees.
- Access to the TMS organizational network through the searchable OnLine Membership Directory.
- Plus an array of other membership benefits and services.

Once you have been a part of all that TMS has to offer, you'll want to continue your membership long into the future.

To become a member of TMS, complete a TMS application and return it to the TMS Registration Desk during the conference, along with your $52.50 membership fee. You may also join via the TMS website at www.tms.org/Society/membership.html or you may opt to mail your application to TMS Headquarters, 184 Thorn Hill Road, Warrendale, PA 15086, USA. For more information, visit the TMS web site or contact the TMS Membership Department at membership@tms.org or (724) 776-9000 ext 241.

Students living in North America can apply for the Material Advantage Student Membership for $25. Students living outside North America may apply for TMS Student Membership for $15.

SPECIAL CAR RENTAL

Has been selected as the Official Car Rental company for the International Conference on Solid-Solid Phase Transformations in Inorganic Materials, May 29-June 3, 2005 in Phoenix, AZ.

Advance reservations may be made by booking online at www.hertz.com or calling the Hertz reservations line at 1-800-654-2240 in the US; 1-800-263-0600 in Canada; International - contact your nearest Hertz reservation center. Identify yourself as an attendee of the Solid-Solid PTM conference and reference the following CV# 02QJ0017. You must give the reservations agent the Hertz CV# to receive the special rates. Advance reservations are recommended.

Rates are available from Hertz locations in Phoenix.

Terms and Conditions:

- *UNLIMITED MILEAGE ALLOWANCE.*
- *One-way service fee will apply when cars are not returned to renting location.*
- *Additional daily charges for optional coverage (Loss Damage Waiver, Personal Accident Insurance, Personal Effect Protection, refueling and state tax) are not included in the above rates.*
- *Drivers must meet standard Hertz age, driver, and credit requirements.*
- *Hertz is a frequent flyer partner with US Airways, Delta, Northwest, United, and American Airlines. Frequent flyer information may be requested at time of car booking.*
- *Weekly rentals are from five to seven days. Weekend rentals have a minimum two-day keep and Thursday pick-up requires a minimum three-day keep.*

SPECIAL AIRFARE

U·S AIRWAYS

Official carrier for attendees to the International Conference on Solid-Solid Phase Transformations in Inorganic Materials.

US Airways agrees to offer an exclusive low fare for Solid-Solid PTM attendees traveling to Phoenix.

This special fare will offer a 5% discount off First, Envoy Class, or lowest applicable published fares. A 10% discount is offered with 60 days in advance reservation and ticketing. A 10% discount is offered on unrestricted "Y" or B8US/B4AUS fares with 7 day advance reservation and ticketing. Plan ahead and receive a 15% discount is offered for 60 day advance reservation and ticketing for unrestricted "Y" or B8US/B4AUS fares. These discounts are valid provided all rules and restrictions are met and are applicable for travel from all points on US Airways' route system. These discounts are not combinable with other discounts or promotions.

US Airways will also offer exclusive negotiated rates for attendees who are unable to meet the restrictions of the promotional round trip fares. Certain restrictions, including advance purchase requirements, may apply. Additional restrictions may apply on international travel.

Discounts are valid three days before and three days after the meeting.

To obtain these discounts, you or your professional travel consultant must call US Airways' Group and Meeting Reservation Office toll free at (877) 874-7687; 8:00 am–9:30 pm, EST. The special meeting fare is only available through the US Airways Group and Meeting Reservation Office.

REFER TO GOLD FILE NO. 57153207

Once your reservations are confirmed, US Airways will mail the tickets to you or suggest several other convenient methods of purchase.

Solid-Solid Phase Transformation in Organic Materials 2005
Symposium at a Glance

	Navajo	Kachina
Monday AM		Displacive Transformations: Thermodynamics, Mechanism, Kinetics and Crystallography of Martensite Formation Part I (9:00 AM) Displacive Transformations: Thermodynamics, Mechanism, Kinetics and Crystallography of Martensite Formation Part II (11:00 AM)
Monday PM	Poster Session (8:00 PM)	Displacive Transformations: Thermodynamics, Mechanism, Kinetics and Crystallography of Martensite Formation Part III (2:00 PM) Displacive Transformations: Thermodynamics, Mechanism, Kinetics and Crystallography of Martensite Formation Part IV (4:00 PM)
Tuesday AM		Displacive Transformations: Shape Memory Alloys Part I (9:00 AM) Displacive Transformations: Shape Memory Alloys Part II (11:00 AM)
Tuesday PM		Displacive Transformations: Shape Memory Alloys Part III (2:00 PM) Displacive Transformations: Tempering, Aging and Stabilization (4:00 PM)
Thursday AM		Fundamentals of Phase Transformations: Nucleation (9:00 AM) Fundamentals of Phase Transformations: Diffusion (11:00 AM)
Thursday PM	Poster Session (8:00 PM)	Fundamentals of Phase Transformations: Microstructural Evolution Part I (2:00 PM) Fundamentals of Phase Transformations: Microstructural Evolution Part II (4:00 PM)
Friday AM		Fundamentals of Phase Transformations: Interfaces (9:00 AM) Displacive Transformations: Thermodynamics, Mechanism, Kinetics and Crystallography of Martensite Formation Part V (11:00 AM) Displacive Transformations: Shape Memory Alloys Part IV (11:45 AM)
Friday PM		Ceramics and Compounds Part II (2:00 PM)

Solid-Solid Phase Transformation in Organic Materials 2005
Symposium at a Glance

Kiva	Mohave/Adobe/Arroyo	Pueblo/Sonora
First Principles and Quantum Mechanics Part I (9:00 AM)	Nucleation Part I (9:00 AM)	Recrystallization and Grain Boundaries Part I (9:00 AM)
First Principles and Quantum Mechanics Part II (11:00 AM)	Nucleation Part II (11:00 AM)	Recrystallization and Grain Boundaries Part II (11:00 AM)
Monte Carlo and Molecular Dynamics (2:00 PM)	Growth and Interphase Boundary Structure Part I (2:00 PM)	Discontinuous and Cellular Reactions Part I (2:00 PM)
Phase Field Methods (4:00 PM)	Growth and Interphase Boundary Structure Part II (4:00 PM)	Discontinuous and Cellular Reactions Part II (4:00 PM)
Defects, Phase Equilibria and Microstructural Evolution Part I (9:00 AM)	Growth and Interphase Boundary Structure Part III (9:00 AM)	Transmission Electron Microscopy (9:00 AM)
Defects, Phase Equilibria and Microstructural Evolution Part II (11:00 AM)	Spinodal Decompostion and Ordering Part I (11:00 AM)	Diffraction and Combinatorial Methods Part I (11:00 AM)
Nano- and Constrained Systems Part I (2:00 PM)	Spinodal Decompostion and Ordering Part II (2:00 PM)	Diffraction and Combinatorial Methods Part II (2:00 PM)
Nano- and Constrained Systems Part II (4:00 PM)	Spinodal Decompostion and Ordering Part III (4:00 PM)	Atom-Probe Field Ion Microscopy (4:00 PM)
Nano- and Constrained Systems Part III (9:00 AM)	Precipitation Part I (9:00 AM)	Massive Transformation (9:00 AM)
Amorphous Alloys and Quasicrystals Part I (11:00 AM)	Precipitation Part II (11:00 AM)	Coarsening (11:00 AM)
Amorphous Alloys and Quasicrystals Part II (2:00 PM)	Precipitation Part III (2:00 PM)	Driven Transformations Part I (2:00 PM)
Amorphous Alloys and Quasicrystals Part III (4:00 PM)	Precipitation Part IV (4:00 PM)	Driven Transformations Part II (4:00 PM)
Magnetic and Ferroic Materials (9:00 AM)	Precipitation Part V (9:00 AM)	Novel Methods Part I (9:00 AM)
Ceramics and Compounds Part I (11:00 AM)	Bainite and Diffusional-Displacive Transformations Part I (11:00 AM)	Novel Methods Part II (11:00 AM)
Semiconductors (2:00 PM)	Bainite and Diffusional-Displacive Transformations Part II (2:00 PM)	Soft Materials (2:00 PM)

Diffusional Transformations: Nucleation Part I

Monday AM
May 30, 2005

Room: Mohave/Adobe/Arroyo
Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
Nucleation on Irrational Interphase Boundaries in Diffusional Phase Transformations of Steels: *Tadashi Furuhara*[1]; Goro Miyamoto[1]; Hayato Saito[1]; Tadashi Maki[1]; [1]Kyoto University

9:30 AM Invited
Heterogeneous Nucleation and Precipitation in Aluminium Alloys: *Barry C. Muddle*[1]; Laure Bourgeois[2]; Brian M. Gable[1]; [1]Centre for Advanced Materials Technology, Monash University, Victoria 3800, Australia; [2]School of Physics and Materials Engineering, Monash University

10:00 AM Invited
Influence of Crystallography and Solute Partitioning on Ferrite Growth in Steels: *Robert E. Hackenberg*[1]; Andrew M. Roelant[2]; Gary J. Shiflet[2]; [1]Los Alamos National Laboratory; [2]University of Virginia

10:30 AM Break

Diffusional Transformations: Nucleation Part II

Monday AM
May 30, 2005

Room: Mohave/Adobe/Arroyo
Location: Pointe Hilton Squaw Peak Resort

11:00 AM
Heterogeneous Nucleation of θ' in Al-Cu-In Alloys: *Brian M. Gable*[1]; Laure Bourgeois[1]; Jian-Feng Nie[1]; Barry C. Muddle[1]; [1]Monash University

11:15 AM
The Nucleation of Intermediate Phases in Aluminium-Silver-Copper Alloys: *Julian Mark Rosalie*[1]; Laure Bourgeois[1]; Barry C. Muddle[1]; [1]Monash University

11:30 AM
Discussion on the Nucleation Rate of Ferrite During Continuous Cooling in a Low Carbon Steel Measured by 3DXRD: *Zhi-Gang Yang*[1]; Masato Enomoto[2]; [1]Tsinghua University; [2]Ibaraki University

11:45 AM
The Graphitisation Process in Medium-Carbon Steel: *David V. Edmonds*[1]; Kejian He[1]; [1]University of Leeds

12:00 PM
Nucleation and Growth of β-Ti Phase Precipitated Along the Pathway of $\alpha \rightarrow \beta+\gamma$ in γ-TiAl Alloys: *Hiroaki Fukushima*[1]; Satoru Kobayashi[2]; Takashi Matsuo[1]; Masao Takeyama[1]; [1]Tokyo Institute of Technology; [2]Max-Plank-Institut Fur Eisenforschung GmbH

12:15 PM
Effect of Cooling Rate on the Evolution and Distribution of γ Variants and α_2 Phase in γ TiAl Alloy: *M. Sundararaman*[1]; J. B. Singh[1]; G. Sharma[1]; S. Banerjee[1]; [1]Bhabha Atomic Research Centre

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Displacive Transformations: Thermodynamics, Mechanism, Kinetics and Crystallography of Martensite Formation Part I

Monday AM Room: Kachina
May 30, 2005 Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
The Martensitic Transformation: Mechanisms and Stabilities: *Manfred Ahlers*[1]; [1]Centro Atomico

9:30 AM Invited
Understanding Martensitic Transformation: *Alexander Roytburd*[1]; [1]University of Maryland

10:00 AM Invited
Phenomenological and Dislocation Models of Martensitic Transformations: *Robert Charles Pond*[1]; Xiao Ma[1]; John Price Hirth[2]; [1]University of Liverpool; [2]Private individual

10:30 AM Break

Displacive Transformations: Thermodynamics, Mechanism, Kinetics and Crystallography of Martensite Formation Part II

Monday AM Room: Kachina
May 30, 2005 Location: Pointe Hilton Squaw Peak Resort

11:00 AM Invited
Martensitic Transformations at Surfaces and Interfaces: *Trevor Roy Finlayson*[1]; U. Klemradt[2]; [1]Monash University; [2]RWTH-Aachen

11:30 AM Invited
Diffusionless Transformations in Constrained Films: Theory, Modeling, Experiment: *Julia Slutsker*[1]; [1]NIST

12:00 PM
Premartensitic Behavior in Metastable Phases of Supersaturated Ti and Mg Alloys: *Byung-Hak Choe*[1]; Sung-Jun Kim[2]; Yong-Tai Lee[2]; S. B. Kang[2]; Jong K. Lee[3]; [1]Kangnung National University; [2]Korea Institute of Machinery and Materials; [3]Michigan Technological University

12:15 PM
Landau Free Energy for Structural Phase Transitions in Pu: *Avadh B. Saxena*[1]; Turab Lookman[1]; Robert C. Albers[1]; [1]Los Alamos National Laboratory

Computer Approaches to Simulation of Phase Transformations: First Principles and Quantum Mechanics Part I

Monday AM — Room: Kiva
May 30, 2005 — Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
First-Principles Calculation of Ordering Phase Transition: *Tetsuo Mohri*[1]; Munekazu Ohno[2]; Ying Chen[3]; [1]Hokkaido University; [2]Technical University, Clausthal; [3]University of Tokyo

9:30 AM Invited
Reliable First-Principles Alloy Thermodynamics for Predicting and Understanding Characterization Data: *Duane D. Johnson*[1]; Nikolai Zarkevich[1]; Daniel Finkenstadt[1]; [1]University of Illinois

10:00 AM
Development of a More Accurate Simulation Model for GP Zone Formation in Al-Zn Alloys: *Shoichi Hirosawa*[1]; Yoshiki Komiya[1]; Fumishige Nakamura[1]; Toshiharu Hoshino[2]; Tatsuo Sato[1]; [1]Tokyo Institute of Technology; [2]Shizuoka University

10:15 AM
Automated Computational Tools for *Ab Initio* Alloy Thermodynamics: *Axel Van De Walle*[1]; Mark D. Asta[1]; [1]Northwestern University

10:30 AM Break

Computer Approaches to Simulation of Phase Transformations: First Principles and Quantum Mechanics Part II

Monday AM — Room: Kiva
May 30, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:00 AM
First-Principles Phase Stability Calculations of the Al-Ti-Zn System: *Gautam Ghosh*[1]; Axel van de Walle[1]; Mark Asta[1]; [1]Northwestern University

11:15 AM
Electronic Structure Underlying Pressure Induced Phase Transitions of Simple Metals: *Graeme J. Ackland*[1]; [1]University of Edinburgh

11:30 AM
First-Principles Investigation of Phase Equilibria of Fe-Based Alloy Systems: *Ying Chen*[1]; Shuichi Iwata[1]; Tetsuo Mohri[2]; [1]University of Tokyo; [2]Hokkaido University

11:45 AM
***Ab Initio* Study of Stability of Cubic Zirconia: Pure, Doped, Bulk, and Nano Structured**: *Victor G. Zavodinsky*[1]; Andrey N. Chibisov[2]; [1]Institute of Materials Science, Russian Academy of Sciences; [2]Amur State University

12:00 PM
Quantum Monte Carlo and Density Functional Methods Examine Anisotropy Effects for Phase Transformations in Silicon: *Richard G. Hennig*[1]; Cyrus J. Umrigar[2]; John W. Wilkins[1]; [1]Ohio State University; [2]Cornell University

12:15 PM
A Method for Characterizing Structural Fluctuations Preceding Nucleation in Atomistic Simulations: *Colin A. Ashe*[1]; W. Craig Carter[1]; [1]Massachusetts Institute of Technology

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Diffusional Transformations: Recrystallization and Grain Boundaries Part I

Monday AM Room: Pueblo/Sonora
May 30, 2005 Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
Nucleation Processes in Recrystallization: History and Current Status: *Roger D. Doherty*[1]; [1]Drexel University

9:30 AM Invited
Recrystallization and Transformation Textures: *Gunter G. Gottstein*[1]; Mischa Crumbach[1]; Ingo Lischewski[1]; [1]RWTH Aachen

10:00 AM
Grain Growth Kinetics and Energetics: *Martin E. Glicksman*[1]; [1]Rensselaer Polytechnic Institute

10:15 AM
Ferrite Refinement Through Strain Induced Transformation: Alireza Shokouhi[1]; *Peter Hodgson*[1]; [1]Deakin University

10:30 AM Break

Diffusional Transformations: Recrystallization and Grain Boundaries Part II

Monday AM Room: Pueblo/Sonora
May 30, 2005 Location: Pointe Hilton Squaw Peak Resort

11:00 AM Invited
Bulk Investigations of Grain Boundary Migration During Recrystallization Utilizing the 3DXRD Microscope: *Soeren Schmidt*[1]; Rasmus Brauner Godiksen[1]; Dorte Juul Jensen[1]; [1]Center for Fundamental Research, Metal Structures in Four Dimensions

11:30 AM Invited
Alternative Mechanism of Secondary Recrystallization; Solid-State Wetting Along Grain Boundaries or Triple Junctions: Doh-Yeon Kim[1]; *Nong-Moon Hwang*[1]; [1]Seoul National University

12:00 PM
Calculation of Grain Boundary Stiffness and Mobility from Interface Fluctuations: *Stephen M. Foiles*[1]; Jeffrey J. Hoyt[1]; [1]Sandia National Laboratories

12:15 PM
Statistical Mechanics Prediction of Solid—Solid Transformations Induced by Plastic Deformation: *Pedro Eduardo Jose Rivera diaz del Castillo*[1]; Mingxin Huang[1]; Sybrand van der Zwaag[1]; [1]Delft University of Technology

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Diffusional Transformations: Growth and Interphase Boundary Structure Part I

Monday PM Room: Mohave/Adobe/Arroyo
May 30, 2005 Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Phase-Field Modeling of Phase Transformations and Surface-Energy Driven Processes: *John Agren*[1]; [1]Royal Institute of Technology

2:30 PM Invited
Calculation of Interfacial Energy Between α and γ Iron with Near Rational Orientation Relationship: *Masato Enomoto*[1]; Takatoshi Nagano[1]; Jinbo Yang[1]; [1]Ibaraki University

3:00 PM Invited
Crystallography of Precipitates in Mg-Al-Zn Alloys: *Jian-Feng Nie*[1]; [1]Monash University

3:30 PM Break

Diffusional Transformations: Growth and Interphase Boundary Structure Part II

Monday PM Room: Mohave/Adobe/Arroyo
May 30, 2005 Location: Pointe Hilton Squaw Peak Resort

4:00 PM
Edge-to-edge Matching Model for Predicting Orientation Relationships and Habit Planes — The Improvements: *Ming-Xing Zhang*[1]; Patrick M. Kelly[1]; [1]University of Queensland

4:15 PM
Application of Atom-Row Matching Concepts to Grain Boundaries: Abhay Raj Singh Gautam[1]; *James M. Howe*[1]; [1]University of Virginia

4:30 PM
A Method for the Correlation of the Cahn-Hilliard Gradient Energy Coefficient with Bulk Thermodynamic Data: *Eric A. Lass*[1]; William C. Johnson[1]; Gary J. Shiflet[1]; [1]University of Virginia

4:45 PM
Dynamic Behavior of a Gold-Copper Order-Disorder Interface: *Abhay Raj Singh Gautam*[1]; James M. Howe[1]; Kaushik Chatterjee[2]; Fritz Phillipp[3]; [1]University of Virginia; [2]Pennsylvania State University; [3]Max-Plank-Institut für Metallforschung

5:00 PM
Experimental and Theoritical Approach of the Austenite to Ferrite Interphase Boundary Composition in a Model Alloy Fe-C-Mn: *Olivier Thuillier*[1]; Mohamed Gouné[2]; Matthieu Kandel[2]; Frédéric Danoix[1]; Didier Blavette[1]; [1]Université de Rouen; [2]IRSID

5:15 PM
Precipitation of H-Type Carbide and ξ-Type Silicide in a Lamellar TiAl Alloy K5SC: *Lichun Zhang*[1]; Mark Aindow[1]; Young -Won Kim[2]; [1]University of Connecticut; [2]UES Inc.

Displacive Transformations: Thermodynamics, Mechanism, Kinetics and Crystallography of Martensite Formation Part III

Monday PM — Room: Kachina
May 30, 2005 — Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Morphology and Crystallography of Martensite in Ferrous Alloys: Tadashi Furuhara[1]; Akinobu Shibata[1]; Shigekazu Morito[1]; *Tadashi Maki*[1]; [1]Kyoto University

2:30 PM Invited
Phase Transformations and the Actinides: *Kevin Thomas Moore*[1]; Chris Krenn[1]; Mark Wall[1]; Adam Schwartz[1]; [1]Lawrence Livermore National Laboratory

3:00 PM
Theory of the Lath Martensite Transformation in Iron Alloys: *Yongmei Jin*[1]; Armen G. Khachaturyan[1]; [1]Rutgers University

3:15 PM
Neutron Scattering Study of the Martensitic Phase Transformation in $Fe_{71}Ni_{29}$: *Olivier Delaire*[1]; Tabitha Swan-Wood[1]; Max Kresch[1]; Brent Fultz[1]; [1]California Institute of Technology

3:30 PM Break

Displacive Transformations: Thermodynamics, Mechanism, Kinetics and Crystallography of Martensite Formation Part IV

Monday PM — Room: Kachina
May 30, 2005 — Location: Pointe Hilton Squaw Peak Resort

4:00 PM
The δ to α´ Transformation in Plutonium-Gallium Alloys: *Jeremy N. Mitchell*[1]; Siegfried S. Hecker[1]; Ramiro A. Pereyra[1]; Douglas V. Pete[1]; Terence E. Mitchell[1]; [1]Los Alamos National Laboratory

4:15 PM
Titanium Alpha to Omega Martensitic Phase Transition with Impurities at the Atomic Length Scale: *Dallas R. Trinkle*[1]; Richard G. Hennig[2]; Robert C. Albers[3]; John W. Wilkins[2]; [1]US Air Force; [2]Ohio State University; [3]Los Alamos National Laboratory

4:30 PM
$C11_b$ Type Precipitates in B2 Parent and B19 Martensitic Marices in Ti-Pd Alloy: *Minoru Nishida*[1]; Mitsuhiro Matsuda[1]; Daisuke Hashimoto[1]; [1]Kumamoto University

4:45 PM
Domain-Like Structure and B2-Phase Stability in Iron Doped Ti-Ni Alloys: *Choi Mi-Seon*[1]; Jumpei Ogawa[1]; Takashi Fukuda[1]; Tomoyuki Kakeshita[1]; [1]Osaka University

5:00 PM
The (114)B2 Twins of Ni-Ti Alloys: *Madangopal Krishnan*[1]; S. Banerjee[1]; [1]Bhabha Atomic Research Centre

5:15 PM
Microstructure Evolution Assessment of a 0.19C-1.59Mn-1.63Si TRIP Sheet Steel After Quenching and Partitioning: *Amy M. Streicher Clarke*[1]; John G. Speer[1]; David K. Matlock[1]; Fernando C. Rizzo[2]; David V. Edmonds[3]; Kejian He[3]; [1]Colorado School of Mines; [2]Pontificia Universidad Catolica-Rio de Janeiro; [3]University of Leeds

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Computer Approaches to Simulation of Phase Transformations: Monte Carlo and Molecular Dynamics

Monday PM — Room: Kiva
May 30, 2005 — Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Precipitation in Al-Zr and Al-Sc Alloys: A Comparison Between Kinetic Monte Carlo, Cluster Dynamics and Classical Nucleation Theory: *Emmanuel Clouet*[1]; Maylise Nastar[1]; Alain Barbu[1]; Christophe Sigli[2]; Georges Martin[3]; [1]SRMP, CEA-Saclay; [2]ALCAN, Centre de Recherches de Voreppe; [3]Cabinet du Haut-Commissaire, CEA-Siège

2:30 PM Invited
Computer Simulation of Grain Boundary Migration in Impure Systems: *Mikhail I. Mendelev*[1]; David J. Srolovitz[2]; [1]Ames Laboratory; [2]Princeton University

3:00 PM
Monte Carlo Study of Interfacial Properties of Phase Separating Alloys: *Saswata Bhattacharyya*[1]; Ferdinand Haider[2]; Thennathur A. Abinandanan[1]; [1]Indian Institute of Science; [2]University of Augsburg

3:15 PM
Monte Carlo Simulation of Ordering Processes in Ni-Mo-Based Alloys: *Ulhas Kulkarni*[1]; Gautam Kumar Dey[1]; [1]Bhabha Atomic Research Centre

3:30 PM Break

Computer Approaches to Simulation of Phase Transformations: Phase Field Methods

Monday PM
May 30, 2005

Room: Kiva
Location: Pointe Hilton Squaw Peak Resort

4:00 PM Invited
Comparison of DICTRA and Phase Field Simulations of Interdiffusion: *John Morral*[1]; Yunzhi Wang[1]; [1]Ohio State University

4:30 PM
Computer Simulation of Phase Decomposition in Sm-Co-Cu Magnetic Alloy Based on the Phase-Field Method: *Toshiyuki Koyama*[1]; Hidehiro Onodera[1]; [1]National Institute for Materials Science

4:45 PM
Phase-Field Simulations of Ferromagnetic Shape Memory Alloys: *Jingxian Zhang*[1]; Long-Qing Chen[1]; [1]Pennsylvania State University

5:00 PM
Three-Dimensional Phase-Field Simulations of Coarsening Kinetics of γ' Particles in Ternary Al-Zr-Sc Alloys: *Nicolas Lecoq*[1]; Helena Zapolsky[1]; Renaud Patte[1]; [1]Rouen University

5:15 PM
A Phase-Field Study of the Ferrite-to-Austenite Transformation Kinetics: Jerome Cordonier[1]; *Matthias Militzer*[1]; Alain Jacot[2]; [1]University of British Columbia; [2]Swiss Federal Institute of Technology

Diffusional Transformations: Discontinuous and Cellular Reactions Part I

Monday PM
May 30, 2005

Room: Pueblo/Sonora
Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Fundamentals of Interface Migration During Solid-State Discontinuous Reactions: *Pawel S. Zieba*[1]; [1]Polish Academy of Sciences

2:30 PM Invited
On the Structural Stability of Grain Boundary Diffusion - Controlled Precipitation Products: *Guillermo Solórzano*[1]; [1]PUC - Rio de Janeiro

3:00 PM
On the Product Phases of the Cellular Transformation in Cu-Ti Age Hardening Alloys: *Nan Boonyachut*[1]; Yingguo Peng[1]; William A. Soffa[2]; David E. Laughlin[1]; [1]Carnegie Mellon University; [2]University of Virginia

3:15 PM
Grain Boundary Discontinuous Precipitation of γ Phase in Cu-0.75wt%Be Bicrystals: *Ryoichi Monzen*[1]; Chihiro Watanabe[1]; [1]Kanazawa University

3:30 PM Break

Diffusional Transformations: Discontinuous and Cellular Reactions Part II

Monday PM
May 30, 2005

Room: Pueblo/Sonora
Location: Pointe Hilton Squaw Peak Resort

4:00 PM Invited
Pearlite Nucleation and Development: *Gary J. Shiflet*[1]; [1]University of Virginia

4:30 PM Invited
Non Classic Eutectoid Decomposition Products Morphologies in Fe-Cr-C and Fe-Cr-Mo-C Steels: *Hélio Goldenstein*[1]; John Alexander Bustos Cifuentes[1]; Amilton Sinatora[1]; [1]University of Sao Paulo

5:00 PM
Eutectoid Decomposition in Lanthanide-Mg Systems: *J. P. Hadorn*[1]; Gary J. Shiflet[1]; [1]University of Virginia

5:15 PM
Modelling of Microstructural Evolution During Intercritical Annealing of Steels with a Ferrite and Pearlite Initial Microstructure: Francisca Garcia Caballero[1]; David San Martin[1]; Carlos Capdevila Montes[1]; *Carlos Garcia de Andres*[1]; [1]CENIM-CSIC

Diffusional Transformations: Growth and Interphase Boundary Structure Part III

Tuesday AM
May 31, 2005

Room: Mohave/Adobe/Arroyo
Location: Pointe Hilton Squaw Peak Resort

9:00 AM
Determination of the Critical Carbon Content for Growth of Acicular Ferrite: *Annika Borgenstam*[1]; Juliette M. Ericsson[1]; [1]Royal Institute of Technology

9:15 AM
A Study of the Austenite to Ferrite Transformation in Fe-C-X Alloys Using Decarburization Experiments: Hatem Zurob[1]; *Christopher R. Hutchinson*[2]; Yves Brechet[1]; Gary R. Purdy[3]; [1]Institut National Polytechnique de Grenoble; [2]Monash University; [3]McMaster University

9:30 AM
Substitutional and Interstitial Elements Partitioning During the Isothermal Decomposition of Austenite in Cr Base Alloy Steel: Carlos Eduardo Pinedo[1]; *Hélio Goldenstein*[2]; [1]Heat Tech Heat Treatment and Surface Engineering Ltd.; [2]University of Sao Paulo

9:45 AM
The Study on the Crystallography and Microstructure Development of Austenite Precipitates in a Duplex Stainless Steel: *Dong Qiu*[1]; Wen Zheng Zhang[1]; [1]Tsinghua University

10:00 AM
Influence of Crystallographic Variant Selection on Microstructural Evolution in Titanium Alloys: *Sujoy Kumar Kar*[1]; Rajarshi Banerjee[2]; Eunha Lee[1]; Dhriti Bhattacharyya[1]; Gopal Babu Viswanathan[1]; Peter Collins[1]; Hamish Fraser[1]; [1]Ohio State University; [2]University of North Texas

10:15 AM
Morphology and Crystallography of bcc Grain Boundary Precipitates in a Slightly Pre-Deformed Ni-Cr Alloy: *Yoshitaka Adachi*[1]; Kaneaki Tsuzaki[1]; [1]National Institute for Materials Science

10:30 AM Break

Diffusional Transformations: Spinodal Decompostion and Ordering Part I

Tuesday AM — Room: Mohave/Adobe/Arroyo
May 31, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:00 AM Invited
Diffusional Pathways in the Transformation of Alloys: *William A. Soffa*[1]; [1]University of Virginia

11:30 AM Invited
Phase Separation in Alloys - Experimental Studies: *Gernot Kostorz*[1]; [1]ETH Zurich

12:00 PM Invited
X-Ray Diffraction Studies of Alloy Decomposition: *Harald Reichert*[1]; [1]Max-Planck-Institute Stuttgart

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Displacive Transformations: Shape Memory Alloys Part I

Tuesday AM — Room: Kachina
May 31, 2005 — Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
Pretransformation Phenomena in Ferromagnetic Shape Memory Alloys: *Manfred Wuttig*[1]; [1]University of Maryland

9:30 AM Invited
Atomistic Modelling of the Shape Memory Effect: *Graeme J. Ackland*[1]; [1]University of Edinburgh

10:00 AM Invited
Effect of Magnetic Field on Conversion of Martensite Variants in Ferromagnetic Shape Memory Alloys: *Tomoyuki Kakeshita*[1]; Takashi Fukuda[1]; Tomoyuki Terai[1]; [1]Osaka University

10:30 AM Break

Displacive Transformations: Shape Memory Alloys Part II

Tuesday AM Room: Kachina
May 31, 2005 Location: Pointe Hilton Squaw Peak Resort

11:00 AM Invited
Micromechanics of Magnetic-Field-Induced Twin Boundary Motion in Ni-Mn-Ga Magnetic Shape-Memory Alloys: *Peter Müllner*[1]; Gernot Kostorz[2]; [1]Boise State University; [2]ETH Zürich

11:30 AM
Microstructural Evolution and Constitutive Response in Structural Phase Transformations: *Turab Lookman*[1]; Avadh Saxena[1]; Rajeev Ahluwalia[1]; [1]Los Alamos National Laboratory

11:45 AM
Effects of Annealing on the Martensite Transformation in a Ni-Fe-Ga Ferromagnetic Shape Memory Alloy: *Todd M. Heil*[1]; William T. Reynolds Jr[1]; Matthew A. Willard[2]; [1]Virginia Polytechnic University; [2]Naval Research Laboratory

12:00 PM
Shape Memory Behavior in U-Nb Alloys: *Robert D. Field*[1]; Dan J. Thoma[1]; Donald Brown[1]; [1]Los Alamos National Laboratory

12:15 PM
Phase Transformations, Deformation Mechanisms and Pseudoelasticity in Ti-Mo-Based Alloys: Lichun Zhang[1]; Tao Zhou[1]; *Mark Aindow*[1]; S. Pamir Alpay[1]; Martin J. Blackburn[1]; Ming Wu[2]; [1]University of Connecticut; [2]Memory Corporation

Computer Approaches to Simulation of Phase Transformations: Defects, Phase Equilibria and Microstructural Evolution Part I

Tuesday AM Room: Kiva
May 31, 2005 Location: Pointe Hilton Squaw Peak Resort

9:00 AM
Vacancy Walk and Its Impact on the Character of Phase Transitions: *David Reith*[1]; Wolfgang Pueschl[1]; Wolfgang Pfeiler[1]; Ferdinand Haider[2]; [1]University of Vienna; [2]University of Augsburg

9:15 AM
Atomistic Monte Carlo Simulations of Heterogeneous Precipitation on Dislocation of NbC Steels: *Céline Hin*[1]; Frédéric Soisson[1]; Philippe Maugis[2]; [2]CEA; [3]IRSID/ARCELOR

9:30 AM
Molecular Dynamics Simulation of Martensite Phase Transformations in NiAl Alloys: *Nikolai P. Lazarev*[1]; C. Abromeit[2]; R. Schäublin[3]; R. Gotthardt[1]; [1]EPFL; [2]Hahn-Meitner-Institut Berlin; [3]EPFL-CRPP Fusion Technology-Materials

9:45 AM
Simulations of Spinodal Nucleation in Systems with Elastic Interactions: *Carmen Jeanne Gagne*[1]; William Klein[2]; Turab Lookman[3]; Avadh Saxena[3]; Harvey Gould[4]; [1]Arizona State University; [2]Boston University; [3]Los Alamos National Laboratory; [4]Clark University

10:00 AM
Microstructural Simulation of Phase Decomposition in Cu-Ni-Based Alloys: *Victor Manuel Lopez-Hirata*[1]; Ricardo Sabino Melo-Maximo[1]; Maribel Leticia Saucedo-Muñoz[1]; [1]Instituto Politecnico Nacional

10:15 AM
Selective Variant Growth of Coherent DO_{19} (Ni_3V) Precipitates in Ni-V Alloys: *Helena Zapolsky*[1]; Sebastien Ferry[1]; Renaud Patte[1]; Long-Qing Chen[2]; [1]University of Rouen; [2]Pennsylvania State University

10:30 AM Break

Computer Approaches to Simulation of Phase Transformations: Defects, Phase Equilibria and Microstructural Evolution Part II

Tuesday AM — Room: Kiva
May 31, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:00 AM
Simulation of Phase Transformations Using the Lattice-Fixed Frame of Reference: *Henrik Larsson*[1]; H. Strandlund[1]; M. Hillert[1]; [1]Royal Institute of Technology

11:15 AM
Modelling of the Kinetics of Bainite Transformation in Steels: *Daniel Gaude-Fugarolas*[1]; Pascal Joseph Jacques[1]; [1]Université Catholique de Louvain

11:30 AM
Modelling of Nucleation and Growth of Particles in Multi-Component Alloys: *Johan Jeppsson*[1]; John Ågren[1]; [1]KTH, Material Science and Engineering

11:45 AM
Theory for Multicomponent Diffusional Kinetics and its Application to the Reaustenitisation of Dual Phase and TRIP Steels: *Pedro Eduardo Jose Rivera diaz del Castillo*[1]; Sybrand van der Zwaag[1]; [1]Delft University of Technology

12:00 PM
A Comprehensive Treatment of Precipitation Kinetics in Complex Materials: *Bernhard Sonderegger*[1]; Michael Bischof[2]; Ernst Kozeschnik[1]; Harald Leitner[2]; Jiri Svoboda[3]; Franz Dieter Fischer[2]; Helmut Clemens[2]; [1]Graz University of Technology; [2]Montanuniversität Leoben; [3]Academy of Sciences of the Czech Republic

12:15 PM
Computer Simulations of Solute Drag in Grain Boundary Migration and Phase Transformations: Henrik Strandlund[1]; *Joakim Odqvist*[2]; John Ågren[1]; [1]Royal Institute of Technology; [2]AB Sandvik Materials Technology

Experimental Approaches to the Study of Phase Transformations: Transmission Electron Microscopy

Tuesday AM — Room: Pueblo/Sonora
May 31, 2005 — Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
Atomic-Level Analytical Electron Microscopy of Diffusional Phase Transformation: *David B. Williams*[1]; [1]Lehigh University

9:30 AM
Elaboration of Martensitic Transformations by Ultrafast Electron Microscopy: *Geoffrey H. Campbell*[1]; Wayne E. King[1]; Alexander Ziegler[2]; Nigel Browning[2]; Harry Kleinschmidt[3]; Oleg Bostanjoglo[3]; [1]Lawrence Livermore National Laboratory; [2]University of California, Davis; [3]Technical University Berlin

9:45 AM
Magnetic Domain Configurations in Ferromagnetic Shape Memory Alloys: *Sai Prasanth Venkateswaran*[1]; Marc J. DeGraef[1]; [1]Carnegie Mellon University

10:00 AM
Three-Dimensional Observation of Ordered and Disordered Precipitates Using Dark-Field TEM Tomography: *Satoshi Hata*[1]; Kousuke Kimura[1]; Syo Matsumura[1]; Yoshitsugu Tomokiyo[1]; Tomokazu Moritani[2]; Minoru Doi[2]; [1]Kyushu University; [2]Nagoya Institute of Technology

10:15 AM
In-Situ Determination and Imaging of Physical Properties of Metastable and Equilibrium Precipitates Using Valence Electron Energy-Loss Spectroscopy and Energy-Filtering TEM: *Vladimir P. Oleshko*[1]; J. M. Howe[1]; [1]University of Virginia

10:30 AM Break

Experimental Approaches to the Study of Phase Transformations: Diffraction and Combinatorial Methods Part I

Tuesday AM — Room: Pueblo/Sonora
May 31, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:00 AM Invited
Grain Boundary Migration Observed In Situ by Synchrotron Radiation: *Vaclav Paidar*[1]; Pavel Lejcek[1]; Milena Polcarova[1]; [1]FZU AS CR

11:30 AM Invited
Application of In-Situ Diffraction Experiments to Understand Nonequilibrium Phase Transformations in Structural Alloys: *Sudarsanam S. Babu*[1]; John W. Elmer[2]; Eliot D. Specht[1]; John M. Vitek[1]; Stan A. David[1]; [1]Oak Ridge National Laboratory; [2]Lawrence Livermore National Laboratory

12:00 PM Invited
Precise Structural Analysis and Phase Transformation of Inorganic Materials Through High-Temperature Neutron and Synchrotron Powder Diffractometry: *Masatomo Yashima*[1]; [1]Tokyo Institute of Technology

Diffusional Transformations: Spinodal Decompostion and Ordering Part II

Tuesday PM
May 31, 2005

Room: Mohave/Adobe/Arroyo
Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Studies of Phase Separation in Alloys Using the Stochastic Statistical Approach: Vladimir Dobretsov[1]; Ilya Pankratov[1]; *Valentin Vaks*[1]; [1]RRC Kurchatov Institute

2:30 PM Invited
Atom Jumps in Intermetallics: From Bulk to Thin Films: *Wolfgang Pfeiler*[1]; Wolfgang Pueschl[1]; Rafal Kozubski[2]; Veronique Pierron-Bohnes[3]; [1]University of Vienna; [2]Jagellonian University; [3]University of Strasbourg

3:00 PM Invited
Thermal and Mechanical Disordering of Ordered Alloys: *David G. Morris*[1]; Maria A. Muñoz-Morris[1]; [1]CENIM-CSIC

3:30 PM Break

Diffusional Transformations: Spinodal Decompostion and Ordering Part III

Tuesday PM
May 31, 2005

Room: Mohave/Adobe/Arroyo
Location: Pointe Hilton Squaw Peak Resort

4:00 PM
Spinodal Decomposition and Ordering Transformation in U-6Nb: *Luke L. Hsiung*[1]; [1]Lawrence Livermore National Laboratory

4:15 PM
Generalized Ginzburg-Landau Functionals for Alloys with Application to Studies of Antiphase and Interphase Boundaries: Konstantin Khromov[1]; *Ilya Pankratov*[1]; Valentin Vaks[1]; [1]RRC Kurchatov Institute

4:30 PM
Order-Disorder Transition in Beta CuZnAl: *María Luján Castro*[1]; Fernando Lanzini[2]; Ricardo Romero[3]; Marcelo Stipcich[1]; [1]IFIMAT-CONICET; [2]IFIMAT-UNCPBA; [3]IFIMAT-CICPBA

4:45 PM
Microstructure and Defect Structure Evolution During Annealing of Equiatomic L1o-Ordering FePd Intermetallics: *Anirudha R. Deshpande*[1]; Jorg M.K. Wiezorek[1]; [1]University of Pittsburgh

5:00 PM
Role of APB Energy in Ordering Transformations in Al-Rich Gamma-TiAl: *Ulhas Kulkarni*[1]; Gautam Kumar Dey[1]; [1]Bhabha Atomic Research Centre

5:15 PM
Ordering Process and Formation of Anti-Phase Boundary in Long-Period Superstructures of Al-Rich TiAl Single Crystals: *Takayoshi Nakano*[1]; Yosuke Nagasawa[1]; Yukichi Umakoshi[1]; Satoshi Hata[2]; Noriyuki Kuwano[2]; Masaru Itakura[2]; Yoshitsugu Tomokiyo[2]; [1]Osaka University; [2]Kyushu University

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Displacive Transformations: Shape Memory Alloys Part III

Tuesday PM Room: Kachina
May 31, 2005 Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Characterization and Properties of Shape Memory Alloys Elaborated by Non-Conventional Techniques: *Richard Portier*[1]; Philippe Vermaut[1]; Frédéric Prima[1]; Patrick Ochin[2]; Alexander Pasko[3]; Anton Sezonenko[3]; Victor Kolomytsev[3]; [1]ENSCP-LMS; [2]CECM-CNRS; [3]Institute of Metal Physics

2:30 PM Invited
Deformation Instability and Pattern Evolution in Superelastic Shape Memory Alloy Microtubes: *Qingping Sun*[1]; [1]Hong Kong University of Science and Technology

3:00 PM Invited
Ni_4Ti_3 Precipitates in NiTi and Their Influence on the Surrounding Matrix: *Dominique Schryvers*[1]; Wim Tirry[1]; Zhiqing Yang[1]; [1]EMAT, University of Antwerp

3:30 PM Break

Displacive Transformations: Tempering, Aging and Stabilization

Tuesday PM Room: Kachina
May 31, 2005 Location: Pointe Hilton Squaw Peak Resort

4:00 PM Invited
Crystallography and Hydrogen Trapping of Alloy Carbides in Steel: *Kaneaki Tsuzaki*[1]; Fu-Gao Wei[1]; [1]National Institute for Materials Science

4:30 PM Invited
Precipitation Behaviors of High Nitrogen Austenitic Steels: *Sung-joon Kim*[1]; [1]Korea Institute of Machinery & Materials

5:00 PM Invited
Phase Stabilization by Ultra Grain Refinement in Metastable Austenite: *Setsuo Takaki*[1]; Kazuhiro Fukunaga[2]; Junaidi Syarif[1]; Toshihiro Tsuchiyama[1]; [1]Kyushu University; [2]Nippon Steel Corporation

Phase Transformations in Novel Systems or Special Materials: Nano- and Constrained Systems Part I

Tuesday PM
May 31, 2005

Room: Kiva
Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Alloy Phase Formation in Isolated Nanometer-Sized Particles: *Hirotaro Mori*[1]; Jung-Goo Lee[1]; [1]Osaka University

2:30 PM Invited
In Situ High Resolution Transmission Electron Microscopy of Phase Transformations of Nano-Sized Metal Clusters: *Jeff T. H. DeHosson*[1]; [1]University of Groningen

3:00 PM Invited
Martensitic Phase Transformations in Nanocrystals of NiTi: *Thomas Waitz*[1]; Peter Karnthaler[1]; [1]University of Vienna

3:30 PM Break

Phase Transformations in Novel Systems or Special Materials: Nano- and Constrained Systems Part II

Tuesday PM
May 31, 2005

Room: Kiva
Location: Pointe Hilton Squaw Peak Resort

4:00 PM Invited
X-Ray Studies of the Ferroelectric Transition in Ultrathin Lead Titanate: *G. Brian Stephenson*[1]; Dillon Fong[1]; Stephen Streiffer[1]; Jeffrey Eastman[1]; Paul Fuoss[1]; Carol Thompson[2]; Ken Elder[3]; [1]Argonne National Laboratory; [2]Northern Illinois University; [3]Oakland University

4:30 PM Invited
Phase Transformations in Nanoscale Multilayers: *Hamish L. Fraser*[1]; Arda Genç[1]; Rajarshi Banerjee[2]; Greg Thompson[3]; [1]Ohio State University; [2]University of North Texas; [3]University of Alabama

5:00 PM
Overcoming the Solubility Problem Through High-Rate Co-Evaporation of Al-Si: David Mitlin[1]; Velimir Radmilovic[2]; Ulrich Dahmen[2]; [1]University of Alberta; [2]Lawrence Berkeley National Laboratory

5:15 PM
Glass to Crystal Transformation in Some Zr Based Alloys: *Gautam Kumar Dey*[1]; Suman Neogy[1]; R. T. Savalia[1]; R. Tewari[1]; D. Srivastava[1]; S. Banerjee[1]; [1]Bhabha Atomic Research Centre

Experimental Approaches to the Study of Phase Transformations: Diffraction and Combinatorial Methods Part II

Tuesday PM
May 31, 2005

Room: Pueblo/Sonora
Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
3D/4D Investigations of Solid-State Phase Transformation Using 3D X-Ray Diffraction Microscopy: *Erik M. Lauridsen*[1]; Richard W. Fonda[2]; George Spanos[2]; [1]Center for Fundamental Research: Metalstructures in Four Dimensions; [2]Naval Research Laboratory

2:30 PM
Measurement of Phase Transformation Kinetics During Repeated Thermal Cycling of Ti-6Al-4V Using Time-Resolved X-Ray Diffraction: *Shawn M. Kelly*[1]; Sudarsanam S. Babu[2]; Eliot Specht[2]; Todd Palmer[3]; John Elmer[3]; [1]Applied Research Laboratory - Pennsylvania State University; [2]Oak Ridge National Laboratory; [3]Lawrence Livermore National Laboratory

2:45 PM
Mechanism of Giant Pseudoelasticity in Fe_3Al: Stress-Induced Transformation?: S. Kabra[1]; H. Bei[1]; D. W. Brown[2]; M. A. M. Bourke[2]; *Easo P. George*[3]; [1]University of Tennessee; [2]Los Alamos National Laboratory; [3]Oak Ridge National Laboratory

3:00 PM
Review of High-Throughput Techniques for Detecting Solid Phase Transformation from Material Libraries Produced by Combinatorial Methods: *Jonathan A. Lee*[1]; [1]NASA-Marshall Space Flight Center

3:15 PM
A Combinatorial Approach to Studying Phase Transformations Using Compositionally Graded Alloys: *Rajarshi Banerjee*[1]; Peter Chancellor Collins[2]; Srikumar Banerjee[3]; Hamish L Fraser[2]; [1]University of North Texas; [2]Ohio State University; [3]Bhabha Atomic Research Center

3:30 PM Break

Experimental Approaches to the Study of Phase Transformations: Atom-Probe Field Ion Microscopy

Tuesday PM
May 31, 2005

Room: Pueblo/Sonora
Location: Pointe Hilton Squaw Peak Resort

4:00 PM
3D Atom Probe Investigation of Precipitation in the Al-Sc-Zr System: *Williams Lefebvre*[1]; Frederic Danoix[1]; Borge Forbord[2]; [1]University of Rouen; [2]NTNU

4:15 PM
The Modified Crystallography of Tin Assisting the Nucleation of θ' in Al-Cu-Sn: *Laure Nelly Bourgeois*[1]; [1]Monash University

4:30 PM
Fine Scale γ′ Precipitation in Haynes 214 Alloy: *Sudarsanam S. Babu*[1]; Michael K. Miller[1]; Mark D. Rowe[2]; [1]Oak Ridge National Laboratory; [2]Haynes International

4:45 PM
An Advanced Approach to the Characterisation of Precipitates in Tool Steels: *Michael Bischof*[1]; Stefan Erlach[2]; Harald Leitner[1]; Peter Staron[3]; Helmut Clemens[1]; [1]Montanuniversität Leoben; [2]Materials Center Leoben; [3]GKSS Research Center

5:00 PM
Statistical Analysis of Rhenium Clustering in Nickel-Based Superalloys: *Michael K. Miller*[1]; Sudarsanam S. Babu[1]; Roger C. Reed[2]; [1]Oak Ridge National Laboratory; [2]University of British Columbia

5:15 PM
Early Stages of Phase Separation in a Model Ni-Al-Cr Superalloy as Studied by Three-Dimensional Atom-Probe Microscopy: *Chantal K. Sudbrack*[1]; Ronald D. Noebe[2]; David N. Seidman[1]; [1]Northwestern University; [2]NASA

Diffusional Transformations: Precipitation Part I

Thursday AM — Room: Mohave/Adobe/Arroyo
June 2, 2005 — Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
3-D Atomic-Scale Experimental and Modeling Studies of the Early Stages of Precipitation: *Alfred Cerezo*[1]; [1]University of Oxford

9:30 AM
3D Atom Probe Investigation of the Early Stages of Precipitation in an Al-Mg-Si Alloy: *Frédéric De Geuser*[1]; Williams Lefebvre[2]; Didier Blavette[2]; [1]Université de Rouen - Pechiney CRV (Alcan Group); [2]Université de Rouen

9:45 AM
Atom Probe Tomography Study of GPB Zones in Al-Mg-Cu-(Si) Alloys: *Libor Kovarik*[1]; Mike K. Miller[2]; Stephen A. Court[3]; Mike J. Mills[1]; [1]Ohio State University; [2]Oak Ridge National Laboratory; [3]Alcan Technology & Management Ltd.

10:00 AM
Atom Probe Investigation of Precipitation Reactions in a Ni and Al Alloyed Martensitic Medium Carbon Steel: *Frederic A.S. Danoix*[1]; Stefan Erlach[2]; Dany Lemarchand[1]; Harald Leitner[3]; H. Clemens[3]; [1]CNRS Université de Rouen; [2]Materials Center Leoben; [3]University of Leoben

10:15 AM
Partitioning and Nanostructural Evolution in Model Ni-Based Superalloys Containing Ru, Re, and W Studied on a Subnanometer Scale: *Dieter Isheim*[1]; Ronald D. Noebe[2]; David N. Seidman[1]; [1]Northwestern University; [2]NASA

10:30 AM Break

Diffusional Transformations: Precipitation Part II

Thursday AM — Room: Mohave/Adobe/Arroyo
June 2, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:00 AM Invited
Characterisation and Modelling of Non-Isothermal Precipitation in Aluminium and Steel: *A. Deschamps*[1]; F. Perrard[1]; L. Lae[1]; M. Nicolas[1]; [1]Institut National Polytechnique de Grenoble

11:30 AM
The Use of Non-Isothermal Heat Treatment Schedules for an Enhanced Aging Response in Precipitation Hardening Systems: *Mohamed Goune*[1]; Christopher R. Hutchinson[2]; [1]ARCELOR Research; [2]Monash University

11:45 AM
Deformation Inhibited Aging of GP Zones: *Christopher J. Hovanec*[1]; Roger D. Doherty[1]; [1]Drexel University

12:00 PM
Cluster Dynamics Modeling of Precipitation Kinetics: Recent Developments: *Pierre Guyot*[1]; Ludovic Lae[1]; [1]Institut National Polytechnique de Grenoble

12:15 PM
Nucleation and Growth of Second Phase Precipitates Under Quenching: *Ali R. Massih*[1]; Lars Olof Jernkvist[1]; [1]Quantum Technologies AB

Fundamentals of Phase Transformations: Nucleation

Thursday AM — Room: Kachina
June 2, 2005 — Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
Reconciling the Classical Theory of Nucleation and Atomic Scale-Observations and Modeling: *Georges P. Martin*[1]; [1]CEA-Paris

9:30 AM Invited
Nucleation Rate, Kinetic Excess, and the Interfacial Free Energy: *David T. Wu*[1]; [1]Yale University

10:00 AM Invited
Precipitate Nucleation Near the Edge of Miscibility Gap: *Toru Miyazaki*[1]; [1]Nagoya Institute of Technology

10:30 AM Break

Fundamentals of Phase Transformations: Diffusion

Thursday AM — Room: Kachina
June 2, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:00 AM Invited
On the Coupling of Interface Migration and Diffusion: *Gary R. Purdy*[1]; Yves Brechet[2]; [1]McMaster University; [2]Institut National Polytechnique de Grenoble

11:30 AM Invited
Deviation from Local Equilibrium: *Mats H. Hillert*[1]; [1]Royal Institute of Technology

12:00 PM Invited
Effect of Chemical Stresses on Diffusion: *Sanboh Lee*[1]; Sun-Chien Ko[2]; [1]National Tsing Hua University; [2]ChungHwa Telecom Company

Phase Transformations in Novel Systems or Special Materials: Nano- and Constrained Systems Part III

Thursday AM — Room: Kiva
June 2, 2005 — Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
Thermodynamics of Small Clusters: *Ab Initio* Studies on Sodium, Tin and Gallium Clusters: *Dilip G. Kanhere*[1]; [1]Pune University

9:30 AM
Simulation Studies of Ordering Transitions in Alloy Nanoparticles: Bo Yang[1]; *Mark Asta*[1]; Oleg N. Mryasov[2]; T. Klemmer[2]; R. Chantrell[2]; [1]Northwestern University; [2]Seagate Research

9:45 AM
Structural Transformations in Nanocrystal Solid Solutions: *Guangping Zheng*[1]; [1]University of Hong Kong

10:00 AM
Thermodynamic Analysis of Precipitation in Nanosized Crystal: *Xu Zuyao*[1]; Meng Q. P.[1]; Rong Y.H.[1]; [1]Shanghai Jiao Tong University

10:15 AM
Grain Growth Study in Mechanosynthesized Nanocrystalline $Fe_{75}Si_{25}$: Thiru Sritharan[1]; Biao Zuo[1]; [1]Nanyang Technological University

10:30 AM Break

Phase Transformations in Novel Systems or Special Materials: Amorphous Alloys and Quasicrystals Part I

Thursday AM — Room: Kiva
June 2, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:00 AM Invited
The Importance of Local Structure and Chemistry on Glass Formation and Crystallization: *Kenneth F. Kelton*[1]; [1]Washington University

11:30 AM Invited
Quasicrystal and Glass Forming Ability in Early Transition Metal-Late Transition Metal Alloys: *Srinivasa Ranganathan*[1]; [1]Indian Institute of Science

12:00 PM Invited
Devitrification of the Fe-Mn-Cr-Mo-C-B Amorphous Steel: *Joseph Poon*[1]; Hsiang-Jen Wang[1]; Gary J. Shiflet[1]; [1]University of Virginia

Diffusional Transformations: Massive Transformation

Thursday AM — Room: Pueblo/Sonora
June 2, 2005 — Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
Progress in the Understanding of the Massive Transformation: *Vijay K. Vasudevan*[1]; [1]University of Cincinnati

9:30 AM Invited
Kinetics of Massive Transformation: *Eric Jan Mittemeijer*[1]; Ferdinand Sommer[1]; Yongchang Liu[1]; [1]Max Planck Institute for Metals Research

10:00 AM Invited
Multi-Lattice Kinetic Monte Carlo Atomistic Simulations of Interface Controlled Phase Transformations: *Cornelis Bos*[1]; Ferdinand Sommer[1]; Eric Jan Mittemeijer[1]; [1]Max Planck Institute for Metals Research

10:30 AM Break

Diffusional Transformations: Coarsening

Thursday AM — Room: Pueblo/Sonora
June 2, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:00 AM Invited
Coarsening in Topologically Complex Systems: Yong-Woo Kwon[1]; Katsuyo Thornton[2]; *Peter W. Voorhees*[1]; [1]Northwestern University; [2]University of Michigan

11:30 AM
High Resolution Electron Microscopy Investigation of Splitting Patterns in Ni Alloys: *Hector A. Calderon*[1]; Tsutomu Mori[2]; Gernot Kostorz[3]; Christian Kisielowski[4]; Lorenzo Calzado-Lopez[1]; [1]IPN; [2]University of Manchester; [3]ETH Zurich; [4]Lawrence Berkeley National Laboratory

11:45 AM
Coarsening of Nanoscale Coherent Precipitates in Ni-Al-Si Alloys: *Govindarajan Muralidharan*[1]; Steve Weber[2]; Michael J. Pollard[2]; Haydn Chen[2]; [1]Oak Ridge National Laboratory; [2]University of Illinois

12:00 PM
Precipitate Evolution and Coarsening Kinetics in Al-Sc-Zr Alloys: *Velimir Radmilovic*[1]; Alfredo Tolley; Ulrich Dahmen[1]; [1]National Center for Electron Microscopy

12:15 PM
Coarsening Process of Decomposed Phases in Cu-Ni-Cr Alloys: *Victor Manuel Lopez-Hirata*[1]; Felipe Hernandez-Santiago[1]; Maribel Leticia Saucedo-Muñoz[1]; Hector Javier Dorantes-Rosales[1]; [1]Instituto Politecnico Nacional

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Diffusional Transformations: Precipitation Part III

Thursday PM — Room: Mohave/Adobe/Arroyo
June 2, 2005 — Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
From Titanium to Titanium Hydrides: Transformation Paths, Orientation Relationships and Interface Planes: *Egle Conforto*[1]; Bjorn-Owe Aronsson[2]; Daniel Caillard[3]; [1]Ecole Polytechnique Fédérale de Lausanne, [2]University of Geneva; [3]CEMES/CNRS

2:30 PM
Nitride Precipitation and Ferrite-Austenite Phase Transformation Induced by Nitrogen Absorption in Fe-25Cr-Ti Alloy: *Toshihiro Tsuchiyama*[1]; Taishiro Fukumaru[1]; Hideyuki Hidaka[2]; Setsuo Takaki[1]; [1]Kyushu University; [2]NSK Ltd.

2:45 PM
Atom Probe Tomography and Analytical Transmission Electron Microscopy Investigation of Chromium Nitrides in a Nitrided Fe-5%Cr Alloy: *Raphaele Danoix*[1]; Frederic A.S. Danoix[2]; Laurent Legras[3]; Jacky Dulcy[4]; [1]Universityersité de Rouen; [2]CNRS Université de Rouen; [3]EDF R&D; [4]Ecole des Mines de Nancy

3:00 PM
Precipitation Behavior of (Mo) Phase on Dislocations in Mo_5SiB_2 Phase: *Nobuaki Sekido*[1]; Ridwan Sakidja[1]; John H. Perepezko[1]; [1]University of Wisconsin-Madison

3:15 PM
Effect of Si Addition on the Precipitation of Iron Carbide in Tempered High Carbon Martensite: *Goro Miyamoto*[1]; Tadashi Furuhara[1]; Tadashi Maki[1]; Jun Cheol Oh[2]; Kazuhiro Hono[2]; [1]Kyoto University; [2]National Institute for Materials Science

3:30 PM Break

Diffusional Transformations: Precipitation Part IV

Thursday PM Room: Mohave/Adobe/Arroyo
June 2, 2005 Location: Pointe Hilton Squaw Peak Resort

4:00 PM
Chemical Analysis for Cube Phase in Al-Mg-Si Alloy by EFTEM: *Kenji Matsuda*[1]; Yoshitaka Ishida[1]; Ilona Mullerova[2]; Ludek Frank[2]; Susumu Ikeno[1]; [1]Toyama University; [2]ASCR

4:15 PM
Interfacial Control of β-Phase Precipitation in Al-Mg Alloys: *Martin Strangwood*[1]; Yudie Yuan[1]; Alison Davenport[1]; [1]University of Birmingham

4:30 PM
Influence of Cold Work and Solutionising Temperature on Age Hardening Capability of Al-Mg-Mn Alloys with Small Cu and Si Additions: *Zhihua Zhu*[1]; Marco J. Starink[1]; [1]University of Southampton

4:45 PM
Precipitation Behavior During Aging in C-458 Al-Li Alloy: *Amrinder Singh Gill*[1]; Jixiong Han[1]; Krishnan K. Sankaran[2]; Daniel J. Evans[3]; Vijay K. Vasudevan[1]; [1]University of Cincinnati; [2]Boeing Company; [3]US Air Force

5:00 PM
Stress Aging and Precipitation Morphology in a Cu-1wt%Be Alloy Single Crystal: Tsutomu Seo[1]; Chihiro Watanabe[1]; *Ryoichi Monzen*[1]; [1]Kanazawa University

5:15 PM
Decomposition of High-Temperature α-Ti Phase Along the Pathway of α→β+γ in γ-TiAl Alloys: *Satoru Kobayashi*[1]; Masao Takeyama[2]; [1]Max-Planck-Institut für Eisenforschung; [2]Tokyo Institute of Technology

Fundamentals of Phase Transformations: Microstructural Evolution Part I

Thursday PM Room: Kachina
June 2, 2005 Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Structural Transformations in Solids: Theory and Modeling: *Armen Khachaturyan*[1]; Yongmei M. Jin[1]; [1]Rutgers University

2:30 PM Invited
Temporal Evolution of Microstructures on a Nanoscale: Experiments and Simulation: *David N. Seidman*[1]; Chantal K. Sudbrack[1]; Kevin E. Yoon[1]; Zugang Mao[1]; [1]Northwestern University

3:00 PM
Simulating Nucleation in Elastically Anisotropic Crystal of Arbitrary Microstructure: *Chen Shen*[1]; Jeff P. Simmons[2]; Yunzhi Wang[1]; [1]Ohio State University; [2]Air Force Research Laboratory

3:15 PM
Ferroelectric Phase Transitions and Domain Structure Evolution in Strained Thin Films – Thermodynamic Theory and Phase-Field Simulations: Y. L. Li[1]; K. J. Choi[2]; M. Biegalski[1]; A. Sharan[1]; V. Gopalan[1]; D. Schlom[1]; *Long Qing Chen*[1]; C. B. Eom[2]; [1]Pennsylvania State University; [2]University of Wisconsin-Madison

3:30 PM Break

Fundamentals of Phase Transformations: Microstructural Evolution Part II

Thursday PM
June 2, 2005

Room: Kachina
Location: Pointe Hilton Squaw Peak Resort

4:00 PM Invited
Zirconium Alloys: Ideal Systems for Studying Phase Transformations: *S. Banerjee*[1]; [1]Bhabha Atomic Research Centre

4:30 PM Invited
The Roles of Interfacial Junctions in Nucleation and Growth Processes: *Alexander H. King*[1]; [1]Purdue University

5:00 PM Invited
Entropy of Solid-Solid Phase Transformations: Contributions from Vibrational Dynamics: *Brent T. Fultz*[1]; [1]California Institute of Technology

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Phase Transformations in Novel Systems or Special Materials: Amorphous Alloys and Quasicrystals Part II

Thursday PM
June 2, 2005

Room: Kiva
Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Devitrification Routes to Nanostructures: *John H. Perepezko*[1]; Joseph Hamann[1]; Rainer J. Hebert[2]; Gerhard Wilde[2]; [1]University of Wisconsin; [2]Forschungszentrum Karlsruhe GmbH

2:30 PM Invited
Phase Separation and Nanocrystallization of Bulk-Forming Metallic Glasses: *Kazuhiro Hono*[1]; [1]National Institute for Materials Science

3:00 PM Invited
Formation of Two Glassy Phases by Phase Separation in (Ti, Zr)-Y-Al-Co Metallic Glasses: *Do Hyang Kim*[1]; Byung Joo Park[1]; [1]Yonsei University

3:30 PM Break

Phase Transformations in Novel Systems or Special Materials: Amorphous Alloys and Quasicrystals Part III

Thursday PM
June 2, 2005

Room: Kiva
Location: Pointe Hilton Squaw Peak Resort

4:00 PM
Kinetics of Crystallization and Hydrogenation Properties of Metastable Amorphous Phase in the Mg-Ni System: Vladimir Skripnyuk[1]; *Eli Buchman*[1]; Eugen Rabkin[1]; [1]Technion

4:15 PM
Deformation-Induced Crystallization Reactions in Amorphous $Al_{88}Y_7Fe_5$ Alloy: *Rainer J. Hebert*[1]; Nancy Boucharat[1]; John H. Perepezko[2]; Gerhard Wilde[1]; [1]Forschungszentrum Karlsruhe GmbH; [2]University of Wisconsin-Madison

4:30 PM
The Nanocrystallization Process of Al(fcc) in Amorphous $Al_{85}Ni_8Y_5Co_2$: *Heiko Nitsche*[1]; Ferdinand Sommer[1]; Eric Jan Mittemeijer[1]; [1]Max Planck Institute for Metals Research

4:45 PM
Mechanisms of Deformation-Assisted Nanocystallization in Al-Rich Metallic Glasses: Wenhui Jiang[1]; *Michael Atzmon*[1]; [1]University of Michigan

5:00 PM
Crystallization Studying of Ti-Zr-Ni-Cu-Be Amorphous Alloy: *Hsiang-Jen Wang*[1]; Faqiang Guo[1]; Xiaofeng Gu[1]; S. Joseph Poon[1]; G. J. Shiflet[1]; [1]University of Virginia

5:15 PM
Atom Probe Investigation of Nano Crystallites in an Amorphous $Al_{92}Sm_8$ Alloy: *Frederic A.S. Danoix*[1]; Thierry Gloriant[2]; A. Greer[3]; [1]CNRS Université de Rouen; [2]INSA de Rennes; [3]University of Cambridge

Diffusional Transformations: Driven Transformations Part I

Thursday PM
June 2, 2005

Room: Pueblo/Sonora
Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Kinetic Monte Carlo Simulations of Radiation Induced Segregation and Precipitation Phenomena: *Frederic Soisson*[1]; [1]CEA Saclay

2:30 PM
Cyclical Phase Transformations in Driven Systems: *Jong K. Lee*[1]; William C. Johnson[2]; [1]Michigan Technological University; [2]University of Virginia

2:45 PM
Nanoscale Patterning of L_{12} Chemical Order in Ni_3Al Thin Films Processed by Energetic Ions: *Jia Ye*[1]; Youhong Li[1]; Robert Averback[1]; Pascal M. Bellon[1]; Jian-Min Zuo[1]; [1]University of Illinois

3:00 PM
Phase Transformations Driven by Plastic Deformation and Their Interplay with Wear Regime Transitions in Copper Spinodal Alloy During Dry Sliding: *Jessica Weninger*[1]; Pascal M. Bellon[1]; [1]University of Illinois

3:15 PM
A High-Resolution Electron Microscope Study of Phase Transformation and Recrystallization in Two-Phase Titanium Aluminide Alloys: *Fritz Appel*[1]; [1]GKSS Research Centre Geesthacht

3:30 PM Break

Diffusional Transformations: Driven Transformations Part II

Thursday PM Room: Pueblo/Sonora
June 2, 2005 Location: Pointe Hilton Squaw Peak Resort

4:00 PM Invited
Nanoscale Patterning of Chemical Order and Composition in Alloys Driven by Irradiation: *Pascal M. Bellon*[1]; Jia Ye[1]; [1]University of Illinois

4:30 PM
Influence of External Fields on Ordering from fcc to $L1_0$: *Katsushi Tanaka*[1]; Tetsu Ichitsubo[2]; [1]Kagawa University; [2]Tohoku University

4:45 PM
Effects of High Magnetic Field on Diffusional Transformation Temperature and Structure in Fe-Based Alloys: *Hideyuki Ohtsuka*[1]; Xinjiang Hao[1]; [1]National Institute for Materials Science

5:00 PM
Investigation of Austenite Decompositions in High-Carbon High-Strength Fe-C-Si-Mn Steel Under 30 Tesla Magnetic Field: *Roger A. Jaramillo*[1]; Sudarsanam S. Babu[1]; Michael K. Miller[1]; Gerard M. Ludtka[1]; Roger A. Kisner[1]; John B. Wilgen[1]; Harry Bhadeshia[2]; [1]Oak Ridge National Laboratory; [2]University of Cambridge

5:15 PM
Bainite Formation Under Stress: *Xu Zuyao*[1]; [1]Shanghai Jiao Tong University

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Diffusional Transformations: Precipitation Part V

Friday AM Room: Mohave/Adobe/Arroyo
June 3, 2005 Location: Pointe Hilton Squaw Peak Resort

9:00 AM
Precipitations of Cubic γ' and Tetragonal γ" Ordered Phases in Disordered Ni-V-Al Alloys and the Morphology of Microstructures.: *Takao Kozakai*[1]; Keiichi Makino[1]; Tomokazu Moritani[1]; Minoru Doi[1]; [1]Nagoya Institute of Technology

9:15 AM
Effect of the Precipitate Morphology on the Phase Separation Behaviour of γ' Precipitate in a Ni-Al-Ti Alloy: *Tomokazu Moritani*[1]; Yoshitaka Nishikawa[1]; Takao Kozakai[1]; Minoru Doi[1]; [1]Nagoya Institute of Technology

9:30 AM
Evolution of Gamma Prime Phase During Creep in a Nickel Base Alloy: Kai Zhao[1]; Yonghui Ma[1]; Langhong Lou[1]; *Zhuangqi Hu*[1]; [1]Institute of Metal Research, Chinese Academy of Sciences

9:45 AM
Phase Transformations in Multicomponent Nb-Ti-Si-Cr-Al-X Alloys: Raghvendra Tewari[1]; Hyojin Song[1]; Amit Chatterjee[2]; *Vijay K. Vasudevan*[1]; [1]University of Cincinnati; [2]Rolls-Royce Corporation

10:00 AM
Precipitation Behavior in Advanced Boiler Materials for Ultrasupercritical Fossil-Fuel Powerplants: *Quanyan Wu*[1]; John P. Shingledecker[2]; Robert W. Swindeman[2]; Vijay K. Vasudevan[1]; [1]University of Cincinnati; [2]Oak Ridge National Laboratory

10:15 AM
Modelling and Characterization of Precipitates Formation and Transformations in Fe-Ni-Cr Reformer Tubes Alloys: *Johanne Laigo*[1]; Franck Tancret[2]; René Le Gall[2]; Jader Furtado[1]; [1]Air Liquide; [2]Polytech' Nantes

10:30 AM Break

Diffusional Transformations: Bainite and Diffusional-Displacive Transformations Part I

Friday AM — Room: Mohave/Adobe/Arroyo
June 3, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:00 AM Invited
Hard Bainite: *Harry Bhadeshia*[1]; [1]University of Cambridge

11:30 AM Invited
Bainite Formation Under Stress: T. Y. Hsu[1]; *Xu Zuyao*[1]; [1]Shanghai Jiao Tong University

12:00 PM
Research on Bainite Transformation in Steel: *Hong-Sheng Fang*[1]; [1]Tsinghua University

12:15 PM
Low Temperature Bainite: An Analysis at Atomic Level: *Francisca Garcia Caballero*[1]; Sudarsanam Suresh Babu[2]; Mike K. Miller[2]; Carlos Garcia-Mateo[1]; Carlos Garcia de Andrés[1]; [1]CENIM-CSIC; [2]Oak Ridge National Laboratory

Fundamentals of Phase Transformations: Interfaces

Friday AM — Room: Kachina
June 3, 2005 — Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
If Motion of Most Solid-Solid Interfaces Results in Shear, What are the Consequences?: *John W. Cahn*[1]; Yuri Mishin[2]; Akira Suzuki[2]; Jean E. Taylor[3]; [1]National Institute of Standards & Technology; [2]George Mason University; [3]New York University

9:30 AM Invited
Linear Features of Interfaces Between Crystalline Phases and Their Role on Phase Transformations: *Wenzheng Zhang*[1]; Xiaopeng Yang[1]; Fei Ye[1]; [1]Tsinghua University

10:00 AM
An Alternative Approach to Orientation Relationships in FCC/BCC Transformations: *Jian-Feng Nie*[1]; [1]Monash University

10:15 AM
Atomic Structure of Zr/ZrN Incoherent Interfaces: *Peng Li*[1]; James M. Howe[2]; William T. Reynolds, Jr.[3]; [1]Arizona State University; [2]University of Virginia; [3]Virginia Polytechnic Institute

10:30 AM Break

Displacive Transformations: Thermodynamics, Mechanism, Kinetics and Crystallography of Martensite Formation Part V

Friday AM — Room: Kachina
June 3, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:00 AM
Shock-Induced Twinning and Martensitic Transformation in Tantalum: *Luke L. Hsiung*[1]; [1]Lawrence Livermore National Laboratory

11:15 AM
Effects of Microstructure on Martensitic Transformation Mechanisms in a Cyclically Strained High Purity Austenitic Steel: *Jacques Stolarz*[1]; [1]Ecole des Mines

11:30 AM
Heterophase Fluctuation of Athermal Omega Phase in Cu-Zn System: *Hiroshi Kubo*[1]; Susan Farjami[2]; [1]Kanto Polytecnic University; [2]Tohoku University

Displacive Transformations: Shape Memory Alloys Part IV

Friday AM — Room: Kachina
June 3, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:45 AM
Martensitic Transformation and Thermomechanical Properties of Cu-Al-Ni Shape Memory Alloys: Alfonso Ibarra[1]; *Daniel Caillard*[2]; José San Juan[1]; Maria Luisa Nó[1]; [1]Universidad del Pais Vasco; [2]CNRS

12:00 PM
Fe-Cr-Ni-Mn-Si-N Shape Memory Alloys: *Bikas C. Maji*[1]; Madangopal Krishnan[1]; S. Banerjee[1]; [1]Bhabha Atomic Research Centre

12:15 PM
Evolution of VN Precipitate in Fe-Mn-Si-Cr Shape Memory Alloy: Hiroshi Kubo[1]; *Susan Farjami*[2]; [1]Kanto Polytecnic University; [2]Tohoku University

Phase Transformations in Novel Systems or Special Materials: Magnetic and Ferroic Materials

Friday AM — Room: Kiva
June 3, 2005 — Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
Electron Holography Studies of Magnetic Domains Near Phase Transformation Temperatures: *Yasukazu Murakami*[1]; Daisuke Shindo[1]; [1]Tohoku University

9:30 AM
Precise 278K Phase Transition Features in $BaTiO_3$: *Hironori Hiraoka*[1]; Akira Kojima[1]; Yukio Yoshimura[2]; Hiroshi Iwasaki[2]; Ken-ichi Tozaki[3]; [1]University of Shiga Prefecture; [2]Ritsumeikan University; [3]Chiba University

9:45 AM
The Influence of Grain Interfaces on the Ferro-Paramagnetic Phase Transition of Nanocrystalline Gadolinium: *Rainer Birringer*[1]; Daniel Michels; Carl Emil Krill, III[2]; [1]Saarland University; [2]University of Ulm

10:00 AM
Diffuse Phase Transformation and Polarization Offset in Graded Ferroelectric Materials: *Pamir S. Alpay*[1]; Shan Zhong[1]; Joseph V. Mantese[2]; [1]University of Connecticut; [2]Delphi Research Laboratories

10:15 AM
Modeling of Magnetic Tweed-Like Prescursor Modulations in Ferroic Materials: *Teresa Castan*[1]; Marcel Porta[1]; Antoni Planes[1]; Avadh Saxena[2]; [1]Universitat de Barcelona; [2]Los Alamos National Laboratory

10:30 AM Break

Phase Transformations in Novel Systems or Special Materials: Ceramics and Compounds Part I

Friday AM — Room: Kiva
June 3, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:00 AM Invited
In Situ, in Air, High Temperature Study of Phase Transformations in Ceramics: *W. M. Kriven*[1]; P. Sarin[1]; K. Jurkschat[1]; L. F. Siah[1]; [1]University of Illinois

11:30 AM Invited
The Concept of Metadislocations in Complex Metallic Alloys: *Michael Feuerbacher*[1]; [1]Forschungszentrum Juelich GmbH

12:00 PM Invited
Cubic-to-Tetragonal Phase Transition in Zirconia: *Taketo Sakuma*[1]; [1]Institution for Academic Degrees and University Evaluation

Experimental Approaches to the Study of Phase Transformations: Novel Methods Part I

Friday AM — Room: Pueblo/Sonora
June 3, 2005 — Location: Pointe Hilton Squaw Peak Resort

9:00 AM Invited
Confocal Scanning Laser Microscopy Studies of Austenite Formation and Decomposition in Steels: *Sridhar Seetharaman*[1]; Eric Schmidt[1]; [1]Carnegie Mellon University

9:30 AM Invited
In-Situ SEM Studies of the HCP to BCC Transformations in Titanium: *David John Prior*[1]; Gareth Seward[2]; Steven Celotto[1]; Bob Pond[1]; John Wheeler[1]; [1]University of Liverpool; [2]CORUS UK

10:00 AM Invited
Three Dimensional Analysis of Phase Transformations in Ferrous Alloys: *George Spanos*[1]; David J. Rowenhorst[2]; [1]Naval Research Laboratory; [2]National Research Council

10:30 AM Break

Experimental Approaches to the Study of Phase Transformations: Novel Methods Part II

Friday AM — Room: Pueblo/Sonora
June 3, 2005 — Location: Pointe Hilton Squaw Peak Resort

11:00 AM
Dynamic Orientation Imaging of Phase Transformations: Matthew M. Nowell[1]; *Stuart I. Wright*[1]; [1]EDAX-TSL

11:15 AM
In-Situ Investigation of Transformation Textures in Microalloyed Steels: *Ingo Lischewski*[1]; Günter Gottstein[1]; [1]Institut für Metallkunde und Metallphysik

11:30 AM
Applicability of the Bain, Kurdjumov-Sachs, Nishiyama-Wassermann, Greninger-Troiano and Pitsch Relations to Transformations in the Gibeon Meteorite and in a TRIP Steel: *John J. Jonas*[1]; Youliang He[1]; Stephane Godet[1]; [1]McGill University

11:45 AM
DSC Study of the Asymmetric γ - δ Transformation in Pu and its Influence on the β - α Transformation: *Daniel S. Schwartz*[1]; Thomas G. Zocco[1]; [1]Los Alamos National Laboratory

12:00 PM
Excited State Dynamics of VO_2 During Ultrafast Semiconductor-to-Metal Phase Transitions: *Sergiy Lysenko*[1]; Huimin Liu[1]; Armando Rua[1]; Felix Fernandes[1]; [1]University of Puerto Rico

12:15 PM
Characterisation of the Phase Transformations in a Two Phase β-Metastable Titanium Alloy: *Nicolas Clément*[1]; Astrid Lenain[1]; Muriel Veron[2]; Pascal Jacques[1]; [1]Université Catholique de Louvain; [2]LTPCM - Groupe Physique du Métal

Diffusional Transformations: Bainite and Diffusional-Displacive Transformations Part II

Friday PM — Room: Mohave/Adobe/Arroyo
June 3, 2005 — Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Diffusional-Displacive Phase Transformations: The Anatomy of a Confusing Idea: Hubert I. Aaronson[1]; [1]Carnegie Mellon University

2:30 PM
Coherent Formation of Plate-Like Tau-MnAl-C: *Alla S. Sologubenko*[1]; Peter Müllner[2]; Bernd Schönfeld[3]; Gernot Kostorz[3]; [1]ETH Zürich ; [2]Boise State University; [3]ETH Zürich

2:45 PM
Hybrid Diffusional-Displacive Transformation in Manganese-Aluminum-Base Alloys: William A. Soffa[1]; *Jorg M.K. Wiezorek*[2]; Cagatay Yanar[3]; Velimir R. Radmilovic[4]; [1]University of Virginia; [2]University of Pittsburgh; [3]Alcoa; [4]NCEM/LBL

3:00 PM
Combined Displacive/Replacive Transformations in Titanium Alloys and Titanium Aluminides – Implications on TTT and CCT Curves: *Michael J. Kaufman*[1]; Yin Kuang[2]; James D. Cotton[3]; [1]University of North Texas; [2]University of Florida; [3]Boeing Company

3:15 PM
Low Temperature Phase Instability of the Gsamma Phase in InSn Alloys: An Application of the Third Law of Thermodynamics: Shaoyan Chu[1]; Cagatay Yanar[2]; Adam Schwartz[3]; Thaddeus B. Massalski[1]; *David E. Laughlin*[1]; [1]Carnegie Mellon University; [2]ALCOA Technical Center; [3]Lawrence Livermore National Laboratory

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Phase Transformations in Novel Systems or Special Materials: Ceramics and Compounds Part II

Friday PM — Room: Kachina
June 3, 2005 — Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Grain Boundary Atomic Structures and Properties in Oxide Ceramics: *Y. Ikuhara*[1]; N. Shibata[1]; K. Matsunaga[1]; T. Yamamoto[1]; [1]University of Tokyo

2:30 PM
The C14-to-C15 Transformation in Laves Phases: *K. Sharvan Kumar*[1]; Matthew F. Chisholm[2]; Peter M. Hazzledine[3]; [1]Brown University; [2]Oak Ridge National Laboratory; [3]UES, Inc

2:45 PM
Metadislocations in the Complex Metallic Alloys ξ´- and Ψ-Al-Pd-Mn: Phase Boundaries, Reactions and Networks: *Marc Heggen*[1]; Michael Feuerbacher[1]; [1]Forschungszentrum Juelich GmbH

3:00 PM
High Temperature Phase Transformations in Tantalum Pentoxide: *P. Sarin*[1]; W. M. Kriven[1]; [1]University of Illinois

3:15 PM
Phase Transformations in Transition Metal Oxides Cathodes in Li-Ion Batteries: *Heike Gabrisch*[1]; Rachid Yazami[2]; [1]University of New Orleans; [2]California Institute of Technology

Phase Transformations in Novel Systems or Special Materials: Semiconductors

Friday PM
June 3, 2005

Room: Kiva
Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Phase Separation and Atomic Ordering in Mixed III-V Layers: *Subhash Mahajan*[1]; [1]Arizona State University

2:30 PM Invited
Phase Transformations and Defect Structures in Some Semiconducting Silicides: *Haruyuki Inui*[1]; [1]Kyoto University

3:00 PM Invited
The Dependence of Solid-State Solubility in Binary Semiconductors on Size of Isolated Nanoparticles: *William A. Jesser*[1]; D. S. Shrider[1]; C. T. Schamp[1]; [1]University of Virginia

Phase Transformations in Novel Systems or Special Materials: Soft Materials

Friday PM
June 3, 2005

Room: Pueblo/Sonora
Location: Pointe Hilton Squaw Peak Resort

2:00 PM Invited
Transformations of Pharmaceutical Compounds by Mechanical Activation: *Descamps Marc*[1]; Willart Jean François[1]; [1]University Lille

2:30 PM Invited
Molecular Biomimetics: Formation of Inorganics Using Proteins: *Mehmet Sarikaya*[1]; [1]University of Washington

3:00 PM Invited
Complex Nanocomposites for Bone Regeneration: *Antoni P. Tomsia*[1]; [1]Lawrence Berkeley National Laboratory

Computer Approaches to Simulation of Phase Transformations: Posters

Monday PM
May 30, 2005

Room: Navajo
Location: Pointe Hilton Squaw Peak Resort

8:00 PM – 10:00PM

First Principle Calculations of Nucleation Free Energy Change for bcc Cu Precipitates in Fe-Cu Systems: *Shigeto Robert Nishitani*[1]; [1]Kwansei Gakuin University

An Electronic Structure Perspective of Effect of Ternary Additions on the Phase Reactions in Ni_3Mo-Based Alloys: Ashok K. Arya[1]; *Gautam K. Dey*[1]; Vijay K. Vasudevan[2]; Srikumar Banerjee[1]; [1]Bhabha Atomic Research Center; [2]University of Cincinnati

Electron Structure and Phase Transformations of Al_2Cu in Al-Cu Alloy: *Gao Yingjun*[1]; [1]Guangxi University

Phase-Field Simulation of Sintering – A Vacancy Diffusion Approach: *Klara Asp*[1]; John Ågren[1]; [1]Royal Institute of Technology

Phase Field Simulation of Precipitate Microstructure Evolution in Ni-Al-Mo Superalloys: *Tao Wang*[1]; Jingzhi Zhu[1]; Zi-Kui Liu[1]; Long Qing Chen[1]; [1]Pennsylvania State University

Three-Dimensional Phase-Field Simulation of Coarsening Following Spinodal Decomposition: *Yongwoo Kwon*[1]; Katsuyo Thorton[2]; Peter W. Voorhees[1]; [1]Northwestern University; [2]University of Michigan

A Phase Field Study of Microstructural Evolution in Elastically Inhomogeneous Systems: *Mogadalai Panduragan Gururajan*[1]; Thennathur A. Abinandanan[1]; [1]Indian Institute of Science

On the Interaction Between a Transient Solute Concentration at a Moving Grain Boundary, Precipitates and Abnormal Grain Growth: *Koenraad G. F. Janssens*[1]; Elizabeth A. Holm[1]; Ernst Kozeschnik[2]; [1]Sandia National Laboratories; [2]Graz University of Technology

Influence of Kinetics on Composition Segregation in Heteroepitaxial Islands: *Ramanarayan Hariharaputran*[1]; Vivek B. Shenoy[1]; [1]Brown University

Multi-Phase Field Simulation of Cooperative Growth of Pearlite: *Katsumi Nakajima*[1]; Markus Apel[2]; Ingo Steinbach[2]; [1]JFE Steel Corporation; [2]RWTH-Aachen

Simulation of Microstructure During α_2 to O Transformation in Ti-Al-Nb Alloy Under Applied Strain by Phase Field Approach: *Wei Guo*[1]; Yaping Zong[1]; Gang Wang[1]; Liang Zuo[1]; [1]Northeastern University

Modeling and Simulation of Deformation Pattern Evolution During Stress-Induced Phase Transition in NiTi Microtubing: *YongJun He*[1]; QingPing Sun[1]; [1]Hong Kong University of Science and Technology

Simulation of γ' Precipitation in Ni-Base Superalloys by the Implementation of Differential Equations in a Finite Element Code: *Florent Fournier dit Chabert*[1]; René Le Gall[1]; Franck Tancret[1]; Justine Menuey[2]; [1]Polytech' Nantes; [2]Snecma Services

Atomic Simulation of Pipe Diffusion in an Aluminium Alloy: *Emmanuel Jannot*[1]; Guenter Gottstein[1]; Barend Thijsse[2]; [1]Institute für Metallkunde und Metallphysik; [2]TU Delft

Modeling the Kinetics of Phase Transformations in an Advanced High-Strength Mo-TRIP Steel: *Fateh Fazeli*[1]; Matthias Militzer[1]; [1]University of British Columbia

A Computer Model of the Kinetics of Austenitisation of Fe-C-Mn Steels: Philippe Maugis[1]; Mohamed Gouné[1]; Josée Drillet1; [1]Arcelor Research

Microstructural Development During Friction Stir Welding (FSW) of Work Hardenable Al-Mg Alloys: *Moataz Attallah*[1]; Claire Davis[1]; Martin Strangwood[1]; [1]University of Birmingham

A Mathematical Model for Dissolution and Precipitate Growth; Application to Cementite Dissolution in Steel: *Fred Johannes Vermolen*[1]; Lie Zhao[2]; Jilt Sietsma[1]; Kees Vuik[1]; [1]Delft University; [2]Netherlands Institute for Metals Research

Modeling Phase Transformations of Ni-Cr-Mo Alloys: *Yi-Ming Pan*[1]; Darrell Scott Dunn[1]; [1]CNWRA, Southwest Research Institute

Neural Network Modeling for the Prediction of Bainite and Martensite Start Temperature in Steels: *Carlos Garcia-Mateo*[1]; Thomas Sourmail[2]; Francisca Garcia Caballero[1]; Carlos Capdevila Montes[1]; Carlos Garcia de Andres[1]; [1]CENIM-CSIC; [2]Cambridge University

Modeling the Microstructure Evolution During Repeated Thermal Cycling of Ti-6Al-4V: *Shawn M. Kelly*[1]; Sudarsanam S. Babu[2]; Thomas Zacharia[2]; Stan A. David[2]; Stephen Kampe[3]; [1]Applied Research Laboratory - Pennsylvania State University; [2]Oak Ridge National Laboratory; [3]Virginia Polytechnic University

Nonadiabatic Behavior of Metastable Systems: Application to Ferroelectrics: *Eriks Klotins*[1]; [1]Institute of Solid State Physics University of Latvia

Diffusional Transformations: Posters Part I

Monday PM — Room: Navajo
May 30, 2005 — Location: Pointe Hilton Squaw Peak Resort

8:00 PM – 10:00PM

Thermodynamic Extremal Principle and Modeling of Solid-Solid Phase Transformations: *Jiri Svoboda*[1]; Franz D. Fischer[2]; [1]Academy of Sciences of the Czech Republic; [2]University of Leoben

Nucleation of S Phase on Dislocation Loops in Al-Cu-Mg Alloys: Graham B. Winkelman[1]; Raviprasad Krishnamurthy[2]; *Barry C. Muddle*[2]; [1]University of Oxford; [2]Monash University; [3]Monash University

Solute Distribution and Clustering During Ageing of Al-Cu-xMg Alloys and its Influence on the Rapid Hardening Mechanism: Ross W.K. Marceau[1]; Jean-Paul Mornirolli[2]; Vicki J Keast[1]; Simon Peter Ringer[1]; [1]University of Sydney; [2]University of Lille

***In situ* Transformation of θ-MnNi Intermetallics to Austenite During Aging of a Fe-Mn-Ni Alloy:** *Yoon-Uk Heo*[1]; Mi-Young Kim[1]; Hu-Chul Lee[1]; [1]Seoul National University

Crystallography of Textures in Thin Films on Single Crystal Substrates: *Ming-Xing Zhang*[1]; Patrick M. Kelly[1]; Christophe Detavernier[2]; [1]University of Queensland; [2]Ghent University

Crystallography of Ferrite-Austenite Phase Transformation Induced by Nitrogen Absorption in Fe-25Cr Alloy: *Yuichi Futamura*[1]; Tomohiro Ando[1]; Toshihiro Tsuchiyama[1]; Setsuo Takaki[1]; [1]Kyushu University

A Study of the Crystallographic Relationships Between Taenite and Kamacite in the Gibeon Meteorite: *Youliang He*[1]; Stéphane Godet[1]; Pascal J. Jacques[2]; John J. Jonas[1]; [1]McGill University; [2]Univsersité catholique de Louvain

Effect of Lamellar Boundary Microstructure on Lamellar Structure Formation in TiAl Alloy: *Kouichi Maruyama*[1]; Hanliang Zhu[1]; Masao Takeyama[2]; [1]Tohoku University; [2]Tokyo Institute of Technology

Austenite-to-Ferrite Transformation of Plain Low Carbon Steel During Deformation Within a (gamma + alpha) Two-Phase Field: *Joong Keun Park*[1]; Soon Young Ok[1]; Kwan Ho Kim[1]; [1]Korea Advanced Institute of Science & Technology

Microstructure Refinement of TiAlCr Alloy by Combined Cyclic Heat Treatment and Hot Deformation: Mahmod Nili-ahmadabadi[1]; Hasan Ghasemi[1]; Said Heshmatimanesh[1]; Hasan Ghasemi[1]; [1]University of Tehran

Dendritic Morphology of γ Precipitates Growing in a β Matrix: *María Luján Castro*[1]; Osvaldo Fornaro[1]; [1]IFIMAT - CONICET

Precipitate Morphology Investigated by the FEM Analysis Based on the 3D-NCS Model in the BCC/HCP System: *Naoki Miyano*[1]; Kei Ameyama[2]; Yoshihiro Takao[1]; [1]Kyushu University; [2]Ritsumeikan University

The Phase Transformation Caused by Corrosion Degradation of Ternary and Quaternary gamma-TiAl-Based Alloys in SO_2 Atmosphere: *Aleksander Gil*[1]; Zbigniew Zurek[2]; Bogdan Sulikowski[3]; Adam Stawiarski[2]; Adam Kuc[1]; Joanna Zurek[4]; [1]University of Science and Technology; [2]Cracow University of Technology; [3]Institute of Catalysis and Surface Chemistry; [4]Forschungszentrum GmbH Juelich

Phase Transformations of $A1 \rightarrow D0_{22}$ in Ni-V Binary Alloys: Akane Suzuki[1]; *Masao Takeyama*[2]; [1]University of Michigan; [2]Tokyo Institute of Technology

TEM Study on the Order-Disorder Transition of Cr_2N Precipitate in High-Nitrogen Austenitic Steel: Tae-Ho Lee[1]; Chang-Seok Oh[1]; Chang Gil Lee[1]; Sung-Joon Kim[1]; *Setsuo Takaki*[2]; [1]Korea Institute of Machinery & Materials; [2]Kyushu University

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Diffusional Transformations: Posters Part III

Monday PM — Room: Navajo
May 30, 2005 — Location: Pointe Hilton Squaw Peak Resort

8:00 PM – 10:00PM

Texture Development Through the Heat Affected Zone of Sheet Metals: *Tracey Holmes*[1]; Martin Strangwood[1]; Claire Davis[1]; Yong Jun Wang[1]; [1]University of Birmingham

Bimodal Grain Structure Development During Reheating of Rolled High Strength Low Alloy Steels: Claire Davis; *Debalay Chakrabarti*[1]; Martin Strangwood[1]; [1]University of Birmingham

Recrystallization in High Purity Polycrystalline Magnesium During Cold Rolling: *Atsushi Yamamoto*[1]; Masahiro Jotoku[1]; Harushige Tsubakino[1]; [1]Himeji Institute of Technology

Influence of Finishing Rolling Temperature on Recrystallization of Electrical Steels: *Carlos Capdevila-montes*[1]; Juan Pablo Ferrer-Alcalde[1]; Carlos Garcia de Andrés[1]; [1]Centro Nacional de Investigacines Metalurgicas (CENIM-CSIC)

Discontinuous Precipitation in Cu-4mass%-0.95mass%Si Alloy: *Chihiro Watanabe*[1]; Hisakazu Aotsuka[1]; Ryoichi Monzen[1]; [1]Kanazawa University

Discontinuous Precipitation in a Cu-5.7wt%Ag Single Crystal: *Ryoichi Monzen*[1]; Chihiro Watanabe[1]; [1]Kanazawa University

Displacive Transformations: Posters

Monday PM
May 30, 2005

Room: Navajo
Location: Pointe Hilton Squaw Peak Resort

8:00 PM – 10:00PM

Growth and Morphology of Martensite Formed from Recrystallised or Work-Hardened Austenite: *Araz Ardehali Barani*[1]; Stefan Zaefferer[1]; Dirk Ponge[1]; [1]Max-Planck-Institut für Eisenforschung

The Nucleation and Growth Rates of Acicular Ferrite: *Martin Strangwood*[1]; [1]University of Birmingham

Orientation Relationships and Variant Selection During the γ-to-α_b Transformation in a Hot-Rolled TRIP Steel: *Stephane Godet*[1]; Youliang He[1]; Pascal Jacques[2]; John J. Jonas[1]; [1]McGill University; [2]Université Catholique de Louvain

Time-Dependent Martensitic Transformation Under Constant Stress in TRIP Steel, A Novel Phenomenon?: *Lie Zhao*[1]; B. Mainfroy[1]; M. Janssen[2]; N. Geerlofs[2]; J. Sietsma[2]; [1]NIMR; [2]Delft University of Technology

The Effect of Temperature on the Fatigue-Induced Phase Development in a Cobalt-Based Superalloy: *Michael Lee Benson*[1]; Peter K. Liaw[1]; Hahn Choo[1]; Edward Oliver[2]; Don Brown[3]; Mark Daymond[4]; Tarik Saleh[1]; Xun-Li Wang[5]; Alexandru Stoica[5]; Raymond Buchanan[1]; Dwaine Klarstrom[6]; [1]University of Tennessee; [2]Rutherford-Appleton Laboratory; [3]Los Alamos National Laboratory; [4]Queen's University; [5]Oak Ridge National Laboratory; [6]Haynes International, Inc.

Fermi Surface as a Driver for the Shape-Memory Effect in AuZn: J. C. Lashley[1]; R. D. McDonald[1]; J. Singleton[1]; P. A. Goddard[1]; F. Drymiotis[1]; N. Harrison[1]; H. Harima[2]; M.-T. Suzuki[2]; A. Migliori[2]; A. Saxena[2]; T. W. Darling[1]; D. S. Lieberman1; J. L. Smith[1]; [1]Los Alamos National Laboratory; [2]ISIR Osaka University

Hydrogen in TiNi: Structural and Diffusional Effects: *Alan R. Pelton*[1]; Christine Trépanier[2]; Xiao-Yan Gong[2]; Amanda Runciman[3]; Katherine C. Chen[3]; [1]NDC; [2]Nitinol Devices & Components; [3]California Polytechnic University

Oxidation-Induced Phase Transitions in TiNi: *Alan R. Pelton*[1]; Lucy Zhu[1]; Christine Trépanier[1]; Jennifer Fino[1]; Valentina Imbeni[2]; Apurva Mehta[3]; [1]NDC; [2]SRI International; [3]SSRL/SLAC

Effect of Heat Treatment Conditions on Multistage R and Martensitic Transformations in Aged Ni-Rich Ti-Ni Alloys: *Minoru Nishida*[1]; Yasuhiro Morizono[1]; Kousuke Fujishima[1]; Ken-taro Ishiuchi[1]; [1]Kumamoto University

Effect of Austenite Deformation on the Precipitation Behaviour of SiCr Spring Steels During Tempering: Araz Ardehali Barani[1]; *Dirk Ponge*[1]; [1]Max-Planck-Institute für Eisenforschung

The Action of Carbon in the Process of Lower Banitic Transformation in Silicon Containing Steel: *Zhang Xi Yan*[1]; [1]Guangxi University

Diffusional Transformations: Posters Part II

Thursday PM
June 2, 2005

Room: Navajo
Location: Pointe Hilton Squaw Peak Resort

8:00 PM – 10:00PM

Dilatometric Study and Modeling of the Kinetics of the β to α+β Transformation in a Ti-4.5Fe-6.8Mo-1.5Al Alloy: *Stefan van Bohemen*[1]; Menno van der Laars[1]; Jilt Sietsma[1]; Sybrand van der Zwaag[1]; [1]Delft University of Technology

Temporal Evolution of Cu Precipitates and Their Interaction with Ni and Al Additions in High-Strength Low-Carbon Steels: *Dieter Isheim*[1]; Morris E. Fine[1]; David N. Seidman[1]; [1]Northwestern University

Carbon Enrichment of Austenite and Carbide Precipitation During the Quenching and Partitioning (Q&P) Process: *Fernando Rizzo Assuncao*[1]; David V. Edmonds[2]; Kejian He[2]; John G. Speer[3]; David K. Matlock[3]; [1]Catholic University; [2]University of Leeds; [3]Colorado School of Mines

Carbides Precipitation in Mo and C Doped Fe_3Al-Based Alloys: *Satoru Kobayashi*[1]; Stefan Zaefferer[1]; André Schneider[1]; Dierk Raabe[1]; Georg Frommeyer[1]; [1]Max-Planck-Institut für Eisenforschung

Precipitation and its Effect on the Creep Properties of Certain Cast H-Series Austenitic Stainless Steels: *Govindarajan Muralidharan*[1]; Neal D. Evans[1]; Philip J. Maziasz[1]; Michael L. Santella[1]; Ken C. Liu[1]; James G. Hemrick[1]; Vinod K. Sikka[1]; Roman I. Pankiw[2]; [1]Oak Ridge National Laboratory; [2]Duraloy Technologies

Correlation Between Microstructure and Tensile Properties of a Fe-Ni-Mn Maraging Alloy During Isothermal Aging: *Syamak Hossein Nedjad*[1]; Mahmoud Nili Ahmadabadi[1]; Reza Mahmudi[1]; Tadashi Furuhara[2]; Hassan Farhangi[1]; Tadashi Maki[2]; [1]University of Tehran; [2]Kyoto University

Effect of Cu Addition on Microstructure and Mechanical Properties in 9%Ni Steels: *Nobuo Nakada*[1]; Junaidi Syarif[1]; Toshihiro Tsuchiyama[1]; Setsuo Takaki[1]; [1]Kyushu University

Nitrogen Induced α′; to γ″; Transformation During Mechanical Alloying of Fe-18%Cr-11%Mn Powder Mixtures: *Hugo F. Lopez*[1]; Maria del Mar Cisneros[2]; Hector Mancha[3]; [1]University of Wisconsin; [2]Instituto Tecnológico de Saltillos; [3]Cinvestav-Saltillo

The Kinetic of Bainitic Transformation in Low Alloy Steel with Different C and Si Content: Mahmod Nili-ahmadabadi1; 1University of Tehran

Effect of Fe Addition on the Continuous Cooling ß-to-α Transformation Behaviors of Commercially-Pure Ti: *Seung Hwan Chon*[1]; Joong Keun Park[1]; [1]Korea Advanced Institute of Science and Technology

The Behaviour of δ Ferrite During Quench, in an Industrial Ferritic Stainless Steel Containing 11% Cr: *Béchir Chéhab*[1]; Yves Bréchet[1]; Muriel Véron[1]; Jean-Christophe Glez[2]; [1]LTPCM; [2]UGINE&ALZ R-C

Hexagonal ε-Martensite Transformation in Co-27Cr-5Mo-C Alloys Under Isothermal Conditions: *Hugo F. Lopez*[1]; Armando Saldivar[2]; [1]University of Wisconsin; [2]Instituto Tecnológico de Saltillo

Diffusional Transformations: Posters Part IV

Thursday PM
June 2, 2005

Room: Navajo
Location: Pointe Hilton Squaw Peak Resort

8:00 PM – 10:00PM

Mechanism for Beneficial Effect of Boron Addition on Creep Resistance of 9-12% Chromium Steels: *Ardeshir Golpayegani*[1]; Hans-Olof Andrén[1]; [1]Chalmers University of Technology

Phase Transformations During Service Aging of Ni-Based Superalloy Pyromet31V: *Neal D. Evans*[1]; Philip J. Maziasz[1]; John J. Truhan[1]; [1]Oak Ridge National Laboratory

TEM Observations of the Split Phenomenon in Elastically Constrained Alloys Containing Many Coherent Precipitates: *Minoru Doi*[1]; Tomokazu Moritani[1]; Takao Kozakai[1]; [1]Nagoya Institute of Technology

Chemical Mixing and Growth Behavior of Ag and Au Nanocrystal Mixtures: *Thomas Mullarkey Murray*[1]; James M. Howe[2]; [1]University of Washington; [2]University of Virginia

Microstructure of a Mechanically Alloyed Al-Fe-V-Si Alloy: *Francisco Ambrozio Filho*[1]; Rodrigo Estevam Coelho[2]; [1]IPEN; [2]Centro Federal de Educação Tecnológica da Bahia

Investigation of Phase Transformation Kinetics and Microstructural Evolution in 1045 and 52100 Steel Under Large Magnetic Fields: *Roger A. Jaramillo*[1]; Gerard M. Ludtka[1]; Roger A. Kisner[1]; Don M. Nicholson[1]; John B. Wilgen[1]; Gail Mackiewicz-Ludtka[1]; Nicholas Bembridge[2]; Peter N. Kalu[2]; [1]Oak Ridge National Laboratory; [2]FAMU-FSU

Coarsening of Al_3Sc Particles in an Al-Mg-Sc Alloy: *Chihiro Watanabe*[1]; Daizen Watanbe[1]; Ryoichi Monzen[1]; [1]Kanazawa University

Effect of Applied Stress on the Ferrite Transformation Behavior of a Low Carbon Steel: *Joo-Hee Kang*[1]; Shiro Torizuka[2]; Kotobu Nagai[2]; Hu-Chul Lee[1]; [1]Seoul National University; [2]National Institute for Materials Science

Phase Transformations in High Strength Austenitic FeMnCr Steel: *Lieven Bracke*[1]; Bruno C. De Cooman[1]; Nuri Akdut[2]; Martin Liebeherr[2]; [1]Ghent University; [2]Arcelor Group

Effects of High Magnetic Field on Bainitic Transfromation Behavior and Structure in Fe-Based Alloys: *Hideyuki Ohtsuka*[1]; [1]National Institute for Materials Science

The Effect of the Deformation Geometry on the Austenite-Ferrite Phase Transformation in Low-Carbon Steel: *Yvonne van Leeuwen*[1]; Jilt Sietsma[2]; [1]Netherlands Institute for Metals Research; [2]Delft University of Technology

Experimental Approaches to the Study of Phase Transformations: Posters

Thursday PM
June 2, 2005

Room: Navajo
Location: Pointe Hilton Squaw Peak Resort

8:00 PM – 10:00PM

Strain Fields Around Coherent Particles in Ni Alloys Before and During Rafting: *Hector A. Calderon*[1]; Jose Antonio Iran Diaz-Gongora[1]; Lorenzo Calzado-Lopez[1]; Nicole Clement[2]; Christian Kisielowski[3]; [1]IPN; [2]CNRS; [3]Lawrence Berkeley National Laboratory

Analytical Electron Microscopy of Reaction Ball-Milled Y-Ni-O Nanostructures: *James Bentley*[1]; David T. Hoelzer[1]; Laurent Chaffron[2]; [1]ORNL; [2]CEA Saclay

Disorder, Diffusion Path and Phase Transformation of Ionic Conductors in Ceramic Systems: *Masatomo Yashima*[1]; [1]Tokyo Institute of Technology

Contribution to the Kinetics Study of the Zinc Ferrite Formation: *Mery Cecilia Marroquín*; [1]PUC-RJ

Kinetics and Microstructural Evolution of Isothermal Bainitic Transformation: *Natalia Luzginova*[1]; Lie Zhao[1]; Jilt Sietsma[2]; [1]Netherlands Institute for Metal Research, Delft University of Technology; [2]Delft University of Technology

Formation of hcp-Ni by Mechanically Induced Solid Dissolving of Carbon Atoms: *Kazuto Tokumitsu*[1]; Ryouichi Yamamoto[1]; [1]Tokyo University

Magnetic Structure Change from an Uniaxial to a Planer Ferromagnetism in Layered Perovskite Manganite $La_{2-2x}Sr_{1+2x}Mn_2O_7$ ($0.313 \leq x \leq 0.350$): *Takeshi Murata*[1]; Tomoyuki Terai[1]; Takashi Fukuda[1]; Tomoyuki Kakeshita[1]; [1]Osaka University

Effect of Magnetic Field on α-γ Equilibrium Temperature of Pure Fe: *Tomoyuki Terai*[1]; Hajime Miyauchi[1]; Takashi Fukuda[1]; Tomoyuki Kakeshita[1]; [1]Osaka University

Application of Jominy End Quench Approach for the Development of Quench Factor Analysis and Microstructure Prediction of Cast Al-Si-Mg Alloys: *Shuhui Ma*[1]; Md. Maniruzzaman[1]; R. D. Sisson, Jr.[1]; [1]Worcester Polytechnic Institute

Thermal Decomposition of Attrition-Milled Kyanite: *Heberto Balmori*[1]; Richard C. Bradt[2]; [1]National Polytechnic Institute; [2]University of Alabama

Grain Refinement in AZ31 and AM60 Magnesium Alloys by a Repeated Severe Bending Hot-Press Technique: *Atsushi Yamamoto*[1]; Junnya Okuda[1]; Harushige Tsubakino[1]; [1]University of Hyogo

Structures and Magnetic Properties of High Carbon Concentration Fe Powders Prepared by Gas Atomization: *Kazuto Tokumitsu*[1]; Ryouichi Yamamoto[1]; [1]Tokyo University

The Effect of Reformed Shape of the Iron-Rich Phase on Electromagnetic Separation: Haijun Yu[1]; *Guangchun Yao*[1]; [1] Northeastern University

Fundamentals of Phase Transformations: Posters

Thursday PM
June 2, 2005

Room: Navajo
Location: Pointe Hilton Squaw Peak Resort

8:00 PM – 10:00PM

On the Details of the Diffusion Mechanism as a Selection Process for a Nucleation, Growth and Coarsening Pathway in Multicomponent Concentrated Alloys: *Zugang Mao*[1]; Chantal K. Sudbrack[1]; Kevin E. Yoon[1]; Georges P. Martin[2]; David N. Seidman[1]; [1]Northwestern University; [2]Commissariat à l'Énergie Atomique

On the Choice of Chemical Composition in Multi-Component Precipitate Nucleation: *Ernst Kozeschnik*[1]; Bernhard Sonderegger[2]; Jiri Svoboda[3]; Franz D. Fischer[4]; [1]Graz University of Technology; [2]Materials Center Leoben; [3]Academy of Science of the Czech Republic; [4]Universität Leoben

A High-Resolution Time-Resolved Study of Incoherent Interface Motion During the Massive Transformation in TiAl Alloy: *Nastaran Raffler*[1]; James M. Howe[1]; [1]University of Virginia

Multicomponent Precipitation of Spherical Particles with Capillarity Effects: *Pedro Eduardo Jose Rivera diaz del Castillo*[1]; Sybrand van der Zwaag[1]; [1]Delft University of Technology

On Pressure Hysteresis During Hydrogenation of Metallic Powders: *Eugen Rabkin*[1]; Vladimir Skripnyuk[1]; [1]Technion

Phase Transformations in Novel Systems or Special Materials: Posters

Thursday PM
June 2, 2005

Room: Navajo
Location: Pointe Hilton Squaw Peak Resort

8:00 PM – 10:00PM

Recrystallization and Nanomechanical Properties of Ultrafine Grained Copper Produced by Equal Channel Angular Pressing: *Eugen Rabkin*[1]; Itamar Gutman[1]; Michael Kazakevich[1]; Eli Buchman[1]; David Gorni[2]; [1]Technion; [2]RAFAEL

Studies of Thermodynamics of Surfaces and Adsorption of the Nano Phases in the Gallium Based Systems: *Sibasis Acharya*[1]; J. P. Hajra[1]; [1]Indian Institute of Science

Effect of Annealing and Deformation on Structural Rearrangement of a Zr-Based Bulk Metallic Glass: *Kwang Seok Lee*[1]; Ji Eon Park[1]; Young Won Chang[1]; [1]POSTECH

Novel Phase Transition in Quasicrystal-Related Materials: Ryuji Tamura1; Ken Shibata1; Shin Takeuchi1; Keiichi Edagawa2; 1Tokyo University of Science; 2University of Tokyo

3-D Modeling of Titanium Carbide Particles Grown in Amorphous Steel: *Andrew M. Roelant*[1]; Aleks Ontman[2]; V. Ponnambalam[1]; Joseph Poon; Gary J. Shiflet[1]; [1]University of Virginia; [2]Binghamton University

Improved Metallic Thin Films for MRAM Applications: *Keith A. Prisbrey*[1]; [1]University of Idaho

Relationship of Contact Resistance and Microstructure in GaAs Ohmic Contact: *Dong-Su Ko*[1]; Sung Il Baik[1]; Jung-Hun Oh[2]; Sam-Dong Kim[2]; Young-Woon Kim[1]; [1]Seoul National University.; [2]Millimeter-wave INnovaiton Technology Research Center (Mint)

The Phase Transformations into the Monocrystals of Si and the Problem of the Thermostability of its Electrophysical Properties: *Vladimir Koltsov*[1]; Alexander Potemkin[2]; Maria Michailova[1]; Maria Vachrameeva[1]; [1]Moscow State Institute of Electronic Engineering; [2]Moscow State Institute of Aviation

Characterization of a-Si Crystallization by Two-Step Annealing Process: *Su-Kyoung Lee*[1]; Byung-Chan Song[1]; Seung-Jea Lee[1]; Sun-Ho Kim[1]; Seung-Eui Nam[1]; Hyoung-June Kim[1]; [1]Hong-Ik University

Effect of C on Pressureless Sintering of β-Silicon Carbide: Marilia Sérgio da Silva Beltrão[1]; *Célio Albano da Costa Neto*[1]; [1]Federal University of Rio de Janeiro

Crystallization of Zeolite Coatings on Pre-Oxidized Steel Substrates: *Bogdan Sulikowski*[1]; Ewa Wloch[1]; Zbigniew Zurek[2]; Aleksander Gil[3]; Malgorzata Lekka[4]; Barbara Zmudzinska-Zurek[2]; [1]Institute of Catalysis and Surface Chemistry; [2]Cracow University of Technology; [3]University of Science and Technology; [4]Institute of Nuclear Physics

Phase Transformation in Metal-N-H Hydrogen Storage Systems: *Takayuki Ichikawa*[1]; Shigehito Isobe[1]; Haiyan Leng[1]; Hironobu Fujii[1]; [1]Hiroshima University

Thermal Stability of $Al_{1-x}Cr_xN$ Hard Coatings: *Herbert Willmann*[1]; Per Ola Åke Persson[2]; Andreas Ernst Reiter[3]; Paul Heinz Mayrhofer[4]; Lars Hultman[2]; Christian Mitterer[4]; [1]Materials Center Leoben, Linköping University; [2]Linköping University; [3]Balzers Ltd.; [4]University of Leoben; [5]

Stress Relaxation-Induced Phase Transformation in Chromium Nitride Films: *Hong-Ying Chen*[1]; Fu-Hsing Lu[2]; [1]Taichung Healthcare and Management University; [2]National Chung Hsing University

Lattice Correspondence of α-PbO_2-Type TiO_2 and Rutile: *Pouyan Shen*[1]; Shuei-Yuan Chen; Meng-Hsiu Tsai[1]; [1]National Sun Yat-Sen University

Platinum Silicide Phase Transformations Controlled by a Nanometric Interfacial Oxide Layer: *Egle Conforto*[1]; Philippe Ernst Schmid[1]; [1]Ecole Polytechnique Fédérale de Lausanne, IPMC

Crystallographic Features of the Orthorhombic State in $Sr_{2-x}La_xMnO_4$ Around *x*-0.15: *Wataru Norimatsu*[1]; Toshihiro Asada[1]; Yasumasa Koyama[1]; [1]Waseda University

In-Situ High Temperature Phase Transformations Studies of HfO_2 and HfO_2-Ta_2O_5 System: P. Sarin[1]; W. M. Kriven[1]; [1]University of Illinois

Phase Transformations in Dysprosium Titanate
P. Sarin1; W. M. Kriven1; 1University of Illinois

Phase Transformations in Rare Earth Niobates
W. M. Kriven1; L. F. Siah1; K Jurkschat1; 1University of Illinois

Breakout Workshops

D. E. Laughkin (CMU): "History of Magnetic Transformations"

J. C. Lashley (LANL): "Electronic Origins of Structural Phase Transitions"

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