	27 June (Sunday)	28 June (Monday)	29 June (Tuesday)	30 June (Wednesday)	1 July (Thursday)	2 July (Friday)	
9:00		**Opening ceremony**					9:00
		S1 Atomic Structure S.J. Pennycook, N. Tanaka, D. Medlin, F.R. Chen	**S5 Theory 2** J.W. Cahn, D.J. Srolovitz, A. Serra, W.-Z. Zhang	**S9 G.B. Eng. 2** T. Koyama, N. Tsuji, S. Watanabe	**S11 Dynamics 1** S.-J. Kang, L.S. Shvindlerman, A.H. King, D. Molodov	**S15 Ceramic Interfaces 1** P.F. Becher, H.J. Kleebe, E. Seiz	
10:00				**Coffee break**		**Coffee break**	10:00
		Coffee break	**Coffee break**	**S10 New method** S. Morita, K. Hono, T. Hirayama	**Coffee break**	**S16 Ceramic Interfaces 2** H. Yoshida, S. Lartigue-Korinek, T. Yamamoto	
11:00		**S2 Electronic structure** N.D. Browning, W.Y. Ching, C. Elsaesser, M. Kohyama	**S6 Phase Transformation** R.C. Pond, T. Furuhara, V. Paidar, T. Kakeshita		**S12 Dynamics 2** S. Divinski, B. Straumal, E. Rabkin, J.M. Howe		11:00
12:00				**Excursion**		**Closing ceremony**	12:00
		Lunch	**Lunch**		**Lunch**		
13:00							13:00
		S3 Theory 1 A.P. Sutton, M.W. Finnis, A.L. Schluger, M.Yoshiya, P. Bristowe	**S7 G.B. Eng. 1** M. Kato, S. Tsurekawa, H. Miura, H. Nakashima H. Kokawa		**S13 Energy Materials and Devices** F. Ernst, Y. Zhu, M. Varela, X.Q. Pan, Ph. Komninou		
14:00							14:00
15:00	**Registration**						15:00
16:00		**Poster 1** **Group A**	**Poster 2** **Group B**		**Poster 3** **Group C**		16:00
17:00							17:00
18:00	**Get together party**	**Dinner**	**Dinner**		**Dinner**		18:00
19:00				**Banquet**			19:00
		S4 History1 D.G. Brandon, S. Rangnathanan	**S8 History2** C.B. Carter, M. Rühle		**S14 History 3** T. Watanabe, O. Hardouin Duparc		
20:00							20:00

28 June (Mon)

Opening ceremony: 8:30 – 8:40

S1	***Session***	***1***	***Atomic structure*** *(M. Rühle and T. Hirayama, Chairs)*
8:40	S1·1	**Mismatch at coherent interfaces between complex oxides**	S.J. Pennycook, M. Varela, T.J. Pennycook, M.P. Oxley, A. Borisevich, H.J. Chang1, J. He, S.T. Pantelides
9:05	S1·2	**Spherical aberration corrected HRTEM of nano interfaces of semiconductors**	N. Tanaka
9:30	S1·3	**Interfacial structure in telluride-based thermoelectric materials**	D.L. Medlin, J.D. Sugar, J. Lensch-Falk, M. Hekmaty
9:55	S1·4	**Quantification of 3-D atomic structure of grain boundary and surface from through focal series HRTEM images**	F.R. Chen, A. Wang, S. Van Aert, D. Van Dyck
10:20		***Coffee break***	
S2	***Session***	***2***	***Electronic structure*** *(P. Bristowe and M. Yoshiya, Chairs)*
10:40	S2·5	**Quantifying aberration corrected Z-contrast images of interfaces/defects**	N.D. Browning, J.P. Buban, M. Chi, S. Dey, J.E. Evans, M. Herrera, D.J. Masiel, S. Mehraeen, D.G. Morgan, N.L. Okamoto, V. Ortalan, Q.M. Ramasse, B.W. Reed, M.C. Sarahan
11:05	S2·6	**A theoretical study of the mechanical behavior and electronic structure of a prismatic model of intergranular glassy film in β-Si_3N_4**	W.Y. Ching
11:30	S2·7	**First-principles modelling of interfaces in functional metal-oxide devices**	C. Elsässer, W. Körner, M. Mrovec, J.-M. Albina, P.D. Bristowe
11:55	S2·8	**First-Principles Analysis and Design of Materials Interfaces**	M. Kohyama, S. Tanaka, T. Akita, Y. Shiihara, T. Tamura, S. Ishibashi
12:20		***Lunch***	
S3	***Session***	***3***	***Theory 1*** *(M. Kohyama and C. Elsässer, Chairs)*
13:30	S3·9	**The simulation of grain boundaries in single component and multi-component systems**	A.P. Sutton, A.L.-S. Chua, N.A. Benedek, L. Chen, M.G. Kurdian, S. von Alfthan, P.D. Haynes, K. Kaski, M.W. Finnis
13:55	S3·10	**The crystal-melt interface free energy from metadynamics**	S. Angioletti-Uberti, M. Ceriotti, M.W. Finnis, P.D. Lee
14:20	S3·11	**Electron and hole trapping in polycrystalline and amorphous oxides**	A.L. Shluger, K.P. McKenna, A.V. Kimmel
14:45	S3·12	**Grain boundary segregation of trivalent cation and oxygen vacancy and resultant ionic conduction in ZrO2 by atomistic simulations**	M. Yoshiya, K. Shimizu, Y. Yoshizawa, T. Oyama, H. Yasuda
15:10	S3·13	**Atomistic studies of interfacial failure in optical multilayer coatings**	P.D. Bristowe, Z.S. Lin, C.L. Phillips
15: 35		**Group Photo Session**	
	Session	***Poster session 1***	
15:50	**- 17:50**	**Poster A Group**	
18:00		***Dinner***	
S4	***Session***	***4***	***History 1: Bollman Memorial Session*** *(T.Watanabe , Chair)*
19:30	S4·14	**The development & limitations of coincident site lattice models**	D.G. Brandon
20:00	S4·15	**Some Historical Facets of Grain Boundaries**	S. Ranganathan

20:30 ～ Free Poster Discussion

29 June (Tue)

S5 ***Session 5 Theory 2*** *(A.P. Sutton and H. Nakashima, Chairs)*

8:40 S5·16 **The coupling of shear to grain boundary motion**
J.W. Cahn, Y. Mishin

9:05 S5·17 **Dislocation dynamics simulation of low angle grain boundary migration**
D.J. Srolovitz, A.Lim, M. Haataja

9:30 S5·18 **Atomic level processes in interfaces: twin boundaries in hcp and fcc metals**
A. Serra, D.J. Bacon, Y.N. Osetsky

9:55 S5·19 **Singular interfacial structures and their identification with Δg approach**
W.-Z. Zhang

10:20 ***Coffee break***

S6 ***Session 6 Phase Transformation*** *(A. Serra and S. Hashimoto, Chairs)*

10:40 S6·20 **Topological modelling of martensitic transformations**
R.C. Pond

11:05 S6·21 **Interphase boundary precipitation of alloy carbides accompanying diffusional phase transformations in steels**
T. Furuhara, G. Miyamoto, N. Kamikawa

11:30 S6·22 **Interfaces in Displacive Phase Transformations**
V. Paidar

11:55 S6·23 **Large strain driven by magnetic field in some magnetic shape memory alloys and ceramics**
T. Kakeshita, T. Fukuda

12:20 ***Lunch***

S7 ***Session 7 Grain Boundary Engineering 1*** *(R. Pond and D.Molodov, Chairs)*

13:30 S7·24 **Role of dislocations emitted from grain boundaries on plastic deformation of ultrafine-grained materials**
M. Kato, T. Kunimine, T. Fujii, S. Onaka

13:55 S7·25 **Towards development of grain boundary engineering by magnetic field application**
S. Tsurekawa, T. Watanabe

14:20 S7·26 **Grain-boundary character dependence of cyclic creep and fracture behaviors of Cu-SiO_2 bicrystals**
H. Miura, Y. Ito

14:45 S7·27 **Grain boundary of SPD material**
H. Nakashima

15:10 S7·28 **Grain boundary engineering of austenitic stainless steels**
H. Kokawa, M. Michiuchi, M. Shimada, Y.S. Sato, Z.J. Wang

Session ***Poster session 2***

15:50 - 17:50 **Poster B Group**

18:00 ***Dinner***

S8 ***Session 8 History 2*** *(S.J. Pennycook, Chair)*

19:30 S8·29 **Interfaces in Ceramic Materials: History and Speculation**
C.B. Carter

20:00 S8·30 **Quo Vadis, Interface Science?**
M. Rühle

20:30 ～ Free Poster Discussion

30 June (Wed)

S9	***Session***	***9***	***Grain Boundary Engineering 2*** *(F. Ernst, Chair)*
8:40	S9·31	**Phase-field simulations of segregation and precipitation behaviors at interphase boundary region** T. Koyama	
9:05	S9·32	**Role of grain boundaries in mechanical properties of bulk nanostructured metals** N. Tsuji	
9:30	S9·33	**Application of grain boundary-engineered austenitic stainless steels to nuclear reactor component materials** S. Watanabe, N. Sakaguchi	
9:55		***Coffee break***	
S10	***Session***	***10***	***New method*** *(N. Tanaka, Chair)*
10:15	S10·34	**Toward atom-by-atom creation and evaluation of composite nanostructures at room temperature** S. Morita, M. Abe, Y. Sugimoto, O. Custance, P. Pou, P. Jelinek, R. Pérez	
10:40	S10·35	**Advances in laser assisted atom probe and its applications to the interfacecharacterizations of permanent magnets** K. Hono and T. Ohkubo	
11:05	S10·36	**Li-ion profiling of an inorganic solid-state electrolyte by electron holography** T. Hirayama, K. Yamamoto, A. Kuwabara, Y. Iriyama, Z. Ogumi	
		Excursion: 12:00 – 17:30	
		Banquet: 18:30 – 21:00	

1 July (Thu)

S11	***Session***	***11***	***Dynamics 1*** *(M. Nishida and S. Onaka, Chairs)*
8:40	S11·37	**Enhanced migration of faceted interfaces by dislocations**	S.-J.L. Kang, M.-G. Lee, S.-Y. Chung
9:05	S11·38	**Grain boundary junctions and the stability of nanocrystalline systems**	L.S. Shvindlerman, G. Gottstein
9:30	S11·39	**The impact of triple lines on materials science and engineering**	A.H. King
9:55	S11·40	**Dynamics of grain boundaries under applied mechanical stress**	D. Molodov, T. Gorkaya, G. Gottstein
10:20		***Coffee break***	
S12	***Session***	***12***	***Dynamics 2*** *(A.H. King and S. Tsurekawa, Chairs)*
10:40	S12·41	**Orientation dependence of grain boundary diffusion and segregation: radiotracer measurements on bicrystals in B and C kinetic regimes**	S. Divinski, H. Edelhoff, S. Prokofyev
11:05	S12·42	**Grain boundary faceting-roughening transitions**	B. Straumal, V. Sursaeva, A. Gornakova
11:30	S12·43	**Grain boundary diffusion and stresses: liquid metal embrittlement, Marangoni and Kirkendall effects**	L. Klinger, E. Rabkin
11:55	S12·44	**Investigation of Solid-Liquid Interface Dynamics in Partially Molten Al-Si Alloy Particles Using In-Situ TEM**	J. D. Starr, P. Palanisamy, S. K. Eswaramoorthy, J. M. Howe
12:20		***Lunch***	
S13	***Session***	***13***	***Energy Materials and Devices*** *(H. Kleebe and T. Mizoguchi, Chairs)*
13:30	S13·45	**Carbide–metal interfaces in low-temperature-carburized structural alloys**	F. Ernst, A.H. Heuer and G.M. Michal
13:55	S13·46	**Correlated interfacial properties of the cuprate-manganite interface**	Y. Zhu, D. Su, H. Inada, M.G. Han, J. Norpoth, Ch. Jooss
14:20	S13·47	**Atomic resolution imaging of O positions across complex oxide interfaces**	M. Varela, J. Gazquez, T.J. Pennycook, M.P. Oxley, W. Luo, S.T. Pantelides, J. Garcia-Barriocanal, F.Y. Bruno, C. Leon, J. Santamaria, S.J. Pennycook
14:45	S13·48	**Effect of electrical boundary conditions on domain structure and local polarization in multiferroic $BiFeO_3$ thin films**	X.Q. Pan, C.T. Nelson, Y. Zhang, C.M. Folkman, C.B. Eom, A. Melville, C.A. Adamo, D.G. Schlom
15:10	S13·49	**Intergranular boundaries in non-polar and semi-polar III-nitride hetero-epitaxy: Introduction mechanisms, energetics, and role as defect sources**	Ph. Komninou, J. Kioseoglou, Th. Kehagias, E. Kalesaki, A. Lotsari, J. Smalc-Koziorowska, Th. Karakostas, G. P. Dimitrakopulos
	Session	***Poster session 3***	
15:50	**- 17:50**	**Poster C Group**	
18:00		***Dinner***	
S14	***Session***	***14***	***History 3*** *(S. Ranganathan, Chair)*
19:30	S14·50	**Where has grain boundary engineering come from, and where will it go?**	T. Watanabe
20:00	S14·51	**Georges Friedel and the twin index Σ: 1904 and 1920**	O. Hardouin Duparc

20:00 ～ Free Poster Discussion

2 July (Fri)

S15 ***Session 15*** ***Ceramic Interfaces 1*** *(F. Wakai, Chair)*

8:40 S15·52 **Interfacial adsorption behavior of rare earths in Si3N4 ceramics and the impact on microstructure evolution**
P.F. Becher, N. Shibata, G.S. Painter, F. Averill, K. van Benthem

9:05 S15·53 **Lead-free ferroelectrics; A puzzle concerning structure and composition**
Hans-Joachim Kleebe, Ljubomira Schmitt, Jens Kling, Silke Hayn, Karsten Albe, Wook Jo and Jürgen Rödel

9:30 S15·54 **Early stages of high-temperature spreading**
E. Saiz, M. Benhassine, J. De Coninck, A.P. Tomsia

9:55 ***Coffee break***

S16 ***Session 16*** ***Ceramic Interfaces*** *(P. F. Becher, Chair)*

10:15 S16·55 **High temperature superplastic flow and grain boundary structure in tetragonal zirconia polycrystal doped with a small amount of cations**
H. Yoshida, K. Morita, B.-N. Kim, K. Hiraga, T. Yamamoto

10:40 S16·56 **Structure and chemistry of intergranular defects in alumina: Relationship with alumina creep behaviour**
S. Lartinue-Koniek

11:05 S16·57 **Grain boundaries in electroceramics**
T. Yamamoto, Y. Sato, N. Shibata, T. Mizoguchi, Y. Ikuhara

Closing ceremony: 11:30 – 11:50

Poster session 1 (Group A)

15:50-17:50, June 28 (Monday), 2010

P-A01 **A Calculation of the Solute Drag Effect Considering the Segregation of Each Substitutional Elements for Carbon Steel**
Y. Yogo, K. Tanaka, H. Ikehata, T. Ishikawa

P-A02 **Line Stress of Step Edges**
W.N. Li, H.L. Duan, J. Weissmüller

P-A03 **Effect of Grain Boundary Microstructure on Fatigue Crack Propagation in Austenitic Stainless Steel**
S. Kobayashi, M. Nakamura, S. Tsurekawa and T. Watanabe

P-A04 **Martensite/Austenite Interfaces in Ultrafine Grained Fe-Ni-C alloy**
H. R. Jafarian, E. Borhani, Y. Miyajima, A. Shibata, D. Terada, N. Tsuji

P-A05 **Effects of a High Magnetic Field on Growth Rate in Austenite to Ferrite Transformation**
H. Ohtsuka

P-A06 **Modeling of Creep Void Nucleation at Matrix/Precipitation Carbide in Heat Resistance Steel**
K. Nakamura, T. Ohnuma, T. Ogata

P-A07 **Anisotropic Strength Related to the Structural Units of Tilt Grain Boundaries Under Tensile and Compressive Loading**
T. Shimokawa

P-A08 **Controlling Grain Boundary Character Distribution along the Prior Austenite Grain Boundaries in Heat-Resistant Ferritic Steel**
Y. Kinoshita, V. Yardley, S. Tsurekawa

P-A09 **Measurements of Local Magnetic Moment at Grain Boundaries in Metals by TEM-EELS**
K. Matsunaga, H. Fujii, S. Ii, S. Tsurekawa

P-A10 **Coarsening of δ-Ni_2Si Precipitates in a Cu-Ni-Si Alloy**
C. Watanabe, R. Monzen

P-A11 **Bend Formability and Strength of Cu-Be-Co Alloys**
R. Monzen, T. Hosoda, C. Watanabe

P-A12 **Strain Mapping along Al-Pb Interfaces**
H. Rösner, S. Divinskiy, G. Wilde

P-A13 **Effects of Si Addition on Mechanical Properties of Copper Severely Deformed by Accumulative Roll-Bonding**
T. Kunimine, T. Fujii, S. Onaka, N. Tsuji and M. Kato

P-A14 **Nitriding Layer and Surface Hardness of Ti-15Nb Alloy after Plasma Nitriding Treatment**
Y. Mantani, S. Nagata, K. Nakata

P-A15 **Fabrication of Non-equilibrium Phases in Mechanically Mixed Metals by High Pressure Torsion**
T. Miyazaki, D. Terada, Y. Miyajima, R. Murao, Y. Yokoyama, K. Sugiyama, M. Umemoto, Y. Todaka, N. Tsuji

P-A16 **Shape and Elastic State of Nano-sized Ag Precipitates in a Cu-Ag Single Crystal**
T. Miyazawa, T. Fujii, S. Onaka, M. Kato

P-A17 **Deformation Structure in the Ductile B2-Type Zr-Co-Ni Alloys with Martensitic Transformation**
M. Matsuda, T. Nishimoto, Y. Morizono, S. Tsurekawa, M. Nishida

P-A18 **Low-Temperature Fracture Behavior of Sintered Molybdenum**
T. Kadokura, Y. Hiraoka, K. Okamoto

P-A19 **Effect of Surface Nanocrystallization on Intergranular Corrosion Behavior of AA-6061 Aluminum Alloy**
H. Jafarian, M. Aliofkhazraei

P-A20 **Microstructural Change at the Grain Boundary in Hydrogenation-Disproportionation (HD)-Treated Nd-Fe-B-Based Alloy during Desorption-Recombination (DR) Treatment Detected by Positron Lifetime Spectroscopy**
T. Nishiuchi, M. Nakamura, S. Hirosawa, M. Mizuno, H. Araki, Y. Shirai

P-A21 **Investigation of Micro/nano-structural Transition during Repetitive Hydrogen Absorption/Desorption, and Hydrogen Absorption Mechanism in Mg/Cu Super-laminates**
K. Tanaka, T. Kiyobayashi, N. Takeichi, H. Shin, H. Takeshita, H. Miyamura, S. Kikuchi

P-A22 **Effects of Interface Conditions on Carbon Transportation Behavior in Molybdenum**
Y. Hiraoka, K. Fujii, T. Kadokura, K. Okamoto

P-A23 **Electron Tomography Observations of ω-phase in β-Ti and Zr Alloys**
T. Kawai, M. Mitsuhara, S. Hata, M. Itakura, H. Nakashima, M. Nishida

P-A24 **Interface Structures of Self-Accommodated Habit Plane Variants in B19' Martensite of Ti-Ni Shape Memory Alloy**
H. Kawano, T. Nishiura, T. Inamura, S. Ii, M. Itakura and M. Nishida

P-A25 **Wedge-disclination in a Hot-extruded Mg-Zn-Y Long-period Structure**
W. Narita, T. Hayashi, M. Yamasaki, Y. Kawamura, E. Abe

P-A26 **New Aspect of Grain Boundaries in Nanocrystalline FCC Metals**
H. Tanimoto, K. Fukuda, T. Motegi, H. Mizubayashi

P-A27 **Interface Structural Change Induced by a Variation of Carbon Content in WC-Co Cemented Carbide**
I. Sugiyama, K. Okada, F. Shirase, R. Yamaguchi, T. Taniuchi, T. Tanase, N. Shibata, T. Mizoguchi, Y. Ikuhara, T. Yamamoto

P-A28 **Morphology and Interface Feature of PZT-PVDF-Portland Cement Composites Studied Using PFM**
N. Jaitanonga, H.R. Zengb, G.R. Lib, Q.R. Yinb, W.C. Vittayakorna, R. Yimnirunc, A.Chaipanich

P-A29 **Investigation of Metal-induced Crystallization of Amorphous Semiconductors by In Situ Electron microscopy**
Z. Wang, L. Gu, F. Phillipp, L.P.H. Jeurgens, J. Y. Wang, E. J. Mittemeijer

P-A30 **Effect of Curing Age on Microstructure and Hydration Products in 0-3 Barium Titanate – Cement Composites**
R. Rianyoi, R. Potong, N. Jaitanong, A. Chaipanich

P-A31 **Microstructure Study of 0-3 Connectivity $(Na_{0.5}K_{0.5})NbO_3$ - Portland Cement Composites Before and After Applied Electric Field and Temperature**
R. Potong, R. Rianyoi, P. Jarupoom, K. Pengpat, A. Chaipanich

P-A32 **Direct Observation of Rare-earth Segregation in Alumina Grain Boundaries**
N. Shibata, S.D. Findlay, S. Azuma, T. Mizoguchi, T. Yamamoto, Y. Ikuhara

P-A33 **Theoretical Analysis of Annular Bright Field Scanning Transmission Electron Microscopy Imaging**
S.D. Findlay, N. Shibata, H. Sawada, E. Okunishi, Y. Kondo, Y. Ikuhara

P-A34 **Atomic-Level Structure of a Praseodymium-Doped Zinc Oxide Grain Boundary**
Y. Sato, T. Mizoguchi, N. Shibata, T. Yamamoto, T. Hirayama, Y. Ikuhara

P-A35 **Study on Atomic Structures and Defect Energetics at $SrTiO_3$ Symmetric Tilt GBs: First Principles Calculation and STEM Observations**
H. Lee, T. Mizoguchi, J. Mitsui, T. Yamamoto, S.-J. L Kang, Y. Ikuhara

P-A36 **Grain Boundary Diffusion in α−Alumina under Oxygen Potential Gradients at High Temperatures**
T. Matsudaira, M. Wada, S. Kitaoka, N. Shibata, T. Nakagawa, Y. Ikuhara

P-A37 **Interfacial Structure of Epitaxial Mn-Doped γ-Ga_2O_3 Film**
H. Hayashi, R. Huang, F. Oba, T. Hirayama, I. Tanaka

P-A38 **First Principles Investigation of Interlayer Structure and Bonding of Proton-exchanged Layered Sodium Titanate**
M. Mori, Y. Kumagai, K. Matsunaga, I. Tanaka

P-A39 **Atomic Structure of Off-stoichiometric $SrMnO_3$ Thin Films Grown by PLD**
S.Kobayashi, Y.Tokuda, T.Ohnishi, T.Mizoguchi, N.Shibata, Y.Ikuhara, T.Yamamoto

P-A40 **Substitution site selection of Y in $BaTiO_3$ related to oxygen partial pressure**
A. Fukumoto, T. Mizoguchi, N. Shibata, Y. Ikuhara, T. Yamamoto

Poster session 2 (Group B)

15:50-17:50, June 29 (Tuesday), 2010

P-B01 **Observation of Microstructure Development during α / γ Phase Transformation in Fe-Ni alloy via High Temperature *In-Situ* SEM / EBSD**
T. Fukino, Y. Morizono, S. Tsurekawa

P-B02 **Grain Refinement Assisted by TRIP Effect during Equal Channel Angular Pressing of Metastable 316L Stainless Steel**
H. Ueno, Y. Kaneko, A. Vinogradov, S. Hashimoto

P-B03 **The Effects of Shot-peening and Annealing on Intergranular Corrosion of 304 Stainless Steel**
X. Wang, S. Yang

P-B04 **Numerical Study of Grain Boundary Polyatomic Segregation in Binary Metallic Systems**
O. Hardouin Duparc, B. Lezzar, O. Khalfallah, N.E.H. Djerouni, V. Paidar

P-B05 **General Corrosion Property and Grain Boundary Susceptibility of Modified PNC1520 Austenitic Stainless Steel in Supercritical Water as a Fuel Cladding Candidate Material**
Y. Nakazono, T. Iwai, H. Abe

P-B06 **Variant Selection in Lath Martensite formed at Prior Austenite Twin Boundaries in Low-Carbon Power Plant Steel**
V. A. Yardley, Y. Kinoshita, S. Tsurekawa

P- B07 **Evolution of Microstructure in Lath Martensite during Creep Deformation**
M. Mitsuhara, Jie Min Cha, K. Ikeda, S. Hata, H. Nakashima

P- B08 **Microstructure Evolutions at Severely-deformed Interfaces of Layer-integrated Steels**
T. Hayashi, E. Abe, T. Hara, Y. Ikuhara

P- B09 **Dynamical Decomposition of a Long-period Ordered Structure during Hot-extrusion of Mg-Zn-Y Alloys**
T. Hayashi, W. Narita, M. Yamasaki, Y. Kawamura, E. Abe

P-B10 **Grain Boundary Wetting Transition in $Sn_{75}In_{25}$ Alloy and its Influence on Electrical Properties**
C.-H. Yeh, L.-S. Chang, B. Straumal

P-B11 **Formation of Off-Phase Boundary Structures in $D0_{19}$ Type Ordering**
R. Oguma, S. Matsumura, T. Eguchi

P-B12 **Microstructure and Mechanical Properties of Co/Cu multilayers by Electrodeposition**
T. Hattori, Y. Kaneko, H. Sakakibara, N. Sato, H. Ueno, S. Hashimoto

P-B13 **Effect of Annealing on Mechanical Properties of Ni/Cu Multilayered Films**
Y. Kaneko, S. Kotera, S. Hashimoto

P-B14 **Orientation Dependence of Lattice Rotation and Low-Angle Grain Boundary Formation in Copper Single Crystals Subjected to Sliding Wear**

Y. Kaneko, Y. Ohno, S. Hashimoto

P-B15 **Martensitic Interfaces and Transformation Crystallography in Pu-Ga Alloys**
X. Ma, R.C. Pond

P-B16 ***Ab initio* Local Energy Analysis on Stacking Faults in Noble Metals**
Y. Shiihara, M. Kohyama, S. Ishibashi

P- B17 **Grain Boundary Atomic Structure and Segregation in Ultrafine Grained Al and Al-Si Alloy**
S. Ii, K. Tsuchiya, H. Nakashima, N. Tsuji

P- B18 **Microstructure Observation of Aluminum Bicrystals with Symmetrical Tilt Grain Boundaries Deformed in Compression**
T. Tanaka, D. Terada, K. Kashihara, N. Tsuji

P- B19 **Microstructure Study of Grain Boundaries in Hot Deformed Nd-Fe-B Anisotropic Magnet**
N. Watanabe, M. Itakura, M. Nishida

P-B20 **Fracture along Twin Boundaries formed by Dynamic Recrystallisation during Fatigue Crack Growth of Ultrafine Grained Copper**
A. Vinogradov, T. Kawaguchi, Y. Kaneko, S. Hashimoto

P- B21 **Consideration of the Grain Boundaries of Sintered PbTe Thermoelectric Materials**
S. Yoneda, K. Kaneko, Y. Ohno, I. J. Ohsugi

P- B22 **Interface Energy of Fe and B1 type Metal Oxide with the Baker-Nutting Orientation Relationship at Finite Temperature**
S. Minamoto, K. Nakajima, K. Matsunaga

P- B23 **TEM and HAADF-STEM Observations of the Interface between Au Nano-particle and CeO_2**
T. Akita, S. Tanaka, K. Tanaka, M. Kohyama

P- B24 **Microstructures of (La-doped SrO)/$(SrTiO_3)_5$ Super Lattice Thin Film with Ruddlesden-Popper Phase**
S. Tsukimoto, M. Saito, Z. C. Wang, T. Mizoguchi, M. Okude, A. Ohtomo, T. Kita, M. Kawasaki, Y. Ikuhara

P- B25 **Atomic-Scale Structure and Electron Transport of SiC/Ti_3SiC_2 Interface**
Z. Wang, S. Tsukimoto, M. Saito, Y. Ikuhara

P- B26 **Yttrium Segregation Behaviors at CSL Grain Boundaries of α-Al_2O_3**
TH. Kweon, S. Azuma, N. Takahashi, N. Shibata, T. Mizoguchi, T. Yamamoto, Y. Ikuhara

P- B27 **Investigation of Grain Boundary Segregation Behaviors in Acceptor Doped Strontium Titante Ceramics**
J. Xing, H. Gu, Y. Heo, M. Takeguchi

P- B28 **First-principles Calculations of Au-rod/CeO_2(111) Nano-hetero Interfaces**
S. Tanaka, T. Akita, M. Kohyama, S. Takeda

P- B29 **Tracer Study of Grain Boundary Diffusion in Oxide Ceramics**
T. Nakagawa, N. Takahashi, J. D. McGuggin-Cawley, Y. Ikuhara, A. H. Heuer

P- B30 **Influences of Intermediate Chromium Layer on Diffusion Bonding for Alumina Bicrystals with Low Angle Grain Boundaries**
A. Nakamura, T. Yamane, E. Tochigi, I. Kishida, Y. Yokogawa

P- B31 **Analysis of Atomic Structure at 3C-SiC/Si (100) Interface by Aberration-Corrected Transmission Electron Microscopy and First-Principles Calculations**
S. Inamoto, J. Yamasaki, H. Tamaki, K. Okazaki-Maeda, N. Tanaka

P- B32 **Structural Transition of [001] Symmetric Tilt Grain Boundaries in Nb-Doped $SrTiO_3$**
S.-Y. Choi, T. Mizoguchi, N. Shibata, T. Yamamoto, Y. Ikuhara

P- B33 **Effect of Grain Boundary Segregation on Tetragonal to Monoclinic Phase Transformation in Tetragonal Zirconia Polycrystal**
Y. Takigawa, T. Yamamoto, K. Higashi

P- B34 **Grain Boundaries in ZnO: Shift of Solubility Lines and Ferromagnetic Foam**
A. A. Mazilkin, S. G. Protasova, B. B. Straumal, E. Goering, G. Schütz, B. Baretzky

P- B35 **Interface Structure of Epitaxial $LiMn_2O_4$ Thin Film on Al_2O_3 Synthesized by Chemical Solution Deposition Method**
Y. H. Ikuhara, S. Zheng, R. Huang, A. Kuwabara, C. A. J. Fisher, H. Moriwake, Y. Ikuhara, H. Oki

P- B36 ***Ab Initio* Study of Room-Temperature Ionic Liquid/Li-Metal Anode Interfaces in Li-Ion Batteries**
H. Valencia, M. Kohyama, S. Tanaka, H. Matsumoto

P- B37 **Structure, Stability and Catalytic Activity of Au/TiO_2 Systems: *Ab Initio* Calculations of Au-Bulk/TiO_2 and Au-Rod/TiO_2 Interfaces**
M. Kohyama, H.-Q. Shi, S. Tanaka, T. Akita, K. Okazaki

P- B38 **Defective Structures and Diffusion Behaviors in [$1\bar{2}10$] Symmetric Tilt Grain Boundaries of Al_2O_3: First Principles and Molecular Dynamics Calculations**
N. Takahashi, T. Mizoguchi, T. Nakagawa, T. Yamamoto, Y. Ikuhara

P- B39 **Structural Properties of Monolayer Thick $In_xGa_{1-x}N$/GaN Heterostructures**
E. Kalesaki, J. Kioseoglou, S. -L. Sahonta, Th. Kehagias, G. P. Dimitrakopulos, Ph. Komninou, Th. Karakostas

P- B40 **Morphology and Strain State Determination of Semipolar GaN Quantum Dots in AlN Matrix**
E. Kalesaki, J. Kioseoglou, Th. Kehagias, E. Monroy, H. Kirmse, W. Neumann, P. Dluzewski, G. P. Dimitrakopulos, Ph. Komninou

Poster session 3 (Group C)

15:50-17:50, July 1 (Thursday), 2010

P-C01 **Segregation of Alkali and Alkaline Earth Metals Impurities at Σ11(113)[110] Grain Boundary in Aluminum from First-principles Calculations**
T. Uesugi, K. Higashi

P- C02 **Correlation between Grain Boundary Energy and Excess Free Volume in Aluminum from First-principles Calculations**
T. Uesugi, K. Higashi

P- C03 **Thermodynamics and Mechanism of Martensitic Transformation in Copper Based Shape Memory Alloys**
O. Adiguzel

P- C04 **Effect of Ti Addition on the Phosphide Solubility and Grain Boundary Segregation of Phosphorus in Fe-P Alloys**
T. Tanaka and S. Suzuki

P- C05 **TEM Characterization of Interphase Boundaries in B4C - Al Composites Produced by Melt Infiltration Technique**
P. Kaya, T. Uğuz, S. Turan, G. Arslan

P-C06 **Evaluation of the nanocrystalline (Microstructure) bulk Ni-Cu Solid Solution synthesized by Mechanical Alloying**
I. Farahbakhsh, A. Zakeri, K. Hokamoto

P- C07 **Rapid Penetration of Bismuth from Solid Bi_2Te_3 along Grain Boundaries in Cu and Cu-based Alloys**
S.N. Zhevnenko, D.V. Vaganov

P- C08 **First-Principles Study of the Bonding and Mechanical Properties of Metallic Grain Boundaries**
M. Kohyama, S. Tanaka, Y. Shiihara, S. Saitou, T. Tamura, S. Ishibashi

P- C09 **STM Study of Electronic Structure of Au-particle/TiO_2 Interface**
Y. Maeda, M. Kohyama

P- C10 **Indium Incorporation Mechanisms in MOVPE and MBE Grown InAlN Thin Films**
Th. Kehagias, G. P. Dimitrakopulos, J. Kioseoglou, E. Kalesaki, S.-L. Sahonta, H. Kirmse, W. Neumann, C. Giesen, M. Heuken, A. Adikimenakis, A. Georgakilas, Ph. Komninou

P- C11 **Atomic Structures of [001] Symmetric Tilt Grain Boundaries in Yttria-stabilized Zirconia Bicrystals**
Y. Nohara, E. Tochigi, H. Hojo, N. Shibata, T. Mizoguchi, T. Yamamoto, Y. Ikuhara

P- C12 **Prediction of Orientation Relationships Using Coincidence of Reciprocal Lattice Point Model**
C. M. Montesa, N. Shibata, T. Tohei, K. Akiyama, Y. Kuromitsu, Y. Ikuhara

P- C13 **Nucleation Process and Interface Structure of {1-102}<-1101> Twin in α-Al_2O_3**
E. Tochigi, N. Shibata, A. Nakamura, T. Yamamoto, Y. Ikuhara

P- C14 **Dislocation Structures in Low-angle Grain Boundaries of α-Al_2O_3**
E. Tochigi, N. Shibata, A. Nakamura, T. Mizoguchi, T. Yamamoto, Y.Ikuhara

P- C15 **Characterization of Atomic Structures in $SrTiO_3$ [110] Symmetrical Tilt Grain Boundary by STEM/TEM Observation**
T. Mitsuma, N. Shibata, T. Mizoguchi, T. Tohei, T. Yamamoto, Y. Ikuhara

P- C16 **Evolution of Intergranular Film to Initiate Grain Growth in Ceramics**
H. Gu

P- C17 **Interface Structure and Growth Morphology of Sputter-deposited TiO_2 and Co-doped TiO_2 Thin Films on Sapphire Substrates**
J. Echigoya, M. Yamaguchi, M. Nishijima, E. Aoyagi, Y. Hayasaka

P- C18 **Super Wettability of Alumina Ceramics by Aluminum at Dip Coating**
X.-S. Ning, S. Li, B. Wang, G. Li

P- C19 **Atomic Structure of Epitaxial LaCuOSe:Mg/MgO Film-Substrate Interface**
T. Tohei, T. Mizoguchi, H. Hiramatsu, H. Hosono, Y. Ikuhara

P- C20 **Grain Boundaries in Lithium Battery Cathode Material $LiCoO_2$**
C. A. J. Fisher, R. Huang, A. Kuwabara, H. Moriwake, Y. H. Ikuhara, Y. Ikuhara, H. Oki

P- C21 **Atomic- and Electronic- Structure Characterization of CeO_2 Grain Boundary using STEM and EELS**
H. Hojo, T. Mizoguchi, H. Ohta, N. Shibata, T. Yamamoto, Y. Ikuhara

P- C22 **Atomic Arrangement, Electronic Structure, and Defect Energetics in [001](310) Σ5 Grain Boundaries of $SrTiO_3$ and $BaTiO_3$**
T. Mizoguchi, M. Imaeda, Y. Sato, H.S. Lee, T. Yamamoto, Y. Ikuhara

P- C23 **High Temperature Flow Behavior of Textured α-Al_2O_3 Polycrystals**
K. Morita, T. S. Suzuki, H. Yoshida, B.-N. Kim, K. Hiraga, Y. Sakka

P- C24 **Defect in Oxide Single Crystals Formed by Femtosecond Laser Pulses**
S. Kanehira, C. Moon, N. Shibata, E. Tochigi, Y. Ikuhara, K. Miura, K. Hirao

P- C25 **Nanostructural Characterization of $Y_{1-x}Sm_xBa_2Cu_3O_y$ Coated Conductor with $BaZrO_3$ Particles by Transmission Electron Microscopy**
T. Kato, R. Yoshida, T. Hirayama, M. Miura, M. Yoshizumi, Y. Yamada, T. Izumi, Y. Shiohara

P- C26 **Dopant Segregation Behaviors in Low-angle Tilt Grain Boundaries of α-Al_2O_3**
Y. Kezuka, E. Tochigi, N. Shibata, A. Nakamura, T. Yamamoto, Y. Ikuhara

P- C27 **Grain-Boundary Structure and Phase-Transformation Mechanism in Yttria-Stabilized Tetragonal Zirconia Polycrystal Doped with a Small Amount of Alumina**
K. Matsui, H. Yoshida, Y. Ikuhara

P- C28 **Crystallographic Shear Structures and Thermal Conductivity of Some Thermoelectric Magnèli**

Phase Titanium Oxides
S. Harada, K. Tanaka, H. Inui

P- C29 **Degradation Behavior of Bulk and Surface Structures for $LiNiO_2$-based Positive Electrode Materials at Elevated Temperatures**
H. Oka, H. Kondo, T. Sasaki, T. Nonaka, C. Okuda, Y. Kondo, Y. Takeuchi, Y. Ukyo

P- C30 **NEB Study of Reaction Paths inside HfO_2 Grain Boundaries**
N. Capron

P- C31 **The Evolution of Three Dimensional Normal Grain Growth Structures**
E. A. Lazar, R.D. MacPherson, J.K. Mason, D.J. Srolovitz

P-C32 **The Persistence of the Transient Regime in Normal Grain Growth**
J. K. Mason, E. A. Lazar, R. D. MacPherson, David J. Srolovitz

P- C33 **Grain Boundary Shear-Migration: From TEM in-situ Experiments to Modelling**
F. Mompiou, D. Caillard, M. Legros

P- C34 **Direct Observation of Sintering Kinetics of a Single Grain Boundary**
N. Kobayashi, H. Fukutome, Y. Shinoda, T. Akatsu, Y. Higo, F. Wakai

P- C35 **EELS Spectrum Imaging for Interfaces Analysis**
A. Maigné, T. Takeda, Y. Nemoto

P- C36 **Image Subtraction & Deconvolution Processing of Aberration-Corrected HRTEM Images for Observations of Atomic Columns at Interfaces**
J. Yamasaki, S. Inamoto, H. Tamaki, N. Tanaka

P- C37 **NC-AFM/STM Measurements on the Semiconductor Surface**
D. Sawada, Y. Sugimoto, K. Morita, M. Abe, S. Morita

P- C38 **Changes in Dewetting due to Film Thickness and Crucible Choice**
J. L. Riesterer, C. B. Carter

P- C39 **Evaluations of the Peach-Koheler Force to Emit a Lattice Dislocation from Non-equilibrium Tilt Grain Boundaries in Atomic Simulations**
K. Kinoshita, T. Shimokawa, T. Kinari

P- C40 **Grain Boundary Wetting (Coverage) by a Second Solid Phase**
S. G. Protasova, A. A. Mazilkin, B. B. Straumal, Y. O. Kuchyeyev, B. Baretzky