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MMM12

The 12th International Conference on
Multiscale **M**aterials **M**odeling

November 8-13, 2026

Sheraton Jeju Hotel, Jeju, Republic of Korea



Organized by KIM The Korean Institute of Metals and Materials

Sponsored by KOFST Korean Federation of Science & Technology Societies
제주관광공사 JEJU TOURISM ORGANIZATION
KIMS Korea Institute of Materials Science

Welcome Message

Welcome to the 12th International Conference on Multiscale Materials Modeling, to be held on Jeju Island, Republic of Korea.
Since its inaugural edition in London in 2002, the MMM conference series has served as a biennial international forum that rotates sequentially between North America, Europe, and Asia. It has become a unique platform for researchers from academia, national laboratories, and industry worldwide — spanning interdisciplinary fields such as theoretical and computational studies of hard and soft materials, functional materials, biomechanics and mechanobiology, advanced manufacturing, machine learning, mathematics, and computational sciences.

MMM12 continues this legacy with a comprehensive scientific program organized into multiple symposia covering three major areas:

Modeling Methods
From first-principles and atomistic simulations to phase-field, continuum approaches, and computational mechanics.

Application-Driven Topics
Microstructure evolution, deformation and fracture, energy materials, structural alloys, composites, and advanced manufacturing.

Data-Driven Paradigms
Machine learning, materials informatics, and digital-twin frameworks shaping the next generation of research.

These symposia — together with plenary lectures, invited and contributed talks, poster sessions, and focused workshops — are designed to promote meaningful interactions among participants from academia, industry, and national research institutes. We invite you to engage with world-leading scientists, engineers, and practitioners who are shaping the future of multiscale materials and mechanics modeling.
We are particularly delighted to host MMM12 on Jeju Island — renowned for its volcanic landscapes, rich geological diversity, and striking coastal scenery. This exceptional setting will provide an inspiring backdrop for scientific exchange and collaboration.
We warmly welcome researchers, students, and professionals from the materials science, mechanical engineering, solid mechanics, and computational modelling communities to join us — and contribute to the continued advancement of multiscale materials modeling.

Warm regards,

Prof. **Hyoung Seop Kim**
Conference Chair of MMM12

Symposia

Symposium 1	Quantum Mechanical Studies of Materials (including Honorary Symposium of Prof. Jisoon Ihm)
Symposium 2	AI-driven Materials Discovery and Design
Symposium 3	Molecular Dynamics Simulation of Materials: From Machine Learning Interatomic Potential to Coarse-Grained Models
Symposium 4	Multiscale Modeling of Additive Manufacturing
Symposium 5	Failure and Damage in Extreme Environments
Symposium 6	Functional Materials Modeling for Energy
Symposium 7	Modeling of Soft Matter Systems and Polymer Composites
Symposium 8	Defect and Dislocation Microstructures in Metals and Alloys
Symposium 9	Modeling of Deformation and Mechanical Performance in Multi-Principal Element Alloys
Symposium 10	Modeling of Hydrogen Effects in Materials
Symposium 11	Multiscale Plasticity and Defect Dynamics: Microstructural Evolution for Structural Materials
Symposium 12	AI-Augmented Multiscale Simulations and Digital Workflows
Symposium 13	Integrated Modeling and Microstructural Characterization
Symposium 14	Heat and Mass Transfer Across Scales
Symposium 15	Defect Kinetics and Microstructures in Complex Concentrated Alloys under Thermomechanical and Radiation Extremes
Symposium 16	Theory and Modeling of Crystalline Interfaces
Symposium 17	Defect Segregation Modeling and Defect-driven Deformation in Materials
Symposium 18	Mesoscale Modeling of Microstructural Evolution: From Monte Carlo to Phase-Field Methods

Plenary Speakers



Jisoon Ihm
(University of Ulsan, Korea)

Nov. 9(Mon) 09:00–09:45 | Ballroom 1



Ju Li
(Massachusetts Institute of Technology, USA)

Nov. 9(Mon) 13:00–13:45 | Ballroom 1



Joerg Neugebauer
(Max Planck Institute for Sustainable Materials, Germany)

Nov. 10(Tue) 09:00–09:45 | Ballroom 1



Sergei Dudarev
(United Kingdom Atomic Energy Authority, UK)

Nov. 10(Tue) 13:00–13:45 | Ballroom 1



Ingo Steinbach
(Ruhr-Universität Bochum, Germany)

Nov. 11(Wed) 09:00–09:45 | Ballroom 1



Atsuto Seko
(Kyoto University, Japan)

Nov. 12(Thur) 09:00–09:45 | Ballroom 1



Yujie Wei
(Tsinghua University, China)

Nov. 12(Thur) 13:00–13:45 | Ballroom 1

Program at a Glance

MMM12

Time	Nov. 8(Sun)	Nov. 9(Mon)	Nov. 10(Tue)	Nov. 11(Wed)	Nov. 12(Thur)	Nov. 13(Fri)
8:00-8:15	Registration	Registration				
8:15-8:30						
8:30-8:45		Opening Ceremony				
8:45-9:00						
9:00-9:15	Tutorial Sessions	Plenary 1	Plenary 3	Plenary 5	Plenary 6	Parallel Session K (90min)
9:15-9:30						
9:30-9:45						
9:45-10:00		Coffee Break 1	Coffee Break 3	Coffee Break 5	Coffee Break 6	
10:00-10:15		Parallel Session A (90min)	Parallel Session D (90min)	Parallel Session G (90min)	Parallel Session H (90min)	
10:15-10:30						Coffee Break 8
10:30-10:45						
10:45-11:00						Parallel Session L (90min)
11:00-11:15						
11:15-11:30						
11:30-11:45						
11:45-12:00		Lunch 1	Lunch 2	Lunch 3	Lunch 4	
12:00-12:15						
12:15-12:30						
12:30-12:45						Closing Ceremony
12:45-13:00						
13:00-13:15		Plenary 2	Plenary 4	Poster Presentation 2	Plenary 7	
13:15-13:30						
13:30-13:45						
13:45-14:00		Break	Break		Break	
14:00-14:15		Parallel Session B (90min)	Parallel Session E (90min)		Parallel Session I (90min)	
14:15-14:30						
14:30-14:45						
14:45-15:00						
15:00-15:15						
15:15-15:30						
15:30-15:45		Coffee Break 2	Coffee Break 4		Coffee Break 7	
15:45-16:00						
16:00-16:15		Parallel Session C (90min)	Parallel Session F (90min)	Free Afternoon	Parallel Session J (90min)	
16:15-16:30						
16:30-16:45						
16:45-17:00						
17:00-17:15						
17:15-17:30						
17:30-17:45						
17:45-18:00						
18:00-18:15	Welcome Reception		Poster Presentation 1	Banquet		
18:15-18:30						
18:30-18:45						
18:45-19:00						
19:00-19:15						
19:15-19:30						
19:30-19:45						
19:45-20:00						

Program as a Date_ November 8 (Sun.)

Time	Program	Ballroom 1, 2F	Ballroom 2, 2F	Ballroom 3, 2F	Ballroom 4, 2F
8:00-9:00	Registration	Registration			
9:00-12:00	Tutorial Sessions (Morning)	OpenDiS: An Open-Source Platform for Dislocation Dynamics Simulations Wei Cai (Stanford University), Nicolas Bertin (Lawrence Livermore National Laboratory)	Agentic AI in Materials Modeling Seungchul Lee (KAIST)		
12:00-14:00	Break	Break			
14:00-17:00	Tutorial Sessions (Afternoon)	OpenDiS: An Open-Source Platform for Dislocation Dynamics Simulations Wei Cai (Stanford University), Nicolas Bertin (Lawrence Livermore National Laboratory)	Modeling the Evolution of Microstructure Using the Phase-Field Method in the MOOSE Framework Larry Aagesen (Idaho National Laboratory)	LAMMPS: Molecular Dynamics for Materials Systems Michael Chandross (Sandia National Laboratories), Ian Winter (Sandia National Laboratories)	Crystal Plasticity Modeling: From Basic Dislocation Mechanisms to Microstructure-Informed Mechanical Response Myoung-Gyu Lee (Seoul National University)
18:00-19:30	Welcome Reception	Welcome Reception			

Tutorial Sessions

OpenDiS: An Open-Source Platform for Dislocation Dynamics Simulations
Tool · OpenDiS
Ballroom 1 · 09:00 – 17:00

Wei Cai (Stanford University)

Nicolas Bertin (Lawrence Livermore National Laboratory)

Modeling the Evolution of Microstructure Using the Phase-Field Method in the MOOSE Framework
Tool · MOOSE
Ballroom 2 · 14:00 – 17:00

Larry Aagesen (Idaho National Laboratory)

Crystal Plasticity Modeling: From Basic Dislocation Mechanisms to Microstructure-Informed Mechanical Response
Tool · CPFEM
Ballroom 4 · 14:00 – 17:00

Myoung-Gyu Lee (Seoul National University)

Agentic AI in Materials Modeling
Tool · LLM Agents · DFT
Ballroom 2 · 09:00 – 12:00

Seungchul Lee (KAIST)

LAMMPS: Molecular Dynamics for Materials Systems
Tool · LAMMPS
Ballroom 3 · 14:00 – 17:00

Michael Chandross (Sandia National Laboratories)

Ian Winter (Sandia National Laboratories)

Program as a Date

November 9 (Mon.)

Time	Program	Ballroom 1, 2F	Ballroom 2, 2F	Ballroom 3, 2F	Ballroom 4, 2F	Tamna Hall, 8F	Halla Hall, 8F	Ara Hall, 8F	Ora Hall, 8F	Mara, 2F	Udo, 2F	Chuja, 2F
8:00-8:30	Registration	Registration					Registration					
8:30-9:00	Opening	Opening Ceremony (08:30–09:00 | Ballroom 1, 2F)					Opening Ceremony (08:30–09:00 | Ballroom 1, 2F)					
9:00-9:45	Plenary 1	Plenary 1: Prof. Jisoon Ihm (09:00–09:45 | Ballroom 1, 2F)					Plenary 1: Prof. Jisoon Ihm (09:00–09:45 | Ballroom 1, 2F)					
9:45-10:00	Coffee Break 1	Coffee Break					Coffee Break					
10:00-11:30	Session A (90min)	**18** Mesoscale Modeling of Microstructural Evolution: From Monte Carlo to Phase-Field Methods (1)	**01** Quantum Mechanical Studies of Materials (including Honorary Symposium of Prof. Jisoon Ihm) (1)	**03** Molecular Dynamics Simulation of Materials: From Machine Learning Interatomic Potential to Coarse-Grained Models (1)	**05** Failure and Damage in Extreme Environments (1)	**14** Heat and Mass Transfer Across Scales (1)	**13** Integrated Modeling and Microstructural Characterization (1)	**17** Defect Segregation Modeling and Defect-driven Deformation in Materials (1)	**04** Multiscale Modeling of Additive Manufacturing (1)	**07** Modeling of Soft Matter Systems and Polymer Composites (1)	**12** AI-Augmented Multiscale Simulations and Digital Workflows (1)	**06** Functional Materials Modeling for Energy (1)
		Pil-Ryung Cha (30m)	Opening remarks (5m) Kwang-Ryeol Lee (20m)	Mingjian Wen (30m)	Jaime Marian (30m)	Tengfei Luo (30m)	Sean Agnew (30m)	Mary Alice Cusentino (20m) Yasushi Shibuta (20m)	Byeong-Joo Lee (30m)	Yoshitaka Umeno (30m)	Ping Yang (30m)	Roman Gröger (30m)
		Marco Seiz (15m)	Robert Parrish (20m)	Joanna Zou (15m)	Ludovic Thuinet (15m)	Zhenying Wang (20m)	Benjamin Udofia (15m)	Ryosuke Matsumoto (15m)	Dan Mordehai (15m)	Wei Cai (15m)	John J. Molina (15m)	Rui Wang (15m)
		Pengchuang Liu (15m)	Mario Geiger (20m)	Max Hodapp (15m)	Li Yang (15m)	Yanguang Zhou (15m)	Dmitri Louzguine (15m)	Osamu Takakuwa (15m)	Sachin Rangaswamy (15m)	Alexander Chervanyov (15m)	Hannes Holey (15m)	Myeongjae Heo (15m)
		Eisuke Miyoshi (15m)	Hyoung Joon Choi (20m)	George Saba (15m)	Nima Fakhrayi Mofrad (15m)	Shuhuai Yao (15m)	Jack Weeks (30m)	Shinya Taketomi (15m)	Yuki Takahashi (15m)		Deunbom Chung (15m)	Suyun Chae (15m)
		Aoi Nakazawa (15m)		Min Young Ha (15m)		Wenlong Tang (15m)						
11:30-13:00	Lunch	Lunch					Lunch					
13:00-13:45	Plenary 2	Plenary 2: Prof. Ju Li (13:00–13:45 | Ballroom 1, 2F)					Plenary 2: Prof. Ju Li (13:00–13:45 | Ballroom 1, 2F)					
13:45-14:00	Break	Break					Break					
14:00-15:30	Session B (90min)	**18** Mesoscale Modeling of Microstructural Evolution: From Monte Carlo to Phase-Field Methods (2)	**01** Quantum Mechanical Studies of Materials (including Honorary Symposium of Prof. Jisoon Ihm) (2)	**03** Molecular Dynamics Simulation of Materials: From Machine Learning Interatomic Potential to Coarse-Grained Models (2)	**05** Failure and Damage in Extreme Environments (2)	**14** Heat and Mass Transfer Across Scales (2)	**13** Integrated Modeling and Microstructural Characterization (2)	**17** Defect Segregation Modeling and Defect-driven Deformation in Materials (2)	**04** Multiscale Modeling of Additive Manufacturing (2)	**07** Modeling of Soft Matter Systems and Polymer Composites (2)	**12** AI-Augmented Multiscale Simulations and Digital Workflows (2)	**06** Functional Materials Modeling for Energy (2)
		Hui-Chia Yu (20m)	Jaehyun Bae (20m)	Tiago Lopes (15m)	Vasily V. Bulatov (30m)	Konstantinos Termentzidis (30m)	Gwenaelle Proust (30m)	Mark Asta (30m)	Wentao Yan (30m)	Hyunseong Shin (20m) Seunghwa Yang (20m)	Matous Mrovec (20m) Bassem Sboui (15m)	Kai S. Exner (30m)
		Julius Möller (15m)	Seung-Hoon Jhi (20m)	Qiuguo Yang (15m)								
		Wout Mertens (15m)	Yea-Lee Lee (20m)	Elena Vedmedenko (20m)	Ill Ryu (20m)	Jian Zeng (20m)	Penghui Cao (20m)	Rodrigo Freitas (20m)	Yanping Lian (20m)	Jiwon Jung (15m)	Léonard Moracchini (15m)	Kihyun Shin (20m)
		Ryan D. Kerr (15m)	Joo-Hyoung Lee (20m)	Hala Houmsi (15m)	Jingya Liang (15m)	Wu Li (20m)	Michael Falk (15m)	W. Jack Rudrum (15m)	Jang Terry Griffin (15m)	Jiung Han (15m)	Marvin Poul (15m)	JaeBeom Hwang (15m)
				Alexey S. Kotykhov (15m)	Seongwon Ham (15m)	Chunye Ma (15m)	Hamid Abdolvand (30m)	Ya-Wen Li (15m)	Luis Sandoval (15m)	Yongsu Lee (15m)	Wenhao Zhang (15m)	
				Ruosong Shi (15m)	Myles Stapelberg (20m)			Yuhei Ogawa (15m)	Soung Yeoul Ahn (15m)			
15:30-15:45	Coffee Break 2	Coffee Break					Coffee Break					
15:45-16:00												
16:00-17:30	Session C (90min)	**18** Mesoscale Modeling of Microstructural Evolution: From Monte Carlo to Phase-Field Methods (3)	**01** Quantum Mechanical Studies of Materials (including Honorary Symposium of Prof. Jisoon Ihm) (3)	**03** Molecular Dynamics Simulation of Materials: From Machine Learning Interatomic Potential to Coarse-Grained Models (3)		**14** Heat and Mass Transfer Across Scales (3)		**16** Theory and Modeling of Crystalline Interfaces (1)	**04** Multiscale Modeling of Additive Manufacturing (3)	**07** Modeling of Soft Matter Systems and Polymer Composites (3)	**12** AI-Augmented Multiscale Simulations and Digital Workflows (3)	**06** Functional Materials Modeling for Energy (3)
		Larry Aagesen (20m)	Young-Woo Son (20m)	Jiahui Yang (15m)		Zhigang Li (30m)		David Srolovitz (30m)	Chinnapat Panwisawas (30m)	Youngjun Ryu (15m) Roshal Perepadan Shaju (15m)	Mihai-Cosmin Marinica (20m) Anruo Zhong (15m)	Matthias Vandichel (30m)
		Jiho Kim (15m)	Myung Joon Han (20m)	Iaan Cho (15m)				Inam Lalani (15m)	Jinhui Yan (20m)	Anna Bondarenko (15m)	Eszter Székely (15m)	Hyeyoung Shin (20m)
		Maik Punke (15m)	Noejung Park (20m)	Junsoo Lee (15m)		Carlos Daniel Diaz Marin (20m)		Md Sharier Nazim (15m)	Yanglong Lu (15m)	Hajime Kimizuka (15m)	Raynol Dsouza (15m)	Matilde Russo (15m)
		Jeonghwan Lee (15m)	Closing remarks (10m)	Luca Reali (15m)		Hyejin Jang (20m)		Mira Todorova (15m)	Konosuke Ikeda (15m)		Daniele Lanzoni (15m)	Bogeun Park (15m)
		Nathan Bieberdorf (15m)		Yea Rem Choi (15m)		Yuanyuan Wang (15m)		Zhengqing Wei (15m)	Saurabh Tiwari (15m)			Chae-Eun Lim (15m)
		Jaejung Park (15m)		Sangmin Eom (15m)		Qiye Zheng (15m)			Simon Savukoski (15m)			
						Takahiro Ikeda (15m)						
						Jingbin Yang (15m)						

Program as a Date

November 10 (Tue.)

Time	Program	Ballroom 1, 2F	Ballroom 2, 2F	Ballroom 3, 2F	Ballroom 4, 2F	Tamna Hall, 8F	Halla Hall, 8F	Ara Hall, 8F	Ora Hall, 8F	Mara, 2F	Udo, 2F	Chuja, 2F
8:00-9:00	Registration	Registration					Registration					
9:00-9:45	**Plenary 3**	Plenary 3: Prof. Joerg Neugebauer (09:00–09:45 | Ballroom 1, 2F)					Plenary 3: Prof. Joerg Neugebauer (09:00–09:45 | Ballroom 1, 2F)					
9:45-10:00	Coffee Break 3	Coffee Break					Coffee Break					
10:00-11:30	**Session D (90min)**	**18** Mesoscale Modeling of Microstructural Evolution: From Monte Carlo to Phase-Field Methods (4)	**01** Quantum Mechanical Studies of Materials (including Honorary Symposium of Prof. Jisoon Ihm) (4)	**03** Molecular Dynamics Simulation of Materials: From Machine Learning Interatomic Potential to Coarse-Grained Models (4)	**05** Failure and Damage in Extreme Environments (3)	**14** Heat and Mass Transfer Across Scales (4)	**08** Defect and Dislocation Microstructures in Metals and Alloys (1)	**11** Multiscale Plasticity and Defect Dynamics: Microstructural Evolution for Structural Materials (1)	**04** Multiscale Modeling of Additive Manufacturing (4)	**07** Modeling of Soft Matter Systems and Polymer Composites (4)	**12** AI-Augmented Multiscale Simulations and Digital Workflows (4)	**06** Functional Materials Modeling for Energy (4)
		Katsuyo Thornton (30m)	Miroslav Kolos (15m) Youngjun Park (15m)	Kyeongjae Cho (30m)	Kyungsuk Kim (30m)	Baowen Li (30m)	Shigenobu Ogata (15m) Wang Chen (15m)	Nikhil Chandra Admal (30m)	Yuichiro Koizumi (30m)	Giulia Rossi (30m)	James Kermode (30m)	Changho Kim (30m)
		Oh Jinwoo (15m)	Sein Park (15m)	Taeyoung Jeong (15m)	**Marisol Koslowski** (20m)	**Lin Yang** (20m)	Facundo Costa (15m)	**Caihao Qiu** (20m)	**Peng Zhang** (20m)	Ioannis Tanis (15m)	Katharine Fisher (15m)	Hyun Tae Jung (15m)
		Youngmin Sunwoo (15m)	**Hiroki Sakakima (15m)**	Zixiong Wei (15m)	Inhyeok Yeo (15m)	Yichen Hou (15m)	Jan Fikar (15m)	**Brandon Runnels** (20m)	Min Yi (15m)	Koki Uda (15m)	Aytekin Demirci (15m)	Samuel Henrique Mattoso (15m)
		Luca Messina (15m)	**Minsik Oh (15m)**	Takumu Yamamura (15m)	Daniel Pino Muñoz (15m)	Yongxin Lei (15m)	**Alexander R Umantsev (15m)**	**Dan Mordehai (20m)**	Zhun Liang (15m)	Aravind Krishnan (15m)		Minho M. Kim (15m)
		Hwijae Cho (15m)	**Léo Hallégot (15m)**	Antoine Clement Ryckebush (15m)	Junho Seong (15m)	Zhicheng Zong (15m)			Kee-Ahn Lee (15m)	Alejandro Strachan (15m)		
			Haowei Xu (15m)									
11:30-13:00	Lunch	Lunch					Lunch					
13:00-13:45	**Plenary 4**	Plenary 4: Dr. Sergei Dudarev (13:00–13:45 | Ballroom 1, 2F)					Plenary 4: Dr. Sergei Dudarev (13:00–13:45 | Ballroom 1, 2F)					
13:45-14:00	Break	Break					Break					
14:00-15:30	**Session E (90min)**	**18** Mesoscale Modeling of Microstructural Evolution: From Monte Carlo to Phase-Field Methods (5)	**02** AI-driven Materials Discovery and Design (1)	**03** Molecular Dynamics Simulation of Materials: From Machine Learning Interatomic Potential to Coarse-Grained Models (5)	**05** Failure and Damage in Extreme Environments (4)	**10** Modeling of Hydrogen Effects in Materials (1)	**08** Defect and Dislocation Microstructures in Metals and Alloys (2)	**11** Multiscale Plasticity and Defect Dynamics: Microstructural Evolution for Structural Materials (2)	**04** Multiscale Modeling of Additive Manufacturing (5)	**07** Modeling of Soft Matter Systems and Polymer Composites (5)	**12** AI-Augmented Multiscale Simulations and Digital Workflows (5)	**06** Functional Materials Modeling for Energy (5)
		Mogadalai Pandurangan Gururajan (20m)	Junya Inoue (30m)	**Kyle Bushick** (20m)	**In-Suk Choi** (20m)	Cem Tasan (30m)	Daniel Mason (30m)	Gregory Rohrer (30m)	**Jung-Wook Cho** (20m)	**Paulo Souza** (20m)	**Tilmann Hickel** (20m)	Ming Yang (30m)
		HyungUk Jang (15m)		Seungho Lee (15m)	Byunghun Lee (15m)				Zixuan Wu (15m)	Ruoyu Dong (15m)	Joerg Schaarschmidt (15m)	
		Jyri Kimari (15m)	Sterley Labady (15m)	Abid Hossain Khan (15m)	Ji-Hoon Kang (15m)	Zhiliang Zhang (30m)	Neelam Meena (15m)	**Yuntian Zhu** (20m)	Tomoya Okada (15m)	Jia Zhang (15m)	Osamu Waseda (15m)	**Joonhee Kang** (20m)
		Krishnamohan Thekkepat (15m)	Junyong Choi (15m)	Yanming Wang (15m)	Hoyeong Lee (15m)		Fredric Granberg (15m)	**Yinan Cui** (20m)	Pavel Strachota (15m)	Takashi Taniguchi (15m)	Sepideh Baghaee Ravari (15m)	András Vernes (15m)
		Hikaru Azuma (15m)	Kanghyun Lee (15m)	Danny Perez (15m)		Xavier Feaugas (15m)	JongHyeon Park (15m)	**Peter Gumbsch** (20m)	Kang Liu (15m)		Mike White (15m)	Jun Hyeong Gu (15m)
				Aoi Watanabe (15m)		Song Lu (15m)	Andrew R. Warwick (15m)					
15:30-15:45 15:45-16:00	Coffee Break 4	Coffee Break					Coffee Break					
16:00-17:30	**Session F (90min)**	**18** Mesoscale Modeling of Microstructural Evolution: From Monte Carlo to Phase-Field Methods (6)	**02** AI-driven Materials Discovery and Design (2)	**03** Molecular Dynamics Simulation of Materials: From Machine Learning Interatomic Potential to Coarse-Grained Models (6)		**10** Modeling of Hydrogen Effects in Materials (2)	**08** Defect and Dislocation Microstructures in Metals and Alloys (3)	**11** Multiscale Plasticity and Defect Dynamics: Microstructural Evolution for Structural Materials (3)	**04** Multiscale Modeling of Additive Manufacturing (6)	**09** Modeling of Deformation and Mechanical Performance in Multi-Principal Element Alloys (1)	**12** AI-Augmented Multiscale Simulations and Digital Workflows (6)	**06** Functional Materials Modeling for Energy (6)
		Kuo-An Wu (20m)	**Corey Oses** (20m)	**Yoshinori Shiihara** (20m)		**Motomichi Koyama** (20m)	**Byeongchan Lee** (20m)	Javier Llorca (30m)	**GuiChuan Li** (20m)	Biao Wang (30m)	**Victor Fung** (20m)	**Heonjae Jeong** (20m)
		Xianghan Gao (15m)	**Man-Fai Ng** (20m)	Sabyasachi Chatterjee (15m)		**Jun Song** (20m)	Luca Reali (15m)		Haolin Sun (15m)		Jan Janssen (15m)	Huu Duc Luong (15m)
		Muhammad Hassaan Ali (15m)	Jaejung Park (15m)	Yongchao Wu (15m)		**Dengke Chen** (20m)	Jan Wróbel (15m)	**David Perez Hurtado** (20m)	Biao Wang (15m)	Giacomo Po (15m)	Qi Zhang (15m)	Bassem Sboui (15m)
		Joni Kaipainen (15m)	Muhammad Umer (15m)	Fraser Birks (15m)		Yu Yang (15m)	Aslak Fellman (15m)	**Thomas Swinburne** (20m)		Haidong Fan (15m)		Ma Wangxiao (15m)
			Nathan Bieberdorf (15m)	Tomokazu Ishihara (15m)		Jamaa Bouhattate (15m)		Lin Xiyuan (15m)		Amin Esfandiarpour (15m)		Chaehyeon Moon (15m)
										Max Boleininger (15m)		
17:30-19:30	**Poster Presentation 1**	Poster Presentation 1 (17:30-19:30 | Convention Lobby, 2F)					Poster Presentation 1 (17:30-19:30 | Convention Lobby, 2F)					

Program as a Date

November 11 (Wed.)

Time	Program	Ballroom 1, 2F	Ballroom 2, 2F	Ballroom 3, 2F	Tamna Hall, 8F
8:00-9:00	Registration	Registration			
9:00-9:45	Plenary 5	Plenary 5: Prof. Ingo Steinbach (09:00–09:45 | Ballroom 1, 2F)			
9:45-10:00	Coffee Break 5	Coffee Break			
10:00-11:30	Session G (90min)	**18** Mesoscale Modeling of Microstructural Evolution: From Monte Carlo to Phase-Field Methods (7)	**02** AI-driven Materials Discovery and Design (3)	**03** Molecular Dynamics Simulation of Materials: From Machine Learning Interatomic Potential to Coarse-Grained Models (7)	**10** Modeling of Hydrogen Effects in Materials (3)
		Munekazu Ohno (30m)	**Jaimyun Jung** (20m)	**Tae-Rae Kim** (20m)	Shigenobu Ogata (30m)
			Mooyeong Joo (15m)	Hyunseok Lee (15m)	
		Nan Wang (20m)	Sehyeok Oh (15m)	Chaeyeong Kim (15m)	**Ivan Gutierrez-Urrutia** (20m)
		Katerina Ioannidou (15m)	Chihun Lee (15m)	Lily Maysari Angraini (15m)	**Mohadeseh Taheri-Mousavi** (20m)
		Saurabh Tiwari (15m)		Petteri Vainikka (15m)	Jianying He (15m)
		Kunok Chang (15m)			Tilmann Hickel (15m)
11:30-13:00	Lunch	Lunch			
13:00-15:00	Poster Presentation 2	Poster Presentation 2 (13:00-15:00 | Convention Lobby, 2F)			
15:00-18:00	Free Afternoon	Free Afternoon			
18:00-20:00	Banquet	Banquet			

Halla Hall, 8F	Ara Hall, 8F	Ora Hall, 8F	Mara, 2F	Udo, 2F
Registration				
Plenary 5: Prof. Ingo Steinbach (09:00–09:45 | Ballroom 1, 2F)				
Coffee Break				
08 Defect and Dislocation Microstructures in Metals and Alloys (4)	**11** Multiscale Plasticity and Defect Dynamics: Microstructural Evolution for Structural Materials (4)	**16** Theory and Modeling of Crystalline Interfaces (2)	**09** Modeling of Deformation and Mechanical Performance in Multi-Principal Element Alloys (2)	**12** AI-Augmented Multiscale Simulations and Digital Workflows (7)
Wahyu Setyawan (20m)	**Hojun Lim** (20m)	**Nicolas Combe** (20m)	Hyoung Seop Kim (30m)	**Stefan Ringe** (20m)
Chenyang Lu (20m)	**Péter Dusán Ispánovity** (20m)	Sophie Stibac (15m)		Seungchang Han (15m)
Tadashi Hasebe (15m)	Yuming Qi (15m)	Anastasiia Titova (15m)	**Jun Ding** (20m)	Chanjin Kim (15m)
Aiya Cui (15m)	**David Montes de Oca Zapiain (15m)**	Blas Uberuaga (15m)	Liu Yulan (15m)	
Yousuke Tachikawa (15m)	Yang Li (15m)	Miroslav Kolar (15m)	Abdulmohssen K. Abaalkhail (15m)	
		Fadi Abdeljawad (15m)		
Lunch				
Poster Presentation 2 (13:00-15:00 | Convention Lobby, 2F)				
Free Afternoon				
Banquet				

Program as a Date

November 12 (Thur.)

Time	Program	Ballroom 1, 2F	Ballroom 2, 2F	Ballroom 3, 2F	Tamna Hall, 8F	Halla Hall, 8F	Ara Hall, 8F	Ora Hall, 8F	Mara, 2F	Udo, 2F
8:00-9:00	Registration	Registration				Registration				
9:00-9:45	**Plenary 6**	Plenary 6: Prof. Atsuto Seko (09:00–09:45 | Ballroom 1, 2F)				Plenary 6: Prof. Atsuto Seko (09:00–09:45 | Ballroom 1, 2F)				
9:45-10:00	Coffee Break 6	Coffee Break				Coffee Break				
10:00-11:30	**Session H** (90min)	**18** Mesoscale Modeling of Microstructural Evolution: From Monte Carlo to Phase-Field Methods (8)	**02** AI-driven Materials Discovery and Design (4)	**03** Molecular Dynamics Simulation of Materials: From Machine Learning Interatomic Potential to Coarse-Grained Models (8)	**10** Modeling of Hydrogen Effects in Materials (4)	**08** Defect and Dislocation Microstructures in Metals and Alloys (5)	**11** Multiscale Plasticity and Defect Dynamics: Microstructural Evolution for Structural Materials (5)	**16** Theory and Modeling of Crystalline Interfaces (3)	**09** Modeling of Deformation and Mechanical Performance in Multi-Principal Element Alloys (3)	**15** Defect Kinetics and Microstructures in Complex Concentrated Alloys under Thermomechanical and Radiation Extremes (1)
		Myeongjin Kang (15m)	Jihan Kim (30m)	Jintong Wu (15m)	Sophie Blondel (15m)	**Mihai-Cosmin Marinica** (20m)	**Wei Cai** (20m)	Eun-Ae Choi (30m)	Alfonso H.W. Ngan (30m)	Xiaoqing Pan (30m)
		Taiki Suzuki (15m)		Glen Pádraig Kiely (15m)	Fengping Luo (15m)	Kazuto Arakawa (30m)	Maoyuan Jiang (15m)			
		Dong-Uk Kim (15m)	Hoang Hai Nam Nguyen (15m)	Donggyu Lee (15m)	Jun-Ping Du (15m)		Hideki Mori (15m)	**Maik Punke** (20m)	Qi Wang (15m)	**Rodrigo Freitas** (20m)
		E.V. Fomin (15m)	**Joonhyeok Park (15m)**	Egor Lobshev (15m)	Keonwook Kang (15m)	Ruben Escobar (15m)	**Kyeongmi Yeon (15m)**	Jingyuan Yan (15m)	Atsuo Hirano (15m)	**Dallas R. Trinkle** (20m)
		Akinori Yamanaka (15m)	**Eugene Jang (15m)**	Daisuke Matsunaka (15m)	Sanjeet Kaur (15m)	Zhiqiang Zhao (15m)	B. Quessart (15m)	Nikhil Chandra Admal (15m)	Xin Liu (15m)	**Yunjiang Wang** (20m)
			Propad Y.V. (15m)		Shuhei Shinzato (15m)				Hoang-Thien Luu (15m)	
11:30-13:00	Lunch	Lunch				Lunch				
13:00-13:45	**Plenary 7**	Plenary 7: Prof. Yujie Wei (13:00–13:45 | Ballroom 1, 2F)				Plenary 7: Prof. Yujie Wei (13:00–13:45 | Ballroom 1, 2F)				
13:45-14:00	Break	Break				Break				
14:00-15:30	**Session I** (90min)	**18** Mesoscale Modeling of Microstructural Evolution: From Monte Carlo to Phase-Field Methods (9)	**02** AI-driven Materials Discovery and Design (5)	**03** Molecular Dynamics Simulation of Materials: From Machine Learning Interatomic Potential to Coarse-Grained Models (9)	**10** Modeling of Hydrogen Effects in Materials (5)	**08** Defect and Dislocation Microstructures in Metals and Alloys (6)	**11** Multiscale Plasticity and Defect Dynamics: Microstructural Evolution for Structural Materials (6)	**16** Theory and Modeling of Crystalline Interfaces (4)	**09** Modeling of Deformation and Mechanical Performance in Multi-Principal Element Alloys (4)	**15** Defect Kinetics and Microstructures in Complex Concentrated Alloys under Thermomechanical and Radiation Extremes (2)
		Sandeep Sugathan (15m)	**Markus Stricker** (20m)	Huan He (15m)	**Shihao Zhang** (20m)	**Kan Ma** (20m)	Ronan Madec (15m)	Yuichi Ikuhara (30m)	**Pierre Antoine Geslin** (20m)	**Jaime Marian** (20m)
		Tariq Ali (15m)	**Lei Zhang** (20m)	Aidan Thompson (15m)	**Guiyan Zang** (20m)	**Xiaoou Yi** (20m)	Xu Zhang (15m)		**Jia Li** (20m)	**K. G. Pradeep** (20m)
		Geunwoo Kim (15m)	Minhyung Lee (15m)	Samanyu Tirumala (15m)	**Takuji Oda** (20m)	Sho Hayakawa (15m)	Jae-Hoon Choi (15m)	Ryan Sills (15m)	Lassi Linnala (15m)	Enrique Martinez (15m)
		Bohyun Yoon (15m)	Doaa Mohamed (15m)		Hara Ryosuke (15m)	Zhanbo Sun (15m)	Haiyong Zhang (15m)	Katrin Schulz (15m)	Jaafar El Awady (15m)	Amin Esfandiarpour (15m)
			Phan Hoang Cuong (15m)		Sai Viswanadha Sastry Upadhyayula (15m)	Eliott T. Dubois (15m)	Alexander R. Umantsev (15m)	Himanshu Joshi (15m)	Zhiyuan Li (15m)	Stanley Chang (15m)
							Jaeyoung Choi (15m)	Christian Brandl (15m)		
15:30-15:45	Coffee Break 7	Coffee Break				Coffee Break				
15:45-16:00										
16:00-17:30	**Session J** (90min)	**18** Mesoscale Modeling of Microstructural Evolution: From Monte Carlo to Phase-Field Methods (10)	**02** AI-driven Materials Discovery and Design (6)		**10** Modeling of Hydrogen Effects in Materials (6)	**08** Defect and Dislocation Microstructures in Metals and Alloys (7)	**11** Multiscale Plasticity and Defect Dynamics: Microstructural Evolution for Structural Materials (7)	**16** Theory and Modeling of Crystalline Interfaces (5)	**09** Modeling of Deformation and Mechanical Performance in Multi-Principal Element Alloys (5)	**15** Defect Kinetics and Microstructures in Complex Concentrated Alloys under Thermomechanical and Radiation Extremes (3)
		Kyoungdoc Kim (20m)	**Xiaoyang Zheng** (20m)		**Hong-Bo Zhou** (20m)	**Thomas Swinburne** (20m)	Yichao Zhu (15m)	**Kazutoshi Inoue** (20m)	**Enrique Martinez** (20m)	**Yan Ma** (20m)
		Tomohiro Takaki (15m)	**Jaafar El-Awady** (20m)		E. A. Hodille (15m)	Gauravkumar Lathiya (15m)	Péter Dusán Ispánovity (15m)	Heting Liao (15m)	**Yuhki Tsukada** (20m)	**Yin Zhang** (20m)
		Faris Sweidan (15m)	Doaa Mohamed (15m)		Jae Hur (15m)	Niloofar Yansori (15m)	Ali R. Safi (15m)	Jian Han (15m)	Javier Llorca (15m)	**Hyokyung Sung** (20m)
		Xuezhou Wang (15m)	Hoheok Kim (15m)		Sicong Ren (15m)	Balduin Katzer (15m)	Nuri Shin (15m)	Ahmadreza Riyahi Khorasgani (15m)	Seon-Gyu Kim (15m)	Annie Barnett (15m)
					Omar Hussein (15m)	Paul Lafourcade (15m)		Xiang Luo (15m)	Renlong Xiong (15m)	Jesper Byggmästar (15m)
					Yan Ma (15m)			Markus Stricker (15m)		

Program as a Date

November 13 (Fri.)

Time	Program	Ballroom 1, 2F	Ballroom 2, 2F	Tamna Hall, 8F	Halla Hall, 8F	Ara Hall, 8F	Ora Hall, 8F	Mara, 2F
8:00-9:00	Registration	Registration			Registration			
9:00-10:30	**Session K** (90min)	**18** Mesoscale Modeling of Microstructural Evolution: From Monte Carlo to Phase-Field Methods (11)	**02** AI-driven Materials Discovery and Design (7)	**10** Modeling of Hydrogen Effects in Materials (7)	**08** Defect and Dislocation Microstructures in Metals and Alloys (8)	**11** Multiscale Plasticity and Defect Dynamics: Microstructural Evolution for Structural Materials (8)	**16** Theory and Modeling of Crystalline Interfaces (6)	**09** Modeling of Deformation and Mechanical Performance in Multi-Principal Element Alloys (6)
		Rakesh Maurya (15m)	**Anurag Bajpai** (20m)	Haoyang He (15m)	Fatima Ibrahim (15m)	Gyu-Jang Sim (15m)	**Eric Homer** (20m)	**Nithin Mathew** (20m)
		Nishant Choudhary (15m)	**Ki Sub Cho** (20m)	Akihiro Mitsuhara (15m)	Emi Kawai (15m)	Vinamra Agrawal (15m)	Ludovic Thuinet (15m)	Chuanlong Xu (15m)
		Sang-Ho Oh (15m)	Tae Young Go (15m)	Bronwyn Thomas (15m)	Ta-Te Chen (15m)	**Xiaoguo Gong (15m)**	Min Yi (15m)	Hyunsoo Lee (15m)
		Sawan Kumar (15m)	**Minh Tien Tran (15m)**	Sam Yaw Anaman (15m)	Anne Davis (15m)	ChanJae Shin (15m)	Nils Wikstrom (15m)	Jiahao Li (15m)
				Yves Ferro (15m)	Takeru Yamaoka (15m)	Wei Wan (15m)	Pritam Das (15m)	
				Xu Zhang (15m)			Erik Bitzek (15m)	
10:30-11:00	Coffee Break 8	Coffee Break			Coffee Break			
11:00-12:30	**Session L** (90min)		**02** AI-driven Materials Discovery and Design (8)	**10** Modeling of Hydrogen Effects in Materials (8)	**08** Defect and Dislocation Microstructures in Metals and Alloys (9)	**11** Multiscale Plasticity and Defect Dynamics: Microstructural Evolution for Structural Materials (9)	**17** Defect Segregation Modeling and Defect-driven Deformation in Materials (3)	**09** Modeling of Deformation and Mechanical Performance in Multi-Principal Element Alloys (7)
			Nikita Rybin (20m)	Geonjin Shin (15m)	Zsolt Beke (15m)	**Bryukhanov Ilya** (20m)	**Blas Uberuaga** (30m)	**Alejandro Strachan** (20m)
			Zhaolong Zhang (15m)	Tatsuya Ito (15m)	Beñat Gurrutxaga-Lerma (15m)	Zaigham Saeed Toor (15m)		Beñat Gurrutxaga-Lerma (15m)
			Seongjin Yun (15m)	Hamid Abdolvand (15m)		Baptiste Labonne (15m)	Jong-Hoon Park (15m)	Juan Carlos Ramirez (15m)
			Ryan Sills (15m)	Shin Hyun Kim (15m)		Yishi Su (15m)	Ahmed Abdelkawy (15m)	Jan Wróbel (15m)
							Ericmoore Jossou (15m)	
							Haruki Nishida (15m)	
12:30-13:00	Closing	Closing Ceremony (12:30–13:00 | Ballroom 1, 2F)			Closing Ceremony (12:30–13:00 | Ballroom 1, 2F)			

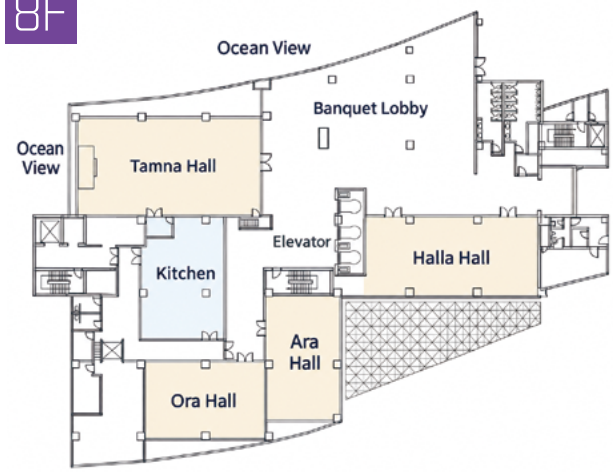
Social Event

MMM12

1. Welcome Reception	**Nov. 8 (Sun) 18:00-19:30,** Convention Lobby
2. Best Poster Awards Ceremony	**Nov. 11 (Wed) 18:00-18:30,** Ballroom 1
3. MMM12 Banquet	**Nov. 11 (Wed) 18:00-20:00,** Ballroom 1
4. ISMM Awards Ceremony & MMM13 Announcement	**Nov. 11 (Wed) 18:00-18:30,** Ballroom 1

Floor Plan

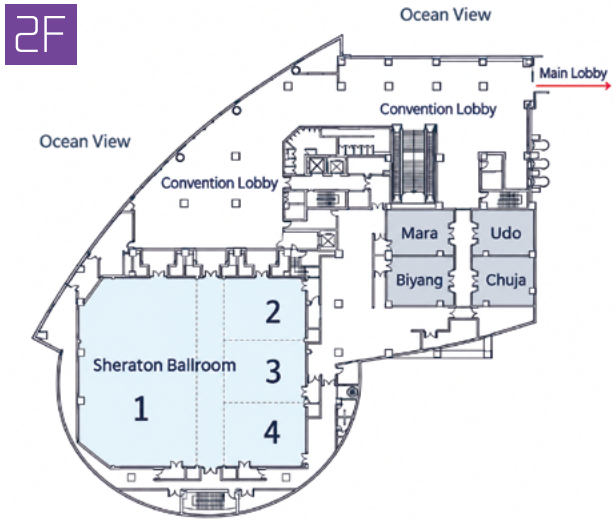
8F



Tamna, Halla, Ara and Ora Hall
Invited & Oral Session Room

Banquet Lobby
Lunch

2F



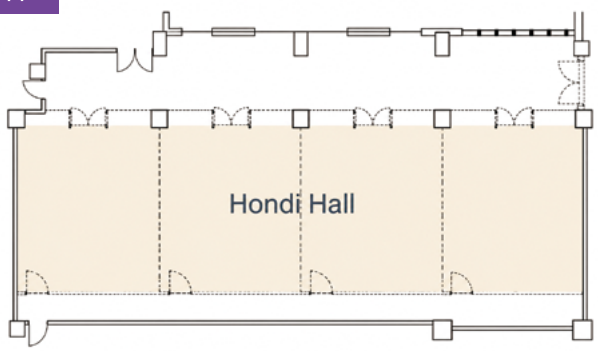
Sheraton Ballroom 1
Plenary, Invited & Oral Session Room
MMM12 Banquet
Awards Ceremony

Sheraton Ballroom 2,3,4
Invited & Oral Session Room

Mara, Udo, Chuja
Invited & Oral Session Room

Convention Lobby
Welcome Reception
Poster Session
Exhibition
Registration Desk

1F



Hondi Hall
Lunch

MMM12 Secretary: Tel. 82-2-573-6207 Fax. 82-2-573-6208 E-mail. secretariat@mmm12.org