



NU-NIMS Center for Innovation
6th NU-NIMS Materials Genome Workshop
Northwestern University, March 28, 2018
Final Program



Tuesday 27 March

James L. Allen Center
2169 Campus Drive, Evanston, IL , 60208

5.30PM Workshop Reception and Dinner

Wednesday 28 March

CHiMaD HQ, Hogan Hall 1st floor
<http://www.northwestern.edu/campus/maps.html>

8:30AM Registration (Coffee & Pastry)

A. Opening

9:00AM Welcome Prof. Greg Olson, NU

9:10AM Opening Lecture Prof. Koichi Tsuchiya, NIMS

B. Materials Informatics

9:30AM A vocabulary-inventory system for data utilization in materials science and engineering Dr. Takuya Kadohira, NIMS

9:50AM Information Extraction from Texts Based on Cohen's reciprocity Mr. Takeshi Onishi, TTI-C

10:10AM Data-Driven Approaches to Materials Discovery and Design Prof. Chris Wolverton, NU

10:30AM **BREAK**

10:40AM First-principles study on the electronic and magnetic properties of long-period stacking ordered structure of Iron Dr. Takao Tsumuraya, Kumamoto U/NIMS

11:00AM Materials Informatics and Big Data: Realization of 4th Paradigm of Science in Materials Science Prof. Ankit Agrawal, NU

11:20AM Phase Equilibria and Thermodynamic Evaluation of the Co-Ta Binary System Prof. Ikuo Ohnuma, NIMS

11:40AM Deep Learning Approaches for Microstructure Reconstruction and Materials Design Mr. Xiaolin Li & Prof. Wei Chen, NU

12:00PM High-throughput data processing for in-process non-destructive evaluation Dr. Kaita Ito, NIMS

12:30PM **LUNCH** (Allen Center)

C. Microstructure Dynamics

2:00PM Modeling of microstructure evolution during forging and heat treatment in Superalloy 718 Dr. Nobufumi Ueshima, Tohoku U.

2:20PM Ink-Based Alloy Printing Prof. David Dunand, NU



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2:40PM	Ab initio study of solid solution strengthening in iron alloys	Dr. Masato Wakeda, NIMS
3:00PM	Stability of M ₂₃ C ₆ precipitate in 9Cr steel	Dr. Tetsuya Matsunaga, NIMS
3:20PM	BREAK	
3:30PM	LEAP Tomography Studies	Prof. David Seidman, NIMS
3:50PM	Development of high-entropy alloys with low stacking fault energy for cryogenic applications	Dr. Jein Lee, NIMS
4:10PM	Fracture & Fatigue Simulation	Prof. Wing-Kam Liu, NU
4:30PM	Multiscale finite element modeling of ductile fracture in metals	Dr. Ikumu Watanabe, NIMS
	D. Closing	
4:50PM	Closing	Prof. Greg Olson, NU Dr. Yoshio Aoki, NIMS
5:00PM	Adjourn	