

# Structural Materials

# Carbon Neutral

## NIMS Award Symposium 2023

**FREE  
admission**

November 6th (Mon) - 7th (Tue), 2023

TSUKUBA International Congress Center Convention Hall 300

*Day 1* Nov. 6th [Mon] 10:00 - (Registration: 9:30 -)



NIMS Award Ceremony & Winning-lecture

Prof. Dierk Raabe  
(Max-Planck-Institut für Eisenforschung GmbH, Düsseldorf, Germany)  
"The Materials Science Behind Hydrogen-Based Green Steel Making"

**Invited Talk**

Prof. Sudarsanam Suresh Babu (Univ. of Tennessee, Knoxville, USA)  
Prof. Simon P. Ringer (The Univ. of Sydney, Australia)  
Prof. Sung-Joon Kim (POSTECH, Korea)  
Prof. Tadashi Furuhashi (Tohoku Univ.)

*Day 2* Nov. 7th [Tue] 9:00 - (Registration: 8:30 -)

**Invited Talk**

**Session 1. Deformation and Fracture**

Prof. Nobuhiro Tsuji (Kyoto Univ.)  
Prof. Manabu Enoki (The Univ. of Tokyo)  
Prof. Masaki Tanaka (Kyushu Univ.)  
Associate Prof. Motomichi Koyama (Tohoku Univ.)

**Session 2. High-temperature Materials**

Prof. Eiichi Sato (JAXA)  
Prof. Yuichiro Koizumi (Osaka Univ.)  
Associate Prof. Yuhki Tsukada (Nagoya Univ.)

*How to join?*

Online Registration and Call for Posters are OPEN  
on the Official Website !



# Leading Researchers of Structural Materials Field converge on Tsukuba

**Nov. 6**

(Mon)

9:30 -

9:30 -	Registration
10:00 -	Opening Remarks, Greeting from MEXT
10:05 - 10:20	NIMS Introduction
10:20 - 10:40	<b>NIMS Award 2023 Ceremony</b>
10:40 - 11:40	<b>NIMS Award 2023 Winning-lecture</b>
	 <b>Prof. Dierk Raabe</b> (Max-Planck-Institut für Eisenforschung GmbH, Düsseldorf, Germany) “The Materials Science Behind Hydrogen-Based Green Steel Making”
11:40 - 13:00	Photo Session & Lunch Break
13:00 - 13:40	<b>Invited Talk NA-1</b> Prof. Sudarsanam Suresh Babu (University of Tennessee, Knoxville, USA) “Microstructural Heterogeneity in Metal Additive Manufacturing”
13:40 - 14:20	<b>Invited Talk NA-2</b> Prof. Simon P. Ringer (The University of Sydney, Australia) “Towards a New Class of Alpha-beta Ti-O-Fe Alloys via Additive Manufacturing —a case study in atomic-scale microstructural control”
14:20 - 14:40	<b>NIMS Talk NA-3</b> Dr. Makoto Watanabe (RCSM, NIMS) “Materials Integration for Understanding Process-Structure-Property Linkage of Additive Manufacturing”
14:40 - 15:00	Poster / Coffee
15:00 - 15:40	<b>Invited Talk NA-4</b> Prof. Sung-Joon Kim (POSTECH, Korea) “Understanding Material Factors on Liquid Metal Embrittlement Sensitivity of Zn-coated AHSS”
15:40 - 16:20	<b>Invited Talk NA-5</b> Prof. Tadashi Furuhashi (Tohoku University) “Sublattice Alloy Design for Application of Solute Clustering in High-strength Steels”
16:20 - 16:40	<b>NIMS Talk NA-6</b> Dr. Hideki Katayama (RCSM, NIMS) “Corrosion Risk Prediction Map for Maintenance of Infrastructure”
16:40 - 18:00	Poster / Refreshment
18:00 - 19:30	<b>NIMS Award Reception</b>

**Nov. 7**

(Tue)

8:30 -

8:30 -	Registration
	<b>Session 1: Deformation and Fracture</b>
9:00 - 9:30	<b>Invited Talk S1-1</b> Prof. Nobuhiro Tsuji (Kyoto University) “Possibilities of Advanced Steels Managing Both Ultra-High Strength and Large Ductility”
9:30 - 10:00	<b>Invited Talk S1-2</b> Prof. Manabu Enoki (The University of Tokyo) “Microstructure Based Prediction/Design of Mechanical Properties and Damage Monitoring of Structural Materials”
10:00 - 10:30	<b>Invited Talk S1-3</b> Prof. Masaki Tanaka (Kyushu University) “Understanding the Brittle-to-ductile Transition Based on Shielding Theory”
10:30 - 11:00	Poster / Coffee
11:00 - 11:30	<b>Invited Talk S1-4</b> Associate Prof. Motomichi Koyama (Tohoku University) “Interactions among Hydrogen-transformation-crack in Metastable Austenitic Steels”
11:30 - 12:00	<b>NIMS Talk S1-5</b> Dr. Akinobu Shibata (RCSM, NIMS) “Hydrogen-related Fracture in High-strength Martensitic Steels”
12:00 - 13:30	Lunch Break
	<b>Session 2: High-temperature Materials</b>
13:30 - 14:00	<b>Invited Talk S2-1</b> Prof. Eiichi Sato (Institute of Space and Astronautical Science, JAXA) “Multi-material Designed Satellite Thruster through Ceramics/metal Dissimilar Joining”
14:00 - 14:30	<b>Invited Talk S2-2</b> Prof. Yuichiro Koizumi (Osaka University) “Digital Twin Science of Powder Bed Fusion Metal Additive Manufacturing”
14:30 - 15:00	<b>Invited Talk S2-3</b> Associate Prof. Yuhki Tsukada (Nagoya University) “Grain Boundary Segregation and Creep Rupture Strength of High-temperature Materials”
15:00 - 15:30	Poster / Coffee
15:30 - 16:00	<b>NIMS Talk S2-4</b> Dr. Toshio Osada (RCSM, NIMS) “Development of Ni-based Superalloys for Jet Engine Applications”
16:00 - 16:30	<b>NIMS Talk S2-5</b> Dr. Taisuke Sasaki (CMSM, NIMS) “On the Role of Atom Probe Tomography in Understanding of Microstructural Origin of High Strength in Metallic Alloys”
16:30 - 16:35	Oral Closing
16:35 - 19:00	<b>Poster Session [Core Time 17:00~19:00]</b>



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