

# The 2<sup>nd</sup> International Symposium on Negative Thermal Expansion and Related Materials (ISNTE-II)

Tokyo Institute of Technology, Yokohama, Japan  
December 12-15, 2017

Dec. 12, 2017 (Tuesday)

Reception, Get Together Party

Dec. 13, 2017 (Wednesday)

Registration

Opening

Oral Session 1 (Review Session)

Oral Session 2 (Open Framework Materials 1)

Oral Session 3 (Ruthenates Basic Physics)

Oral Session 4 (Open Framework Materials 2)

Poster Session

Dec. 14, 2017 (Thursday)

Oral Session 5 (Charge/Orbital Ordering)

Oral Session 6 (Advanced Measurements 1)

Oral Session 7 (Fundamental Physics)

Oral Session 8 (Magnetic Materials)

Banquet

Dec. 15, 2017 (Friday)

Oral Session 8 (Open Framework Materials 3)

Oral Session 9 (Advanced Measurements 2)

## Dec. 12, 2017 (Tuesday)

<b>Reception</b> 19:00 -	Aobadai Forum Get Together Party
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## Dec. 13, 2017 (Wednesday)

<b>Registration</b> 09:00 - 09:15	Suzukakedai-Campus, Tokyo Institute of Technology
<b>Opening</b> 09:15 - 09:20	M. Azuma
<b>Oral Session 1</b> 09:20 - 10:05	<b>Review Session</b> Chair: J. Chen J. S. O. Evans Negative Thermal Expansion – Coming of Age
10:05 - 10:50	J. P. Attfield Materials and Mechanisms of NTE
<b>Oral Session 2</b> 11:05 - 11:40	<b>Open Framework Materials 1</b> Chair: J. S. O. Evans C. J. Kepar Extreme Thermomechanical Properties through a Molecular Materials Approach
11:40 - 12:05	Q. Sun Controlling Negative Thermal Expansion of Framework Materials by Insertion and Substitution: First-principles Simulations
12:05 - 12:30	Z. H. Lin Anomalous Thermal Expansion in Borates
<b>Lunch</b> 12:30 - 13:35	
<b>Oral Session 3</b> 13:35 - 14:10	<b>Ruthenates</b> Chair: S. Mori G. Cao Coupling of Orbital and Magnetic Orders to Colossal Negative Volume Thermal Expansion in Novel Mott Insulators
14:10 - 14:35	K. Takenaka Negative Thermal Expansion Induced by Microstructural Effects in Anisotropic Thermal Expansion Materials
14:35 - 15:05	A. Takezawa Study on Macroscopic Thermal Expansion of Ceramics of Anisotropic Thermal Expansion Crystals by Topology Optimization

<b>Coffee Break</b> 15:05 - 15:30	
<b>Oral Session 4</b> 15:30 - 16:05	<b>Open Framework Materials 2</b> Chair: X. R. Xing J. Chen Local Structure and Negative Thermal Expansion of ScF <sub>3</sub> Based Fluorides
16:05 - 16:40	C. Lind-Kovacs When Each Atom Matters: Interesting Materials in the Scandium Tungstate Family
16:40 - 17:15	P. Tong Crossover of Thermal Expansion from Positive to Negative in Cubic ReO <sub>3</sub> -type Compounds TiZrF <sub>7-x</sub> (x=0, 0.5 and 1)
<b>Poster Session with Light Meal</b> 17:20 -	Chair: K. Takenaka

Dec. 14, 2017 (Thursday)

<b>Oral Session 5</b> 09:00 - 09:30	<b>Charge/Orbital Ordering</b> Chair: J. P. Attfield M. Naka Theory of Valence Transition in Perovskite-Type Transition Metal Oxides with A-Site Valence Skipping Elements
09:30 - 10:05	M. Azuma Negative Thermal Expansions induced by Phase Transitions
10:05 - 10:30	K. Oka Pressure Induced Large Volume Collapse in PbVO <sub>3</sub> and Its Potential for Negative Thermal Expansion
<b>Oral Session 6</b> 10:50 - 11:20	<b>Advanced Measurements 1</b> Chair: T. Katsufuji T. Watanuki Local Structure Study on "Charge Glass" States Appeared in Pb/Bi-Based Perovskites using Pair Distribution Function Analysis
11:20 - 11:55	M. G. Tucker Investigating Negative Thermal Expansion Materials using Neutron and X-ray Total Scattering
<b>Lunch</b> 11:55 - 13:30	

<b>Oral Session 7</b> 13:30 - 14:05	<b>Fundamental Physics</b> Chair: T. Mizokawa M. Dove Phonons and Negative Thermal Expansion
14:05 - 14:40	T. Katsufuji Coupling between the Lattice Distortion and the Orbital/Charge
14:40 - 15:15	Degrees of Freedom in Various Transition-Metal Oxides D. Khomskii Lattice Effects at the Spin-State Transitions
<b>Coffee Break</b> 15:15 - 15:40	
<b>Oral Session 8</b> 15:40 - 16:15	<b>Magnetic Materials</b> Chair: K. Takenaka Y. Sun Research on Abnormal Thermal Expansion and Correlated Magnetic Properties of Antiperovskite $Mn_3XN$ Compounds
16:15 - 16:40	R. J. Huang $La(Fe, Si, Co)_{13}/Cu$ Composites with Tailored Thermal Expansion
16:40 - 17:10	H. Katori Crystal Structure and Magnetic Property of Polymorphs $(Al_xFe_{2-x})GeO_5$
17:10 - 17:35	T. Hatano Epitaxial Growth of Single Crystalline $Mn_3CuN$ Thin Films and Their Physical Properties
<b>Banquet</b> 18:30 -	Aobadai Forum Poster Award, Speech

Dec. 15, 2017 (Friday)

<b>Oral Session 9</b> 09:00 - 09:35	<b>Open Framework Materials 3</b> Chair: C. J. Kepart X. R. Xing Structure, Negative Thermal Expansion and SHG Effect in Tungsten Bronze Oxide PPLN
09:35 - 10:10	A. P. Wilkinson The Response of $ReO_3$ -type Fluorides and Other Negative Thermal Expansion Frameworks to Pressure

<b>Oral Session 10</b>	<b>Advanced Measurements 2</b> Chair: M. Azuma
10:30 - 11:05	S. Mori Microstructures in Negative Thermal Expansion Related Materials
11:05 - 11:40	A. Sanson EXAFS and Negative Thermal Expansion
11:40 - 12:15	T. Mizokawa Oxygen Holes in Transition-Metal Oxides with Small Charge-Transfer Energy