

# ISNT2017 & ISSNOX5 Program (Tentative)



Aug. 27 Sunday	Aug. 28 Monday		Aug. 29 Tuesday		Aug. 30 Wednesday	
	Room A	Room B	Room A	Room B	Room A	Room B
	Session A1 8:45~10:30		Session A5 8:45~10:30	Session B5 8:45~10:15	Session A9 8:45~10:30	Session B9 8:45~10:30
	Coffee Break					
	Session A2 11:00~12:30		Session A6 11:00~12:30	Session B6 11:00~12:30	Session A10 11:00~12:30	Session B10 11:00~12:30
	Lunch Break 12:30~14:00					
	Session A3 14:00~15:45	Session B3 14:00~15:45	Session A7 14:00~15:30	Session B7 14:00~15:30	Session A11 14:00~16:15	
	Coffee Break					
Registration 15:00~19:00	Session A4 16:15~18:00	Session B4 16:15~18:00	Session A8 16:00~17:00	Session B8 16:00~17:00		
Welcome Party 17:00~19:00			Poster Session – Room C (1F) – 17:00~19:00		Conference Banquet, HOTEL MYSTAYS-Sapporo Aspen, 18:00~20:00	

	Aug. 31, Thursday	Sept. 1, Friday	
	Workshop for Advanced Nitrides & Oxynitrides, in <i>Noboribetsu</i>		
Invited Lecture : 30 min Oral Presentation : 15 min (Including both presentation and discussion)			

---

## August 27 (Sunday)

---

15:00~19:00 Registration: Lobby (Frontier Research in Applied Sciences Building in Hokkaido Univ.)

17:00~19:00 Welcome Party: Restaurant Elm (Faculty House "Trillium" in Hokkaido Univ.)

---

## August 28 (Monday)

---

8:45~9:00 Opening Remark, **Shinichi Kikkawa** (Conference Chair)

### Session A1 : Future View of Nitrides & Non-Oxides I

**Chairperson :**

9:00~9:30 A1-IL1 **Isao Tanaka**, Kyoto University, Japan  
Materials Discovery Through Machine Learning Process

9:30~10:00 A1-IL2 **Young-Wook Kim**, University of Seoul, Korea  
Electrically Conductive Liquid-Phase Sintered Silicon Carbide Ceramics

10:00~10:30 A1-IL3 **Mrityunjay Singh**, Ohio Aerospace Institute, USA  
Additive Manufacturing: A Flexible and Disruptive Manufacturing

---

10:30~11:00 **Coffee Break**

---

### Session A2 : Future View of Nitrides & Non-Oxides II

**Chairperson :**

11:00~11:30 A2-IL1 **Yuichi Ikuhara**, The University of Tokyo, Japan  
Grain Boundary and Interface Atomic Structures of Nitrides and Oxides

11:30~12:00 A2-IL2 **Walter Lengauer**, Vienna University of Technology, Austria  
Titanium Carbonitride-Based Cermets: A Review on Material Developments, Performance and Applications

12:00~12:30 A2-IL3 **Shinichi Kikkawa**, Hokkaido University, Japan  
Change of Magnetic Coercivity in  $\alpha'$ -Fe<sub>16</sub>N<sub>2</sub> Like Nitride

---

12:30~14:00 **Lunch Break**

---

### Session A3 : Functional Nitrides for Energy & Environment I – Energy Materials

**Chairperson :**

14:00~14:30 A3-IL1 **Ungyu Paik**, Hanyang University, Korea  
Nitridated Nanomaterials for Energy Conversion and Storage Devices

14:30~14:45 A3-O1 **Hajime Kiyono**, Shibaura Institute of Technology, Japan  
Kinetics and Mechanism on Ammonia Nitridation of Oxides by Thermogravimetric Measurements and Microstructural Observations

14:45~15:00 A3-O2 **Ken Sakaushi**, National Institute for Materials Science, Japan  
Highly Efficient Energy Conversion Reactions of Carbon-, Nitrogen-based Frameworks

15:00~15:15	A3-O3	<b>Taeseup Song</b> , Yeungnam University, Korea Nitridated TiO <sub>2</sub> nanofibers as an anode material for high power lithium ion batteries
15:15~15:30	A3-O4	<b>Takahiro Kozawa</b> , Osaka University, Japan Role of Carbon Nanoparticles in Mechanical Synthesis of Cathode Materials for Li-ion Batteries
15:30~15:45	A3-O5	<b>Dragoljub Vrankovic</b> , Technische Universität Darmstadt, Germany SiCN Ceramics with Tailored Porosity for Stable and Reversible Li-Ion Storage

15:45~16:15

**Coffee Break**

### Session A4 : Functional Nitride for Energy & Environment II – Nitride Phosphors

**Chairperson :**

16:15~16:45	A4-IL1	<b>Rong-Jun Xia</b> , National Institute for Materials Science, Japan Luminescent Nitride Ceramics for Solid State Laser Lighting
16:45~17:15	A4-IL2	<b>LiangJun Yin</b> , University of Electronic Science and Technology of China, China Composition-Structure-Property Relationships for Eu-doped AlN-based Phosphors: a Review
17:15~17:30	A4-O1	<b>Zoltan Lences</b> , Slovak Academy of Sciences, Slovakia Luminescent Properties of Lanthanide Oxide and Fluoride Doped LaSi <sub>3</sub> N <sub>5</sub> Phosphors
17:30~17:45	A3-O2	<b>Fumitaka Yoshimura</b> , Mitsubishi Chemical Group, Science and Technology Research Center, Inc., Japan Synthesis, Crystal Structure and Luminescence Properties of a New Polymorph SrAlSi <sub>4</sub> N <sub>7</sub> :Eu <sup>2+</sup>
17:45~18:00	A3-O3	<b>Takuma Takahashi</b> , Kanagawa Academy of Science and Technology, Japan Fabrication of Translucent CaAlSiN <sub>3</sub> :Eu <sup>2+</sup> Bulk Ceramics using a Spark Plasma Sintering Technique

### Session B3 : Engineering Materials – Composite & Ceramics of Nitrides

**Chairperson :**

14:00~14:30	B3-IL1	<b>Mathias Herrmann</b> , Fraunhofer-IKTS, Germany Diamond, cBN Reinforced Ceramic Materials: Potential Wear Resistant Components
14:30~14:45	B3-O1	<b>Ji-Xuan Liu</b> , Donghua University, China Reactive Hot-pressed ZrB <sub>2</sub> -SiC-BN Ceramics with Improved Thermal Shock Resistance
14:45~15:00	B3-O2	<b>Eveline Zschippang</b> , Fraunhofer-IKTS, Germany Preparation and Characterization of Diamond/RBSN and cBN/RBSN Composites
15:00~15:15	B3-O3	<b>Dowon Song</b> , Hanyang University, Korea Crack Propagation Behavior in Thermal Barrier Coatings with Self-Healing Agent

---

15:15~15:30      B3-O4      **Hui Gu**, Shanghai University, China  
From Oxynitride, Nitrocarbide, to Carboboride Ceramics: Multi-Levelled  
Microstructures to Dictate Multi-phase Relationship

15:30~15:45      B3-O5      **Servet Turan**, Anadolu University, Turkey  
Obtaining Tunable Electrical Properties in Non-oxide Ceramics

---

15:45~16:15      Coffee Break

---

#### Session B4 : Coating & Thin Films

**Chairperson :**

16:15~16:45      B4-IL1      **Takashi Goto**, Tohoku University, Japan  
Preparation of SiAlON Films by Laser Chemical Vapor Deposition

16:45~17:15      B4-IL2      **Jingyang Wang**, Shenyang National Laboratory for Materials Science,  
China  
Integrated Carbides Coating for Accident Tolerant Zircaloy Fuel Cladding

17:15~17:30      B4-O1      **Sung-Min Lee**, Korea Institute of Ceramic Engineering and Technology,  
Korea  
Fabrication of Plasma Resistant Yttrium Oxyfluoride Coatings Through  
Suspension Plasma Spray

17:30~17:45      B4-O2      **Yanling Cheng**, Guangdong University of Technology, China  
Epitaxial Growth of Aluminium Nitride Film by a Urea Glass Route

17:45~18:00      B4-O3      **Anongsack Paseuth**, Hokkaido University, Japan  
Thermal Stability of Al-Rich c-Al<sub>x</sub>Ti<sub>1-x</sub>N Coatings Prepared by LP-CVD

---

## August 29 (Tuesday)

### Sessions in Room A – “Oxynitride Sessions” supported by “Mixed Anion Project” in MEXT Session A5 : Novel Oxynitride & Synthesis Advances I

**Chairperson :**

- |             |        |   |
|-------------|--------|---|
| 8:45~9:15   | A5-IL1 | <b>Amparo Fuertes</b> , ICMAB-CSIC, Spain<br>New Developments in the Chemistry of Oxynitride Materials  |
| 9:15~9:45   | A5-IL2 | <b>Hiroshi Kageyama</b> , Kyoto University, Japan<br>Transition Metal Oxynitride Perovskite   |
| 9:45~10:00  | A5-O1  | <b>Emanuel Ionescu</b> , Technische Universität Darmstadt, Germany<br>Formability Prediction and Synthesis Methods of Perovskite-type Metal Oxynitrides |
| 10:00~10:15 | A5-O2  | <b>Takafumi Yamamoto</b> , Kyoto University, Japan<br>Low Temperature Synthesis of Oxynitrides by a Labile Hydride Strategy                             |
| 10:15~10:30 | A5-O3  | <b>Akira Hosono</b> , Hokkaido University, Japan<br>Flux Growth of $\text{Sr}_{1-x}\text{Ba}_x\text{TaO}_2\text{N}$ ( $x=0.05\sim 0.25$ ) Oxynitride    |

---

10:30~11:00

**Coffee Break**

---

### Session A6 : Functional Nitrides for Energy and Environment IV – Oxynitride Phosphors

**Chairperson :**

- |             |       |   |
|-------------|-------|---|
| 11:00~11:15 | A6-O1 | <b>Barbara Justyna Adamczyk</b> , Silesian University of Technology, Poland<br>Influence of Phase Purity on Photoluminescence Properties of Strontium Oxynitride Phosphor Doped with $\text{Eu}^{2+}$ Ions                                    |
| 11:15~11:30 | A6-O2 | <b>Yuuki Kitagawa</b> , Kyoto University, Japan<br>Construction of Vacuum Referred Binding Energy Diagram in $\text{YSiO}_2\text{N}$ Doped with Lanthanide Ions for Persistent Luminescence   |
| 11:30~11:45 | A6-O3 | <b>Qian Liu</b> , Chinese Academy of Sciences, China<br>Oxynitride Phosphors: Novel Synthesis, Transition Metal Ion Doping, Luminescent Properties  |
| 11:45~12:00 | A6-O4 | <b>Tetsuo Uchikoshi</b> , National Institute for Materials Science, Japan<br>Surface Modification of $\text{Ca-}\alpha\text{-SiAlON:Eu}^{2+}$ Phosphor Particles for Obtaining Dense, Homogeneous Layer by Electrophoretic Deposition Process |
| 12:00~12:15 | A6-O5 | <b>Yuwaraj Khatri Kshetri</b> , Sun Moon University, Korea<br>Infrared to Visible Upconversion in $\alpha\text{-Sialon}$ and First Principles Study of Electronic Properties of $\text{Er}^{3+}\text{-}\alpha\text{-Sialon}$                  |
| 12:15~12:30 | A6-O6 | <b>Junichi Tatami</b> , Yokohama National University, Japan<br>Fabrication of Transparent and Fluorescent $\text{Ca-}\alpha\text{-SiAlON:Eu}$ Bulk Ceramics   |

---

12:30~14:00

**Lunch Break**

---

## Session A7 : Novel (Oxy)Nitrides & Synthesis Advances I

**Chairperson :**

- 14:00~14:30 A7-IL1 **Richard Dronskowski**, RWTH Aachen University, Germany  
Itinerant Nitrides and Salt-Like Guanidates – The Diversity of Solid-State Nitrogen Chemistry
- 14:30~14:45 A7-O1 **Cedric Tassel**, Kyoto University, Japan  
Novel LiNbO<sub>3</sub>-type Oxynitride Perovskites Prepared via High Pressure
- 14:45~15:00 A7-O2 **Fumitaka Takeiri**, Kyoto University, Japan  
Topochemical Reactions to Reach (O<sup>2-</sup>, H<sup>-</sup>, N<sup>3-</sup>) Anion-Ternary Compounds
- 15:00~15:15 A7-O3 **Laurent LE GENDRE**, Université de Rennes 1, France  
Microwave and Radio-Frequency Dielectric Properties of Oxynitride Perovskite Thin Films
- 15:15~15:30 A7-O4 **Kumiko Yamazaki**, TDK Co. Ltd., Japan  
SrTaO<sub>x</sub>N<sub>y</sub> (x>2, y<1) polycrystalline thin film of low tan δ and high permittivity

15:30~16:00

Coffee Break

## Session A8 : Novel Oxynitrides & Synthesis Advances III

**Chairperson :**

- 16:00~16:30 A8-IL1 **Tanguy Rouxel**, Université de Rennes 1, France  
Mechanical Properties of Silicon Oxynitride Glasses: What Makes Them Different from Other Glasses?
- 16:30~16:45 A8-O1 **Toshihiro Moriga**, Tokushima University, Japan  
Eco-friendly Preparation of Sr<sub>2</sub>TaO<sub>3</sub>N from Stoichiometrically-different Oxide Precursor
- 16:45~17:00 A8-O2 **Yuji Masubuchi**, Hokkaido University, Japan  
Synthesis of SrTaO<sub>2</sub>N Oxynitride by using Carbon Nitride as a Nitrogen Source

17:00~19:00 Poster Session – Room C (1F) –

## Session B5 : Functional Nitrides for Energy & Environment III – Thermal Property

**Chairperson :**

- 8:45~9:15 B5-IL1 **Hideki Hirotsumi**, Denka Co., Ltd., Japan  
Technical Trend of a Ceramics Substrate for Power Module
- 9:15~9:45 B5-IL2 **Kiyoshi Hirao**, National Institute of Advanced Industrial Science and Technology, Japan  
Assessment of Thermal Fatigue During High Temperature Cycling of AlN/Cu and Si<sub>3</sub>N<sub>4</sub>/Cu Metalized Substrates

---

9:45~10:00 B5-O1 **Jingxian Zhang**, Shanghai Institute of Ceramics, China  
Low Temperature Sintering of Si<sub>3</sub>N<sub>4</sub> for Potential Use as Circuit Substrate of Power Device

10:00~10:15 B5-O2 **You Zhou**, National Institute of Advanced Industrial Science and Technology, Japan  
Effects of Sintering Additives on Thermal Conductivity of Sintered Reaction-bonded Silicon Nitride Ceramics

---

10:15~11:00 **Coffee Break**

---

### Session B6 : Engineering Materials – Silicon Nitrides & Carbides

**Chairperson :**

11:00~11:15 B6-O1 **Martin Schwentenwein**, Lithoz GmbH, Austria  
Lithographic Additive Manufacturing of SiAlON Systems

11:15~11:30 B6-O2 **Xuemei Yi**, Northwest A&F University, China  
Combustion Synthesis and Spark Plasma Sintering of (Y,Ca)- $\alpha$ -SiAlONs

11:30~11:45 B6-O3 **Young-Jo Park**, Korea Institute of Materials Science, Korea  
The Fabrication of  $\beta$ -SiAlONs not by the Reaction Sintering

11:45~12:00 B6-O4 **Motoyuki Iijima**, Yokohama National University, Japan  
PEI-Fatty Acid Complex as Surface Modifier for Processing Si<sub>3</sub>N<sub>4</sub> Ceramics from Non-Aqueous Multi-component Slurries

12:00~12:15 B6-O5 **Tohru S. Suzuki**, National Institute for Materials Science, Japan  
Tailoring the Microstructure in SiC by Magnetic Field

12:15~12:30 B6-O6 **Mariko Sado**, Yokohama National University, Japan  
Improvement in Thermal Conductivity of Si<sub>3</sub>N<sub>4</sub> Ceramics Through a Low Magnetic Field Orientation Technique

---

12:30~14:00 **Lunch Break**

---

### Session B7 : Engineering Materials – Nitrides & Carbides

**Chairperson :**

14:00~14:30 B7-IL1 **Yoshio Sakka**, National Institute for Materials Science, Japan  
Fabrication and Some Properties of MAX Phase Ceramics

14:30~15:00 B7-IL2 **Yanchun Zhou**, Aerospace Research Institute of Materials and Processing Technology, China  
Damage Tolerant Ceramics with Nanolaminated Structures: from MAX Phases to MAB Phases

15:00~15:15 B7-O1 **Rolf J. Waesche**, Federal Institute for Materials Research and Testing (BAM), Germany  
Colloidal Processing of Niobium Carbide Cermets with Ni Binder

15:15~15:30 B7-O2 **Ayuka Matsugami**, Yokohama National University, Japan  
Control of Wear Behavior of AlN Ceramics using a Tribo-chemical Reaction

---

15:30~16:00 **Coffee Break**

---

## Session B8 : Polymer Derived Materials I – Boron Nitrides

### Chairperson :

- 16:00~16:30 B8-IL1 **Philippe Miele**, Université de Montpellier, France  
Boron Nitride Based Nanostructured Materials for Energy, Environmental and Health Applications
- 16:30~16:45 B8-O1 **Yoshiyuki Sugahara**, Waseda University, Japan  
Preparation of Amorphous Solids from Precursors and Their Applications to High Pressure Synthesis of Cubic Boron Nitride
- 16:45~17:00 B8-O2 **Samuel Bernard**, Université Montpellier 2, France  
Highly Crystallized Precursor-derived Boron Nitride

## 17:00~19:00 Poster Session – Room C (1F) –

- P1 **Dai Kusano**, Japan Fine Ceramics Co., Ltd., Japan  
Development of High Thermal Conductivity Silicon Nitride Substrates for Power Semiconductor Applications
- P2 **Yuki Tokunaga**, Tokyo Institute of Technology, Japan  
Visible-light-response of Layered Titanium Niobates Doped with Nitrogen
- P3 **Laurent Le Gendre**, Université de Rennes 1, France  
A Combined Experimental and Theoretical Study of the Photophysical Performance of SrTaO<sub>2</sub>N Thin Films
- P4 **Laurent Le Gendre**, Université de Rennes 1, France  
Study of the Post-nitridation of Dielectric Strontium and Tantalum Based Oxide and Oxynitride Thin Films
- P5 **Yasushi Sato**, Okayama University of Science, Japan  
Photoluminescence Properties of Pr<sup>3+</sup>-activated CaZr<sub>x</sub>Ta<sub>1-x</sub>O<sub>2+x</sub>N<sub>1-x</sub>
- P6 **Sung Hoon Lee**, Hyosung Corporation, Korea  
The Study of High Thermal Reliability of Eu, Al Co-doped BaSi<sub>2</sub>O<sub>2</sub>N<sub>2</sub> for White Light Emitting Diodes
- P7 **Hisanori Yamane**, Tohoku University, Japan  
New Nitride Phosphors Containing Boron, Sr<sub>3</sub>BaAl<sub>5</sub>Si<sub>9</sub>N<sub>20</sub>:Eu and Ba<sub>5</sub>B<sub>2</sub>Al<sub>4</sub>Si<sub>32</sub>N<sub>52</sub>:Eu
- P8 **Ryo Ishikawa**, The University of Tokyo, Japan  
Atomic Structures of Luminescent Centres in Nitrides
- P9 **Young Jin Kim**, Kyonggi University, Korea  
Synthesis of Eu<sup>2+</sup>-Doped Sr<sub>2</sub>Si(O,N)<sub>4</sub> Oxynitride Powders and Their Multiple-Photoluminescence
- P10 **Genki Saito**, Hokkaido University, Japan  
Dopant Distribution Analysis of Eu-doped Ca-α-SiAlON via HAADF-STEM Imaging
- P11 **Takuya Yasunaga**, Tohoku University, Japan  
Synthesis of a Novel Oxynitride BaYSi<sub>2</sub>O<sub>5</sub>N and its Photoluminescence Property
- P12 **Sayaka Nishitani**, Hokkaido University, Japan  
Novel BaCN<sub>2</sub> Prepared by Ammonolysis of BaCO<sub>3</sub> and Its Application in Red Emitting Phosphor



- 
- P13 **Tomoya Inagaki**, Nagoya University, Japan  
High Pressure-High Temperature Synthesis of Novel Tin Nitride
- P14 **Yuka Kuboki**, Shibaura Institute of Technology, Japan  
Growth of GaN Crystals by Ammonia Nitridation of Ga<sub>2</sub>O<sub>3</sub> Powder using a Vessel with Gas Permeable Plate
- P15 **Shu Yin**, Tohoku University, Japan  
Low Temperature Nitridation of In<sub>2</sub>O<sub>3</sub> using Sodium Amide
- P16 **Shi-Kuan Sun**, University of Sheffield, UK  
Direct Synthesis of SrTaO<sub>2</sub>N Powder from SrCO<sub>3</sub>/TaN
- P17 **Qiang Liu**, Harbin Institute of Technology, China  
Fabrication of Stable Si<sub>2</sub>N<sub>2</sub>O from Amorphous Nano-Sized Si<sub>3</sub>N<sub>4</sub> Powders Surface Modified by a Chemical Route
- P18 **Kenta Hasegawa**, Yokohama National University, Japan  
Shaping Process Through In-situ Solidification of Non-aqueous Dense Slurry by Michael Additive Reaction using Multifunctional Acrylates
- P19 **Satoshi Suehiro**, Japan Fine Ceramic Center, Japan  
Reaction Sintering of Silicon Carbide using Nd:YAG Laser
- P20 **Soo-Hyeik Jeon**, Changwon National University, Korea  
Dispersibility of Modified Carbon Nanotubes (CNTs) in Porous Alumina Composites
- P21 **Yuki Sagawa**, Hokkaido University, Japan  
Precipitation Behaviour of TiN from Amorphous Ti Doped Silica Prepared by the Hydrolysis Reaction of Alkoxides
- P22 **Fumika Sakamoto**, Yokohama National University, Japan  
Fabrication of Oriented h-BN/Epoxy Resin Composites by Applying a Low Magnetic Field using Multi-layered-graphene-coated Platelets
- P23 **Lung-Hao Hu**, Southern Taiwan University of Science and Technology, Taiwan  
Organic Polysilazane Pre-ceramic-precursor for 3D Ceramic Inkjet Printing
- P24 **Masaki Kakiage**, Shinshu University, Japan  
Effects of Starting Materials on Morphology of Calcium Hexaboride Powder Synthesized from Condensed Boric Acid-Polyol Product
- P25 **Atsushi Uga**, Yokohama National University, Japan  
Fabrication of Porous TiN Structures from TiO<sub>2</sub> Colloids using Polymer Monolith as a Template
- P26 **Koji Mizutani**, Nagoya Institute of Technology, Japan  
Hydrogen Absorbing Properties of Polymer-derived Amorphous SiAlCN
- P27 **Daiki Hamana**, Nagoya Institute of Technology, Japan  
Chemical Formation of β-SiAlON:Eu<sup>2+</sup> Phosphors from Single Source Precursors
- P28 **Yuke Shi**, Sungkyunkwan University, Korea  
Long-Time Oxidation of Ti<sub>3</sub>(Al,Si)C<sub>2</sub> Carbides at 400-800 °C
- P29 **Servet Turan**, Anadolu University, Turkey  
Production of In-situ Formed hBN-SiC Composites and Their Characterization by using Transmission Electron Microscopy Techniques

- 
- P30 **Yeon-Gil Jung**, Changwon National University, Korea  
Finite Element Modeling of Mechanical Properties of WC-Co Composite
- P31 **Dilek Turan**, Anadolu University, Turkey  
The Effect of Different  $\alpha/\beta$  Content on the Creep Properties of SiAlON Ceramics Sintered with Lutetium Oxide
- P32 **Yumi Imoto**, Yokohama National University, Japan  
Relationship Between Strengths of a Neck and a Bulk Body of Porous SiC
- P33 **Youngseok Kim**, INOCERA inc., Korea  
The Study on Process Variables of SiC Radiant Tube Including In-situ Joining
- P35 **Xiumin Yao**, Chinese Academy of Science, China  
Dry Friction-wear Mechanism and Properties of Silicon Carbide Ceramics
- P34 **Kui Hu**, Tokushima University, Japan  
Synthesis and Characterization of Rocksalt-type Oxynitride  $\text{LiTi}_2(\text{O,N})_z$  ( $z \sim 4$ ) as an Electrode Material
- P36 **Akira Miura**, Hokkaido University, Japan  
Effect of starting materials on the synthesis of manganese oxynitrides using  $\text{NaNH}_2$  melt
- P37 **Xin Xu**, University of Science and Technology of China, China  
A novel polymer derived hydrophobic layer on silicon nitride-based ceramic membrane for water desalination

---

**August 30 (Wednesday)****Session A9 : Functional (Oxy)Nitrides for Energy & Environment V – Photocatalyst –  
“Oxynitride Session” supported by “Mixed Anion Project” in MEXT****Chairperson :**

- |             |        |  |
|-------------|--------|--|
| 8:45~9:15   | A9-IL1 | <b>Kazuhiko Maeda</b> , Tokyo Institute of Technology, Japan<br>Photocatalytic Water Splitting and CO <sub>2</sub> Fixation Using Oxynitrides and Nitrides   |
| 9:15~9:30   | A9-O1  | <b>Wenjea J. Tseng</b> , National Chung Hsing University, Taiwan<br>Nitrogen-Doped TiO <sub>2</sub> Mesoporous Composite Particles with Enclosed Fe <sub>3</sub> O <sub>4</sub> /Ag for Magnetically Active Photocatalysis and Bactericide         |
| 9:30~9:45   | A9-O2  | <b>Takayoshi Oshima</b> , Tokyo Institute of Technology, Japan<br>Synthesis of Layered Oxynitride Li <sub>2</sub> LaTa <sub>2</sub> O <sub>6</sub> N and the Photocatalytic Performance for H <sub>2</sub> Evolution and CO <sub>2</sub> Reduction |
| 9:45~10:00  | A9-O3  | <b>Xuehua Yan</b> , Jiangsu University, China<br>A Simple and Effective Method for Preparing Novel Visible-light-driven CeVO <sub>4</sub> /Graphitic C <sub>3</sub> N <sub>4</sub> Photocatalysts and Their Enhanced Photocatalytic Performances   |
| 10:00~10:15 | A9-O4  | <b>Kanemichi Muraoka</b> , Tokyo Institute of Technology, Japan<br>Synthesis of Ta <sub>3</sub> N <sub>5</sub> Photocatalysts for Visible Light CO <sub>2</sub> Reduction with the Aid of a Ru(II) Binuclear Complex                               |
| 10:15~10:30 | A9-O5  | <b>Ryo Kuriki</b> , Tokyo Institute of Technology, Japan<br>Visible-Light Photocatalytic CO <sub>2</sub> Reduction Using Hybrids Constructed with Carbon Nitride and Metal Complexes   |

---

10:30~11:00

**Coffee Break**

---

**Session A10 : Mechanical Properties of Silicon (Oxy)Nitrides****Chairperson :**

- |             |         |   |
|-------------|---------|---|
| 11:00~11:30 | A10-IL1 | <b>Hua-Tay Lin</b> , Guangdong University of Technology, China<br>Innovative Processing of Silicon Nitride Ceramics for Industrial Applications   |
| 11:30~12:00 | A10-IL2 | <b>Oskar Schöppl</b> , SKF Österreich AG, Austria<br>Rolling Contact Response of Silicon Nitride / Silicon Materials  |
| 12:00~12:15 | A10-O1  | <b>Seongwon Kim</b> , Korea Institute of Ceramic Engineering and Technology, Korea<br>Effect of Sintering Condition and Additive on Microstructure and Physical Property of SiAlON Ceramics |
| 12:15~12:30 | A10-O2  | <b>Manshi Ohyanagi</b> , Ryukoku University, Japan<br>Spark Plasma Sintering of Silicon Nitride with Transformation without Additive  |

---

12:30~14:00

**Lunch Break**

---

## Session A11 : Mechanical Properties of Non-Oxides

### Chairperson :

- 14:00~14:30 A11-IL1 **Guo-Jun Zhang**, Donghua University, China  
High-Temperature Strength of Diboride-based Ultra-High Temperature Ceramics
- 14:30~15:00 A11-IL2 **Dongliang Jiang**, Chinese Academy of Sciences, China  
Research on the Properties of Graphene Doped Silicon Carbide Ceramic
- 15:00~15:15 A11-O1 **Byung-Koog Jang**, National Institute for Materials Science, Japan  
Thermo-Chemical Properties of  $Y_2SiO_5$  EBC on SiC Ceramics
- 15:15~15:45 A11-IL3 **Takashi Taniguchi**, National Institute for Materials Science, Japan  
Impurity Control of Polymorphic Phase of Boron Nitride to Realize Their Potentials as Super-Hard and Wide-bandgap Materials
- 15:45~16:15 A11-IL4 **Pavol Sajgalik**, Slovak Academy of Sciences, Slovakia  
GB Chemistry of Silicon Nitride Based Ceramics – Implications to the Ceramics Properties

- 
- 16:15~16:45 Closing Remark, **Junichi Tatami** (Conference Chair)  
Presentation Awards for Students
- 

## Session B9 : Polymer-Derived Materials II – Silicon Nitrides & Carbides

### Chairperson :

- 8:45~9:15 B9-IL1 **Ralf Riedel**, Technische Universität Darmstadt, Germany  
Single-Source Precursor Synthesis and Properties of Ternary Nitrides in the System Si-M-N (M = Hf, V, Fe)
- 9:15~9:30 B9-O1 **Samuel Bernard**, Universite Montpellier 2, France  
From Design to Application of Nanocomposites Derived from Transition Metal SilicoNitrides
- 9:30~10:00 B9-IL2 **Zhaoju Yu**, Xiamen University, China  
SiCN-Based Nanocomposites: Synthesis, Microstructure and Electromagnetic Performance
- 10:00~10:15 B9-O2 **Yuji Iwamoto**, Nagoya Institute of Technology, Japan  
Hydrogen Absorbing Properties of Amorphous SiAlCN Derived from Al-Modified Polysilylcarbodiimides
- 10:15~10:30 B9-O3 **Masaki Narisawa**, Osaka Prefecture University, Japan  
Synthesis and Properties of Silicon Oxycarbides Derived from Cross-linked Organosilicon Precursor

---

10:30~11:00

**Coffee Break**

---

## Session B10 : High Pressure & Related Materials

### Chairperson :

- 11:00~11:15 B10-O1 **Akira Yoshiasa**, Kumamoto University, Japan  
High Pressure Phases of Boron Nitride and Crystal Chemistry of Wurtzite-Type Nitrides

---

11:15~11:30	B10-O2	<b>Hitoshi Yusa</b> , National Institute for Materials Science, Japan High-Pressure Syntheses and Compression Measurements of 5d Transition Metal Nitrides
11:30~11:45	B10-O3	<b>Norimasa Nishiyama</b> , Tokyo Institute of Technology, Japan Transparent Polycrystalline Silicon Nitride with Spinel Structure
11:45~12:00	B10-O4	<b>Ken Niwa</b> , Nagoya University, Japan High Pressure Synthesis of Pyrite-type Group 14 Nitrides
12:00~12:15	B10-O5	<b>Fumio Kawamura</b> , National Institute for Materials Science, Japan High-Pressure Synthesis and Properties on Pseudo-III-V Nitride of ZnSnN <sub>2</sub> Crystals
12:15~12:30	B10-O6	<b>Masashi Hasegawa</b> , Nagoya University, Japan High Pressure Synthesis and Physical Properties of Novel Anti-perovskite- type Nitrides M <sub>3</sub> GaN (M=Co,Ni,Cu)

---

12:30~14:00

**Lunch Break**

---

---

18:00~20:00

**Conference Banquet**

**HOTEL MYSTAYS – Sapporo Aspen –**

---