INTERNATIONAL SYMPOSIUM ON GREEN PROCESSING FOR ADVANCED CERAMICS

IGPAC 2025

Symposium

OCTOBER 5-9TH, 2025

SHIMA KANKO HOTEL, MIE, JAPAN

ORGANIZED BY THE CERAMIC SOCIETY OF JAPAN

SUPPORTED BY MINISTRY OF THE ENVIRONMENT, GOVERNMENT OF JAPAN

WELCOME

Thank you very much for participating in this conference today from all over the world.
As we welcome this conference, I would like to begin by acknowledging the unprecedented complexity facing the international community today. We face ongoing geopolitical tensions, divisions between nations and regions due to differences in values and interests, and a sluggish global economy with no clear signs of recovery. Furthermore, global challenges such as climate change and resource constraints are severely impacting the sustainability of our society.
It is precisely in times of uncertainty such as these that international collaboration in science and technology and a shared vision for technological innovation with a view to a sustainable future are more important than ever.

In this sense, the venue for this conference, Kashikojima Island in Shima City, Mie Prefecture, is truly symbolic. In 2016, the G7 Ise-Shima Summit was held here, providing a stage for world leaders to engage in dialogue and address global challenges. This region is also the birthplace of Mikimoto Pearls, the world's first successful industrial pearl farming company (a technology that could be considered a pioneering step in bioprocessing), and a place where the spirit of science and technology pursuing harmony between humans and nature is deeply rooted.
In this region, this conference will focus on "non-equilibrium processes in inorganic materials that contribute to the synthesis and application of new functions and materials while reducing resource and environmental impact." We will share the latest knowledge and research results and deepen discussions on the physicochemical phenomena that make this possible.
This research is not merely academic; it is directly linked to engineering practices that support the transition to a sustainable society, such as achieving carbon neutrality and building a circular economy. We believe that it will play an extremely important role as a scientific and technological foundation supporting the development of advanced ceramic technologies and manufacturing processes.
We will discuss diverse approaches that enable the creation of new functions and high-performance materials while taking resource constraints and environmental impact into consideration.

To conclude the conference, we will be hosting a panel discussion featuring world-class researchers and engineers active at the forefront of academia and industry, where we will broadly discuss the potential for social implementation of new process technologies and the direction of international process research in the field of ceramics.
We sincerely hope that this conference will be a practical first step toward building a sustainable and inclusive future society, and will strengthen international networks that transcend divisions and aim to solve problems through collaboration.
Finally, a message for young researchers and engineers:
We are currently living in extremely turbulent times. Science and technology are evolving rapidly, with ever-increasing impacts on our lives, society, and the environment. However, today's world also tests our courage to take on challenges that no one has ever done before and to move toward unseen goals.
If you are afraid of taking risks, please understand that this is a major step toward opening up new horizons. It is a natural reaction to seek stability and security, to assume that the problem before us can be solved within existing frameworks. However, to achieve truly great results, we sometimes need to be prepared to go beyond those frameworks. Stepping into unknown territory, choosing a path that no one has tried before, will lead to the next great leap forward.

I hope that this conference will help you realize this.

General Chair.
JUN AKEDO
National Institute of Advanced Industrial Science and Technology

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Tokyo Ohka Foundation for The Promotion of Science and Technology

REGULATIONS

No photography/recording, screenshot in zoom,

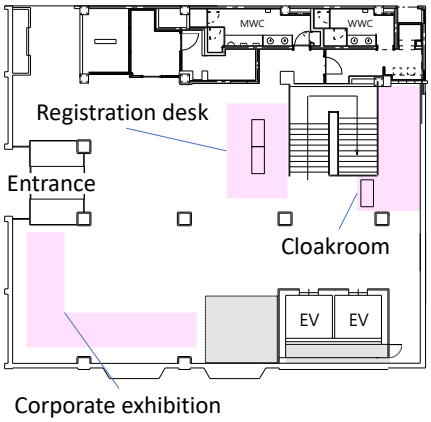
Cell phones silent

During oral sessions and poster sessions conducted during IGPAC 2025, unauthorized photography, videotaping and audio recording is prohibited.

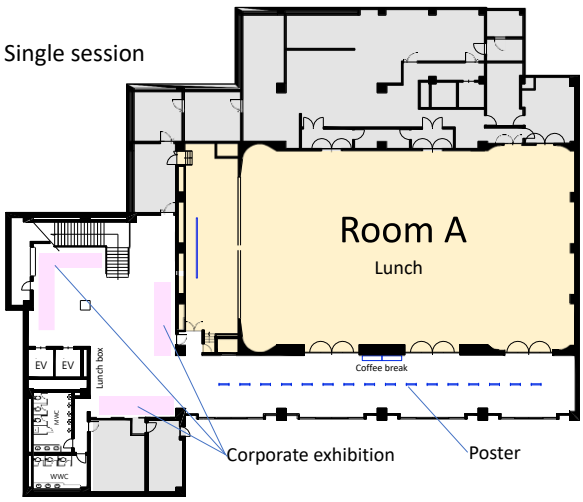
FLOORPLAN

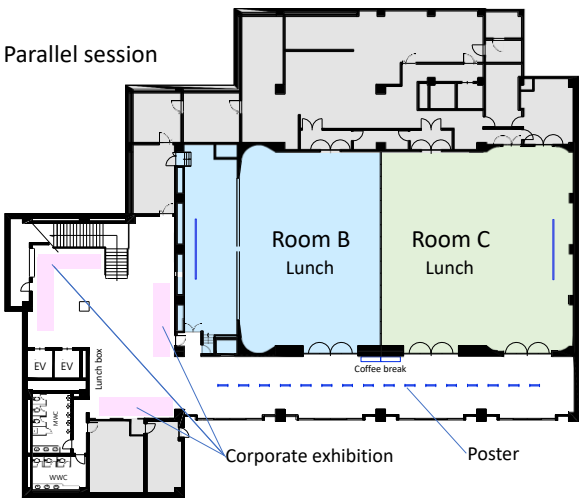
Building: Shima Kanko Hotel

1F　Registration, Cloakroom



B2F　Session Venue





SCHEDULE at a GLANCE

SPECIAL EVENTS

Welcome Reception

Sunday, Oct. 5 | 17:00 – 19:00

Location: Shiama Kanko Hotel Lobby 1F

Dinner

Monday, Oct. 6 | 19:00 – 21:00

Location: Shiama Kanko Hotel

Banquet

Wednesday, Oct. 7 | 19:00 – 21:00

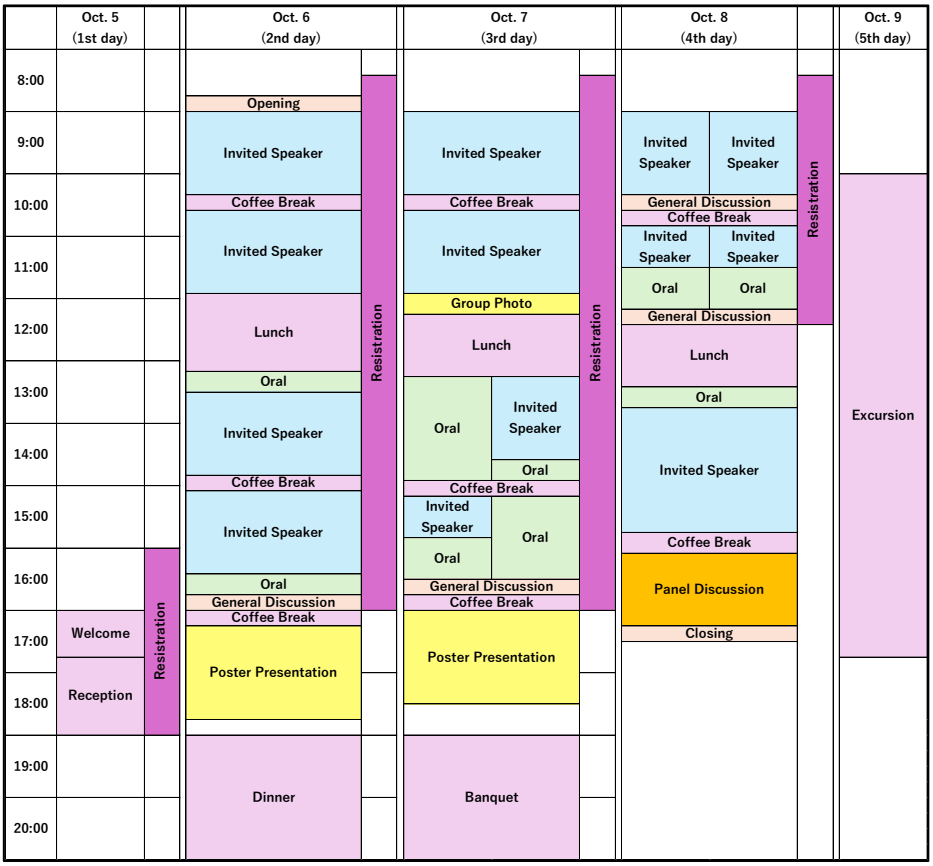
Location: Kashikojima Hojoen

Excursion

Thursday, Oct. 9 | 10:00 – 17:45

Participants: Those who have completed prior application

(The reception has already ended)

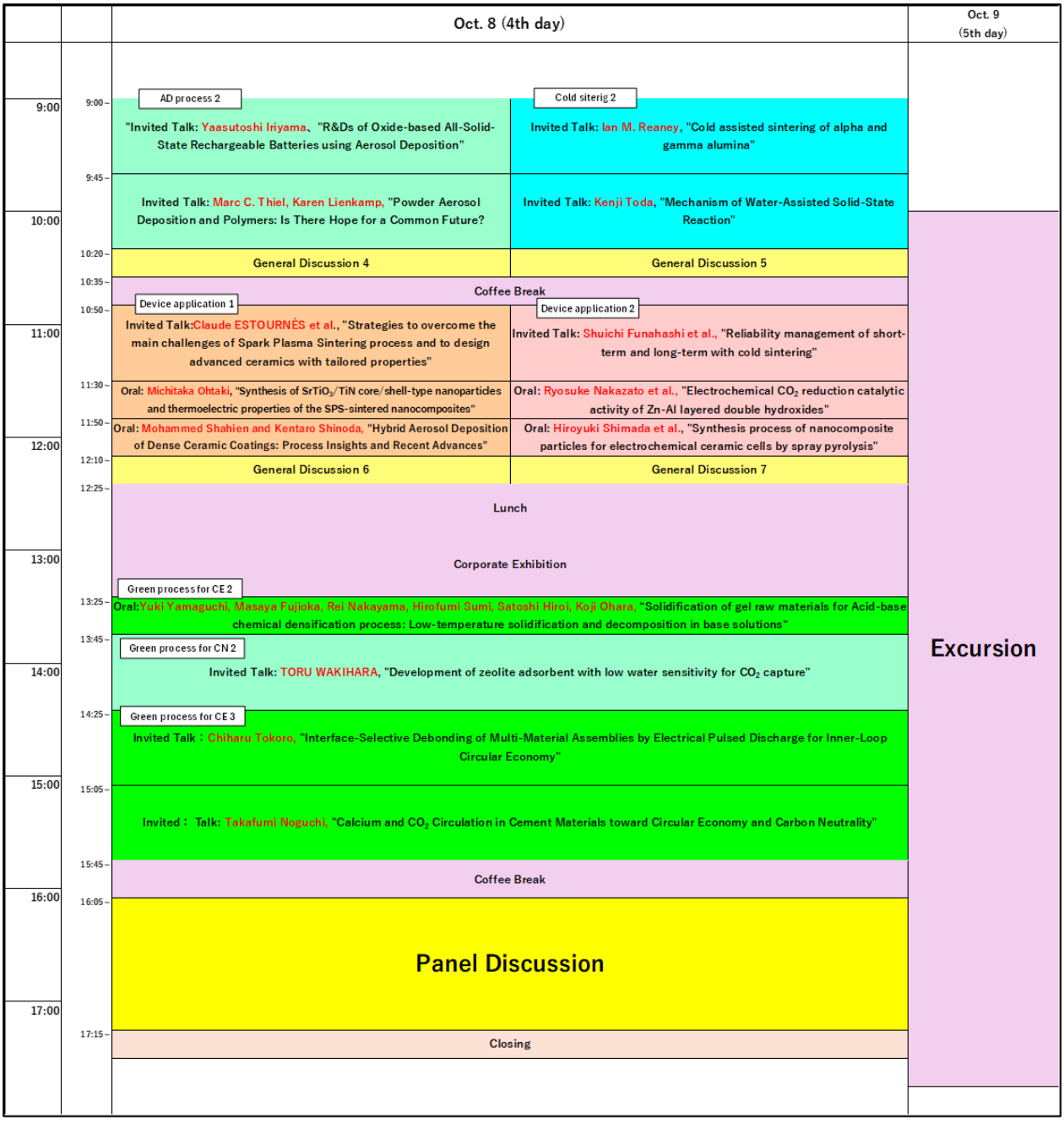


	Oct. 5 (1st day)		Oct. 6 (2nd day)
		8:45~	Opening
9:00		9:00~	Green Process 1 Invited Talk: Clive A Randall, "High Level Introduction to the Advances in Cold Sintering"
		9:45~	Invited Talk: Tomokazu Ito, "TOTO's Contribution to Semiconductor Manufacturing through Aerosol Deposition"
10:00		10:20~	Coffee Break
		10:35~	Invited Talk: Jing Guo, "Cold sintering assisted hybrid processing of high-performance ceramics"
11:00		11:15~	Invited Talk: Jae-Young Choi, "Next-Generation Low-Dimensional Nanomaterials: Innovative Exfoliation Methods and Device Integration"
		11:45~	Lunch Corporate Exhibition, Visual Absract
12:00			
13:00			Green Process 2
		13:10~	Oral:Minoru Osada, "Green processing of 2D nanosheets for advanced electronic/energy materials“
		13:30~	Invited Talk: Catherine Elissalde et al., "Exploring the synergy between chemistry and non-conventional sintering processes: a first step towards the eco-design of functional ceramics and devices"
14:00		14:10~	Invited Talk: Hidehiro Yoshida et al., "Towards green processing for advanced ceramics by electric field/current-assisted technology"
		14:40~	Coffee Break
15:00		15:15~	Green Process 3 Invited Talk: Tobias Fey, "Shaping the Future: Additive Manufacturing of Porous Ceramics"
		15:45~	Invited Talk: Kunio Ishikawa, "Carbonate apatite arti"
16:00		16:20~	Oral: Jun Akedo, "The current status and future prospects of the aerosol deposition method ～Focusing on the mechanism of room temperature shock solidification phenomenon～"
		16:45~	General Discussion 1
17:00	Welcome Reception @Room C		Coffee Break
		17:15~	Poster Presentation 1
18:00			
19:00			Dinner @ Room A
20:00			
21:00			

Oct. 7 (3rd day)

9:00	9:00~	**Battry & Interface** Invited Talk: Yuichi Ikuhara, "Grain Boundary Atomic Structures and Their Dynamics in Ceramics"
	9:45~	Invited：Talk:Shintaro Yasui and Yosuke Shiratori , "Water-based quasi-solid-state lithium ion batteries with easy direct recycling system"
10:00	10:20~	Coffee Break
	10:35~	**Green process for CN 1** Invited Talk: Thomas Klassen et al., "Aerosol deposition of photo-cathode coatings for solar hydrogen generation"
11:00	11:15~	**Green process for CE 1** Invited Talk: Naoki Ohashi and Hiroyo Segawa, "Chemothermal Pulverization Process -An attempt at recycling ceramics-"
12:00	11:45~	Group Photo
		Lunch Corporate Exhibition, Visual Absract
13:00	13:15~	**AD process 1** Oral: Frank Gaertner, "Bonding and Layer Formation in Cold Gas Spraying and Aerosol Deposition"
	13:35~	Oral:Yuki Furuya, Makoto Hasegawa, "Coating Formation Behavior Based on Strain Energy in the Aerosol Deposition Method“
14:00	13:55~	Invited Talk: Daniel Paulus et al., "How to produce ceramics in the millimeter thickness range at room temperature by the Powder Aerosol Deposition Method (ADM)
	14:35~	Oral: Hongwu Yu , Naoshi Ikeda , Masakazu Mori , Jun Akedo , Jun Kano, and Jaehyuk Park, "An Entangled Material made from Fiber Aerosol Deposition Method Synthesis of Fiber Deposits Using Aerosol Deposition Method“
15:00	14:55~	Coffee Break
	14:10~	Invited Talk: Hana Ursic, "Aerosol deposition of functional films on metal and polymer substrates"
	15:50~	Oral: Yoshihiro Kawakami, "Effect of poling conditions on generation energy by Vibration using $BaTiO_3$ as-deposited thick films formed by Aerosol Deposition"
16:00	16:10~	Oral:Ryoto Takizawa, Katsumi Yoshida, "Study on wear mechanism of zirconia film toward new applications of AD method“
	16:30~	General Discussion 2
	16:45~	Coffee Break
17:00	17:00~	**Poster Presentation 2**
18:00		
19:00		**Banquet** **@ Kashikojima Hojoen** ***Take a bus from the hotel to the venue**
20:00		
21:00		

Cold sitering 1	
Invited Talk: Ju-Hyeon Lee et al., "Non-Equilibrium Densification of MnO_2 Polymorph Cathodes via Cold Sintering for Advanced Zn-Ion Batteries"	
Invited Talk: Thomas Herisson de Beauvoir et al., "Grain boundary impedance evolution during Cold Sintering Process of electroceramics"	
Oral: Takashi Teranishi, Nobuaki Nishikawa, Chihiro Toshioka, Rikuya Ueda, Akira Kishimoto:, "Diffusion Control at Solid Interfaces via Nonequilibrium Millimeter-Wave Irradiation"	
Coffee Break	
Oral: Hiroshi Nishiyama, "Cold Sintering of Hexagonal Boron Nitride Bulk Ceramic"	
Oral: Yeongjun Seo, Sangmin Lee, Tohru Sekino, "Near-zero thermal expansion of alumina/ β -eucryptite composites densified via cold sintering process and post-crystallization"	
Oral: Alexander Martin, Kyle G. Webber, Kenichi Kakimoto, "Sustainable Recycling of NKN-based materials via Cold Sintering"	
Oral:Jun Kano, Naoshi Ikeda, “Catalysis related to ferroelectric"	
General Discussion 3	
Coffee Break	


Oct. 8 (4th day)
Oct. 9 (5th day)
9:00
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15:05~
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16:05~
17:15~
AD process 2
"Invited Talk: Yaasutoshi Iriyama、 "R&Ds of Oxide-based All-Solid-State Rechargeable Batteries using Aerosol Deposition"
Cold siterig 2
Invited Talk: Ian M. Reaney, "Cold assisted sintering of alpha and gamma alumina"
Invited Talk: Marc C. Thiel, Karen Lienkamp, "Powder Aerosol Deposition and Polymers: Is There Hope for a Common Future?
Invited Talk: Kenji Toda, "Mechanism of Water-Assisted Solid-State Reaction"
General Discussion 4
General Discussion 5
Coffee Break
Device application 1
Invited Talk:Claude ESTOURNÈS et al., "Strategies to overcome the main challenges of Spark Plasma Sintering process and to design advanced ceramics with tailored properties"
Device application 2
Invited Talk: Shuichi Funahashi et al., "Reliability management of short-term and long-term with cold sintering"
Oral: Michitaka Ohtaki, "Synthesis of SrTiO3/TiN core/shell-type nanoparticles and thermoelectric properties of the SPS-sintered nanocomposites"
Oral: Ryosuke Nakazato et al., "Electrochemical CO2 reduction catalytic activity of Zn-Al layered double hydroxides"
Oral: Mohammed Shahien and Kentaro Shinoda, "Hybrid Aerosol Deposition of Dense Ceramic Coatings: Process Insights and Recent Advances"
Oral: Hiroyuki Shimada et al., "Synthesis process of nanocomposite particles for electrochemical ceramic cells by spray pyrolysis"
General Discussion 6
General Discussion 7
Lunch
Corporate Exhibition
Green process for CE 2
Oral:Yuki Yamaguchi, Masaya Fujioka, Rei Nakayama, Hirofumi Sumi, Satoshi Hiroi, Koji Ohara, "Solidification of gel raw materials for Acid-base chemical densification process: Low-temperature solidification and decomposition in base solutions"
Green process for CN 2
Invited Talk: TORU WAKIHARA, "Development of zeolite adsorbent with low water sensitivity for CO2 capture"
Green process for CE 3
Invited Talk：Chiharu Tokoro, "Interface-Selective Debonding of Multi-Material Assemblies by Electrical Pulsed Discharge for Inner-Loop Circular Economy"
Invited： Talk: Takafumi Noguchi, "Calcium and CO2 Circulation in Cement Materials toward Circular Economy and Carbon Neutrality"
Coffee Break
Panel Discussion
Closing
Excursion

INVITED SPEAKERS

Monday, Oct. 6, 2025 | Room A

9:00–9:40

Clive A Randall, The Pennsylvania State University, USA

Title: High Level Introduction to the Advances in Cold Sintering

Session Chair: Takashi Teranishi

9:40–10:20

Tomokazu Ito, TOTO Ltd., Japan

Title: TOTO's Contribution to Semiconductor Manufacturing through Aerosol Deposition

Session Chair: Takashi Teranishi

10:35–11:15

Jing Guo, X'ian Jiantong University, China

Title: Cold sintering assisted hybrid processing of high-performance ceramics

Session Chair: Katsumi Yoshida

11:15–11:55

Jae-Young Choi, Sungkyunkwan University, Korea

Title: Next-Generation Low-Dimensional Nanomaterials: Innovative Exfoliation Methods and Device Integration

Session Chair: Katsumi Yoshida

13:30–14:10

Catherine Elissalde, CNRS Bordeaux, France

Title: Exploring the synergy between chemistry and non-conventional sintering processes: a first step towards the eco-design of functional ceramics and devices

Session Chair: Satoshi Wada and Daiki Ishii

14:10–14:50

Hidehiro Yoshida, The University of Tokyo, Japan

Title: Towards green processing for advanced ceramics by electric field/current-assisted technology

Session Chair: Satoshi Wada and Daiki Ishii

15:05–15:45

Tobias Fey, Univ. Erlangen-Nuremberg, Germany

Title: Shaping the Future: Additive Manufacturing of Porous Ceramics

Session Chair: Tohru Sekino and Tetsuro Uchikoshi

15:45–16:25

Kunio Ishikawa, Kyushu University, Japan

Title: Carbonate apatite arti

Session Chair: Tohru Sekino and Tetsuro Uchikoshi

Tuesday, Oct. 7, 2025 | Room A

9:00–9:40

Thomas Klassen, Institute of Hydrogen Technology & Helmholtz-Zentrum hereon GmbH, Germany

Title: Aerosol deposition of photo-cathode coatings for solar hydrogen generation

Session Chair: Hana Ursic

09:40–10:20

Toru Wakihara, The University of Tokyo, Japan

Title: Development of zeolite adsorbent with low water sensitivity for CO_2 capture

Session Chair: Hana Ursic

10:35–11:15

Shintaro Yasui, Institute of Science Tokyo, Japan
Title: Water-based quasi-solid-state lithium ion batteries with easy direct recycling system

Session Chair: Chiharu Tokoro

11:15–11:55

Yuichi Ikuhara, The University of Tokyo, Japan
Title: Grain Boundary Atomic Structures and Their Dynamics in Ceramics

Session Chair: Chiharu Tokoro

Tuesday, Oct. 7, 2025 | Room B

13:55–14:35

Daniel Paulus, University of Bayreuth, Germany
Title: How to produce ceramics in the millimeter thickness range at room temperature by the Powder Aerosol Deposition Method (ADM)

Session Chair: Yoshitaka Masuda and Maki Inoue

15:10–15:50

Hana Ursic, Jozef Stefan Institute, Slovenia
Title: Aerosol deposition of functional films on metal and polymer substrates

Session Chair: Yoshitaka Masuda and Maki Inoue

Tuesday, Oct. 7, 2025 | Room C

13:15–13:55

Ju-Hyeon Lee, Ulsan National Institute of Science and Technology (UNIST), Korea
Title: Non-Equilibrium Densification of MnO_2 Polymorph Cathodes via Cold Sintering for Advanced Zn-Ion Batteries

Session Chair: Shintaro Yasui and Muneyasu Suzuki

13:55–14:35

Thomas Herisson de Beauvoir, CNRS – CIRIMAT, France

Title: Grain boundary impedance evolution during Cold Sintering Process of electroceramics

Session Chair: Shintaro Yasui and Muneyasu Suzuki

Wednesday, Oct. 8, 2025 | Room B

9:00–9:40

Yasutoshi Iriyama, Nagoya University, Japan

Title: R&Ds of Oxide-based All-Solid-State Rechargeable Batteries using Aerosol Deposition

Session Chair: Kentaro Shinoda

9:40–10:20

Karen Lienkamp, Universität des Saarlandes, Germany

Title: Powder Aerosol Deposition and Polymers: Is There Hope for a Common Future?

Session Chair: Kentaro Shinoda

10:50–11:30

Claude Estournès, CIRIMAT in Toulouse, France

Title: Strategies to overcome the main challenges of Spark Plasma Sintering process and to design advanced ceramics with tailored properties

Session Chair: Katsuhisa Tanaka

Wednesday, Oct. 8, 2025 | Room C

9:00–9:40

Ian M. Reaney, University of Sheffield, UK

Title: Cold assisted sintering of alpha and gamma alumina

Session Chair: Suichi Funahashi

9:40–10:20

Kenji Toda, Niigata University, Japan

Title: Mechanism of Water-Assisted Solid-State Reaction

Session Chair: Suichi Funahashi

10:50–11:30

Shuichi Funahashi, Murata Co. Ltd., Japan

Title: Reliability management of short-term and long-term with cold sintering

Session Chair: Ian M. Reaney

Wednesday, Oct. 8, 2025 | Room A

13:45–14:25

Naoki Ohashi, NIMS, Japan

Title: Chemothermal Pulverization Process -An attempt at recycling ceramics-

Session Chair: Clive A Randall and Jun Akedo

14:25–15:05

Chiharu Tokoro, Waseda University, Japan

Title: Interface-Selective Debonding of Multi-Material Assemblies by Electrical Pulsed Discharge for Inner-Loop Circular Economy

Session Chair: Clive A Randall and Jun Akedo

15:05–15:45

Takafumi Noguchi, The University of Tokyo, Japan

Title: Calcium and CO_2 Circulation in Cement Materials toward Circular Economy and Carbon Neutrality

Session Chair: Clive A Randall and Jun Akedo

SPECIAL TOPICS: PANEL DISCUSSION

Part 1. Green process and CN

Moderator

Prof. Shintaro Yasui
[Science Tokyo, Japan]

16:00~

Panelists

Prof. Thomas Klassen
[Hereon, Germany]

Prof. Ian Reaney
[Univ, Sheffield, UK]

Prof. Kiyoharu Tadanaga
[Hokkaido Univ., Japan]

16:20~; Questions from audience and Free discussion

16:25~ Break time

Part 2. CE of ceramics devices

Moderator

Dr. Yuki Yamaguchi
[AIST, Japan]

16:30~

Panelists

Prof. Takahumi Noguchi
[Univ. Tokyo, Japan]

Prof. Chiharu Tokoro
[Waseda Univ., Japan]

Dr. Kohmei Halada
[NIMS, Japan]

16:50~~; Questions from audience and Discussion

16:55~ Closing the Panel

ORAL SESSION PROGRAM

○: Presenter, ★: Invited Talk

■■ Monday, Oct 6, 2025 (2nd day) (Room A) ■■

Green Process 1

(9:00) (Chair Takashi Teranishi)

1-A-1. ★ **High Level Introduction to the Advances in Cold Sintering**

○ Clive A Randall[1]

[1]Materials Research Institute, Pennsylvania State University, USA

1-A-2. ★ **TOTO's Contribution to Semiconductor Manufacturing through Aerosol Deposition**

○ Tomokazu Ito[1]

[1]TOTO ltd., Japan

(10:35) (Chair Katsumi Yoshida)

1-A-3. ★ **Cold sintering assisted hybrid processing of high-performance ceramics**

○ Jing Guo[1], Xiaomeng Li[1], Weichen Xu[1]

[1]State Key Laboratory for Mechanical Behavior of Materials, School of Materials Science and Engineering, Xi'an Jiaotong University, China

1-A-4. ★ **Next-Generation Low-Dimensional Nanomaterials: Innovative Exfoliation Methods and Device Integration**

○ Jae-Young Choi[1,2,3]

[1]School of Advanced Materials Science & Engineering, Sungkyunkwan University, Republic of Korea, [2]School of Advance d Materials Science & Engineering and KIST SKKU Carbon Neutral Research, Center, Sungkyunkwan University, Republic of Korea, [3]Clean Energy Research Center, Korea Institute of Science and Technology (KIST), Republic of Korea

Green Process 2

(13:10) (Satoshi Wada and Daiki Ishii)

1-A-5. **Green processing of 2D nanosheets for advanced electronic/energy materials**

○ Minoru Osada[1,2]

[1]Institute of Materials and Systems for Sustainability (IMaSS), Nagoya University, Japan, [2]Research Institute for Quantum and Chemical Innovation, Institutes of Innovation for Future Society, Nagoya University, Japan

1-A-6. ★ **Exploring the synergy between chemistry and non-conventional sintering processes: a first step towards the eco-design of functional ceramics and devices**

○ C. Elissalde[1], N. Bencharef[1,2], Y. Denis[1], C. Castro Chavarria[1,2], E. Martin[1,3], J. De Landtsheer[3], R. Aloui[4], B. Lafarge[4], M. Suchomel[1], M. Maglione[1], G. Goglio[1], E. Roitero[5], H. Reveron[5], J. Chevalier[5], T. Hérisson de Beauvoir[3], C. Estournès[3], G. Philippot[1], H. Debéda[1], U.C. Chung[1]

[1]Univ. Bordeaux, CNRS, Bordeaux INP, ICMCB, France, [2]Univ. Bordeaux, CNRS, Bordeaux INP, IMS, France, [3]CIRIMAT, Université de Toulouse, Toulouse INP, CNRS, France [5]INSA de Lyon, Université Claude Bernard Lyon 1, CNRS, MATEIS, France [4]Roberval, Centre de recherche Royallieu, Université de Technologie de Compiègne, France.

1-A-7. ★ **Towards green processing for advanced ceramics by electric field/current-assisted technology**

○ Hidehiro Yoshida[1], Kamarul Aiman Bin Shariffuddin[1], Hiroki Motomura[1], Kohta Nambu[2], Yang Ying[1], Fei Shen Ong[1], Hiroshi Masuda[1], Koji Morita[2], Takahisa Yamamoto[3]

[1]The University of Tokyo, Japan, [2]National Institute for Materials Science, Japan, [3]Nagoya University, Japan

Green Process 3

(15:05) (Tohru Sekino and Tetsuro Uchikoshi)

1-A-8. ★ **Shaping the Future: Additive Manufacturing of Porous Ceramics**

Swantje Funk, David Köllner, Michelle Weichelt, Larissa Wahl, ○ Tobias Fey[1]*

[1]Univ. Erlangen-Nuremberg, Germany

1-A-9. ★ **Carbonate apatite arti**

○ Kunio Ishikawa[1]

[1]Kyushu University, Japan

1-A-10. **The current status and future prospects of the aerosol deposition method ～Focusing on the deposition mechanism with RTIC phenomenon～**

○ Jun Akedo[1]

[1]National Institute of Advanced Industrial Science & Technology (AIST)

■■ Tuesday, Oct 7, 2025 (3rd day) (Room A) ■■

Green Process for CN

(9:00) (Hana Ursic)

2-A-1. ★ **Aerosol deposition of photo-cathode coatings for solar hydrogen generation**

○ Thomas Klassen[1], A. Elsenberg, F. Gärtner, M. Schieda, A. Bruera, M. Borghi, G. Dolcetti, G. Bolelli, L. Lusvarghi

[1]Helmut Schmidt University Hamburg, Germany

2-A-2. ★ **Development of zeolite adsorbent with low water sensitivity for CO_2 capture**

○ Toru Wakihara[1]

[1]The University of Tokyo, Japan

Battery & Interface

(10:35) (Chiharu Tokoro)

2-A-3. ★ **Water-based quasi-solid-state lithium ion batteries with easy direct recycling system**

○ Shintaro Yasui[1], Yosuke Shiratori[1]

[1]Laboratory for Zero-Carbon Energy, Institute of Science Tokyo, Japan

2-A-4. ★ **Grain Boundary Atomic Structures and Their Dynamics in Ceramics**

○ Yuichi Ikuhara[1]

[1]University of Tokyo, Japan

■■ Tuesday, Oct 7, 2025 (3rd day) (Room B) ■■

AD Process 1 -JEMS Co-sponsored Sessions-

(13:15) (Yoshitaka Masuda and Maki Inoue)

2-B-1. **Bonding and Layer Formation in Cold Gas Spraying and Aerosol Deposition**

○ Frank Gaertner[1], Andreas Elsenberg, Bahamn Daneshian, Thomas Klassen

Helmut Schmidt University, University of the Federal Armed Forces Hamburg, Germany

2-B-2. **Coating Formation Behavior Based on Strain Energy in the Aerosol Deposition Method**

Yuki Furuya[1], ○ Makoto Hasegawa[1]

[1]Yokohama National University, Japan

2-B-3. **★ How to produce ceramics in the millimeter thickness range at room temperature by the Powder Aerosol Deposition Method (ADM)**

○ D. Paulus[1], D. Schönauer-Kamin[1], R. Moos[1]

[1]University of Bayreuth, Germany

2-B-4. **An Entangled Material made from Fiber Aerosol Deposition Method Synthesis of Fiber Deposits Using Aerosol Deposition Method**

○ Hongwu Yu[1], Naoshi Ikeda[2], Masakazu Mori[3], Jun Kano[2], Jae-Hyuk Park[5,6], Jun Akedo[4]

[1]Institute of Science Tokyo, [2]University of Okayama, [3]Ryukoku University, [4]National Institute of Advanced Industrial Science and Technology, [5]Sungkyunkwan University, [6]Electro Static Technology, Inc..

2-B-5. **★ Aerosol deposition of functional films on metal and polymer substrates**

○ Hana Ursic[1,2]

[1]Electronic Ceramics Department, Jožef Stefan Institute, Slovenia, [2]Jožef Stefan International Postgraduate School, Slovenia

2-B-6. **Effect of poling conditions on generation energy by Vibration using $BaTiO_3$ as-deposited thick films formed by Aerosol Deposition**

○ Kohei Maruyama[1], Yoshihiro Kawakami[2], Fumio Narita[1]

[1]Tohoku university, Sendai, Japan, [2]Research Institute for Electromagnetic Materials

2-B-7. **Study on wear mechanism of zirconia film toward new applications of AD method**

○ Ryoto Takizawa[1,2], Katsumi Yoshida[2]

[1]TOTO Ltd., Japan, [2]Institute of Science Tokyo, Japan

■■ Tuesday, Oct 7, 2025 (3rd day) (Room C) ■■

Cold Sintering 1

(13:15) (Shintaro Yasui and Muneyasu Suzuki)

2-C-1. **★ Non-Equilibrium Densification of MnO_2 Polymorph Cathodes via Cold Sintering for Advanced Zn-Ion Batteries**

○ Ju-Hyeon Lee[1], Michael W. Mervosh[2], Rajagopalan Ramakrishnan[3], Clive Randall[1,2]

[1]Materials Research Institute, Pennsylvania State University, USA, [2]Department of Materials Science and Engineering, Pennsylvania State University, USA, [3]Department of Engineering, Penn State DuBois, USA

2-C-2. **★ Grain boundary impedance evolution during Cold Sintering Process of electroceramics**

○ Thomas Herisson de Beauvoir[1], Catherine Elissalde, Claude Estournès

[1]CNRS – CIRIMAT, France

2-C-3. Diffusion Control at Solid Interfaces via Nonequilibrium Millimeter-Wave Irradiation

○ Takashi Teranishi[1,2], Nobuaki Nishikawa[1], Chihiro Toshioka[1], Rikuya Ueda[1], Akira Kishimoto[1]

[1]Okayama University, [2]Institute of Science Tokyo

2-C-4. Cold Sintering of Hexagonal Boron Nitride Bulk Ceramic

○ Hiroshi Nishiyama[1,2], Javier Mena-Garcia[2], Hiroyuki Shimizu[1], Andrew H. Jones[3], John T. Gaskins[3], Clive A. Randall[2]

[1]R&D Center, TAIYO YUDEN CO., LTD., Japan, [2]Materials Research Institute, Department of Materials Science and Engineering, Center for Dielectrics and Piezoelectrics, The Pennsylvania State University, USA, [3]Laser Thermal, USA

2-C-5. Near-zero thermal expansion of alumina/β-eucryptite composites densified via cold sintering process and post-crystallization

○ Yeongjun Seo[1], Sangmin Lee[1], Tohru Sekino[1]

[1]SANKEN, The University of Osaka, Japan

2-C-6. Sustainable Recycling of NKN-based materials via Cold Sintering

○ Alexander Martin[1], Kyle G. Webber[2], Kenichi Kakimoto[1]

[1]Nagoya Institute of Technology, [2]Friedrich-Alexander Universität Erlangen Nürnberg

2-C-7. Catalysis related to ferroelectric

○ Jun Kano[1], Naoshi Ikeda[1]

[1]Faculty of Environmental, Life, Natural Science and Technology, Okayama University, Japan

■■ Wednesday, Oct 8, 2025 (4th day) (Room B) ■■

AD Process 2 - JEMS Co-sponsored Sessions-

(9:00) (Kentaro Shinoda)

3-B-1. ★ R&Ds of Oxide-based All-Solid-State Rechargeable Batteries using Aerosol Deposition

○ Yasutoshi Iriyama[1]

[1]Department of Materials Design Innovation Engineering, Graduate School of Engineering, Nagoya University, Japan

3-B-2. ★ Powder Aerosol Deposition and Polymers: Is There Hope for a Common Future?

Marc C. Thiel[1], ○ Karen Lienkamp[1]*

Device Application 1

(10:50) (Katsuhisa Tanaka)

3-B-3. ★ Strategies to overcome the main challenges of Spark Plasma Sintering process and to design advanced ceramics with tailored properties

○ Claude ESTOURNÈS[1]

[1]CNRS-CIRIMAT, France

3-B-4. Synthesis of $SrTiO_3$/TiN core/shell-type nanoparticles and thermoelectric properties of the SPS-sintered nanocomposites

○ Michitaka Ohtaki[1]

[1]Kyushu University, Japan

3-B-5. Hybrid Aerosol Deposition of Dense Ceramic Coatings: Process Insights and Recent Advances

○ Mohammed Shahien[1], Kentaro Shinoda

[1]Integrated Research Center for Resilient Infrastructure, National Institute of Advanced Industrial Science and Technology (AIST)

■■ Wednesday, Oct 8, 2025 (4th day) (Room C) ■■

Cold Sintering 2

(9:00) (Suichi Funahashi)

3-C-1. ★ **Cold assisted sintering of alpha and gamma alumina**

○ Ian M. Reaney[1]

[1]School of Chemical, Materials and Biological Engineering, University of Sheffield, Sheffield UK

3-C-2. ★ **Mechanism of Water-Assisted Solid-State Reaction**

○ Kenji Toda[1]

[1]Graduate School of Science and Technology, Niigata University

Device Application 2

(10:50) (Ian M. Reaney)

3-C-3. ★ **Reliability management of short-term and long-term with cold sintering**

Shuichi Funahashi[1], Hiroaki Ide[1], Ayumi Shinagawa[1], Tatsuya Fukutani[1], Satoshi Yokomizo[1], Julian Fanghanel[2], Clive A. Randall[2], Masahiko Kimura[1]

[1]Murata Manufacturing Co., Ltd., [2]The Pennsylvania State University

3-C-4. **Electrochemical CO_2 reduction catalytic activity of Zn-Al layered double hydroxides**

Ryosuke Nakazato[1,2], Keeko Matsumoto[1], N. C. Rosero-Navarro[1,3], Akira Miura[1], ○ Kiyoharu Tadanaga[1]

[1]Faculty of Engineering, Hokkaido University, Japan, [2]Energy Process Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Japan, [3]Instituto de Cerámica y Vidrio, Consejo Superior de Investigaciones Científicas (CSIC), Spain

3-C-5. **Synthesis process of nanocomposite particles for electrochemical ceramic cells by spray pyrolysis**

○ Hiroyuki Shimada[1], Yuki Yamaguchi[1], Mizuki Momai[1], Masaya Fujioka[1]

[1]National Institute of Advanced Industrial Science and Technology (AIST), Japan

■■ Wednesday, Oct 8, 2025 (4th day) (Room A) ■■

Green Process for CE

(13:25) (Clive A Randall and Jun Akedo)

3-A-1. **Solidification of gel raw materials for Acid-base chemical densification process: Low-temperature solidification and decomposition in base solutions**

○ Yuki Yamaguchi[1], Masaya Fujioka[1], Rei Nakayama[1], Hirofumi Sumi[1], Satoshi Hiroi[2], Koji Ohara[2]

[1]Malti-Material Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), [2]Faculty of Materials for Energy, Shimane University

3-A-2. ★ **Chemothermal Pulverization Process -An attempt at recycling ceramics-**

○ Naoki Ohashi[1,2], Hiroyo Segawa[1]

[1]National Institute for Materials Science, [2]Institute of Science Tokyo

3-A-3. ★ **Interface-Selective Debonding of Multi-Material Assemblies by Electrical Pulsed Discharge for Inner-Loop Circular Economy**

○ Chiharu Tokoro[1,2]

[1]Waseda University, [2]The University of Tokyo

3-A-4. ★ **Calcium and CO_2 Circulation in Cement Materials toward Circular Economy and Carbon Neutrality**

○ Takafumi Noguchi[1]

[1]The University of Tokyo

POSTER SESSION PROGRAM

■■ Monday, Oct 6, 2025 (2nd day) 17:15-18:45 ■■

1-P-1. **Fast Charge Transfer Architecture via Dielectric Interfaces for Lithium Ion Batteries**

Kana Fujisawa[1], Takashi Teranishi[1,2], Yusuke Higaki[1], Aya Yoshioka1, Akira Kishimoto[1], Chinatsu Sasaoka[2], Hikaru Hirabaru[3], Shingo Katayama[3]

[1]Graduate school of Environmental, life, Natural Science and Technology, Okayama University, [2] Laboratory for Materials and Structures, Tokyo Institute of Technology, [3] R&D Lab., Nippon Denko Co., Ltd

1-P-2. **Non-firing solidification of ceramics using mechanochemical activation method and its applications**

Kento Ishii[1], Masayoshi Fuji[1]

[1]Advanced Ceramics Research Center, Nagoya Institute of Technology, Japan

1-P-3. **Synthesis of $TiNb_2O_7$ Particle with Enhanced Monodispersity for Anode Material**

K. Matsumura[1,2], M. Suzuki[2], H. Takeda[1]

[1]Graduate School of Science and Engineering, Saitama University, Japan, [2]Nanocarbon Material Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Japan

1-P-4. **Aerosol Deposited Piezoelectric Films with Corona Poling at Room Temperature for Integrated Energy Harvesting and Wireless Transmission**

Kohei Maruyama[1], Yoshihiro Kawakami[2], Fumio Narita[1]

[1]Tohoku university, Japan, [2]Research Institute for Electromagnetic Materials

1-P-5. **Synthesis of p-type Nb-doped MoS_2 Nanosheets**

Masaya Toyota[1,2], Ken-ichi Katsumata[1], Takaaki Taniguchi[1,2,3]

[1]Tokyo University of Science, [2] National Institute for Materials Science, [3]Institute of Science Tokyo

1-P-6. **Stabilization of Semiconductor Photoelectrode by Metal Oxide Nanosheet Coating**

Steven Novianto Tanjaya[1,2], Ken-ichi Katsumata[2], Takaaki Taniguchi[1,2,3]

[1]National Institute for Materials Science, [2]Tokyo University of Science, [3]Institute of Science Tokyo

1-P-7. **Pulsed wire discharge-induced rapid melting and solidification of Ti-6Al-4V microstructures**

Wataru Mita[1], Hideto Furuno[1], Yuya Takimoto[1], Tadachika Nakayama[1]

[1] Extreme Energy-Density Research Institute, Nagaoka University of Technology, Japan

1-P-8. **Powder Aerosol Deposition and Polymers – Is There Hope for A Common Future?**

Marc C. Thiel[1], Karen Lienkamp[1]

[1]Saarland University, Materials Science and Engineering, Germany

1-P-9. **Enhancing Deposition Efficiency of Polymer–Ceramic Composites via Powder Aerosol Deposition: Effects of Powder Composition and Process Parameters**

Yannic Wagner[1], Marc C. Thiel[1], Karen Lienkamp[1,2]

[1]Chair of Polymer Materials, Saarland University, Germany, [2] Saarene, Saarland Center for Energy Materials and Sustainability, Germany

1-P-10. **Voltage-Applied Aerosol Deposition Enabling Faster Ceramic Film Fabrication**

Yuya Kinoshita, Miyuki Sakakura, Takeshi Yajima, Yasutoshi Iriyama

Department of Materials Design Innovation Engineering, Graduate School of Engineering, Nagoya University, Japan

1-P-11. **Bridging the Missing Link Between Cold Sintering Process and Water-Assisted Solid-State Reactions**

Fukutaro Tanaka[1], Kenji Toda[2]

[1]Faculty of Engineering, Niigata University, [2]Graduate School of Science and Technology, Niigata University, Japan

1-P-12. **Grain Size-Optimized Tuning of Piezoelectric Properties in Barium Titanate Ceramics Through AC Field Poling Above the Curie Temperature**

Adisu Tsige Shibiru[1], Ichiro Fujii[1], Shintaro Ueno[1], Satoshi Wada[1]

[1]Graduate Faculty of Interdisciplinary Research, University of Yamanashi, Japan

1-P-13. **Comparison of structural and mechanical properties of whitlockite ceramics fabricated via conventional and cold sintering process**

Shiori Nawa[1], Yeongjun Seo[1], Yoshifumi Kondo[1], Sung Hun Cho[1], Jonas Stadulis[2], Aleksej Zarkov[2], Tomoyo Goto[1,3], Tohru Sekino[1]

[1]The University of Osaka, Japan, [2] Vilnius University, [3] Nara Institute of Science and Technology

1-P-14. **Mild Synthesis of Nano-Pigments via the Novel Water-Assisted Solid-State Reaction (WASSR) Method**

Wataru Hikita, Ryusuke Ito, Fukutaro Tanaka, Kenji Toda

[1]Niigata Univeristy

1-P-15. **Multiscale Synchrotron X-ray Observation of Microstructural Heterogeneity and Defect Evolution in Ceramics during Sintering**

Gaku Okuma[1]

[1]Research Center for Structural Materials, National Institute for Materials Science (NIMS), Japan

1-P-16. **Rapid Posttreatment of Powder Aerosol Deposited Functional Ceramics Using LED Radiation**

J. Schneider[1], D. Paulus[1], J. Kita[1], R. Moos[1]

[1]University of Bayreuth, Department of Functional Materials, Germany

1-P-17. **Investigation of robustness in Ni-Al spinel oxide catalysts**

Yoshinobu Nagashima[1], Shimpei Yamaguchi[1]

[1]Osaka Research Institute of Industrial Science and Technology

1-P-18. **Application of spinel oxides for energy storages**

Shimpei Yamaguchi[1], Yoshinobu Nagashima[1]

[1]Osaka Research Institute of Industrial Science and Technology

1-P-19 **Pseudo-reversal phase transformation of hexacelsian in a purified kaolinite system**

Shingo Machida[1]

[1]Japan Fine Ceramics Center

1-P-20. **Revealing a new room temperature deposition mechanism for materials with layered-type crystal structure by a synchrotron study**

Daniel Paulus[1], Jürgen Schneider1, Daniela Schönauer-Kamin1, Ralf Moos[1]

[1]University of Bayreuth, Germany

1-P-21. **Preparation and evaluation of BT-BMT-BF ceramics at low sintering temperature using citrate method**

Shota Nakagawa[1], Ichiro Fujii[1], Hyunwook Nam[2], Shintaro Ueno[1], Satoshi Wada[1]

[1]University of Yamanashi, [2]Tokyo University of Science

1-P-22. **Glass Coating Process on Ceramic Substrate by Electrophoretic Deposition Method**

Mio Takakura[1], Takehiro Yonezawa[2], Katsumi Yoshida[3]

[1]School of Materials and Chemical Technology-Department of Materials Science and Engineering, Institute of Science Tokyo, JAPAN, [2]Innovation Center, Mitsubishi Materials Corporation, [3]Laboratory for Zero-Carbon Energy, Institute of Innovative Research, Institute of Science Tokyo

1-P-23. **Cold Sintering of SiC Ceramics using Planetary Ball-Milled SiC Powder**

Haruki Setogawa[1], Anna Gubarevich[1], Katsumi Yoshida[1]

[1]Institute of Science Tokyo

1-P-24. **Green synthesis of sea urchin-like Nb_2O_5 nanoparticles**

Teruaki Fuchigami[1]

[1]National Institute of Advanced Industrial Science and Technology, Japan

2-P-25. **Fracto-emission during aerosol deposition of alumina films**

Yasuhito Matsubayashi[1], Tsuyohito Ito[2], Kentaro Shinoda[1], Kazuo Terashima[2], Jun Akedo[1]

[1]National Institute of Advanced Industrial Science and Technology, [2]University of Tokyo

1-P-26. **Synthesis of fluorite-type superlattice structure compounds for synroc solidification**

Ryosuke Maki[1], Satofumi Maruyama[2], Ryota Nakazawa[3], Masahiko Nakase[3], Kenji Shirasaki[4], Yoshihiro Kusano[1]

[1]Okayama University of Science, [2]Tokyo City University, [3]Institute of Science Tokyo, [4]The University of Osaka

1-P-27. **Development of a surface treatment that does not use environmentally hazardous substances and is an alternative to chrome plating using the AD method**

Noriaki Kaneko[1], Teruichi Watanabe[1], Ryotaro Imaizumi[2]

[1]Hojitsu Seiko Co., Ltd. Yonezawa Office, [2]Hojitsu Seiko Co., Ltd., Yonezawa City, Yamagata Prefecture

1-P-28. **Low Temperature Sintering and Interface Control of Composite Dielectrics for Microwave Applications**

Nayeon Kwon[1], Junwon Lee[1], Tae Yeong Song[1], Do-kyun Kwon[1]

[1]Department of Materials Science and Engineering, Korea Aerospace Univ., Republic of Korea

1-P-29. **Low-energy processing of dielectric ceramics incorporated with 2D oxide nanosheets**

Junwon Lee[1], Tae yeong Song[1], Nayeon Kwon[1], *Do-Kyun Kwon[1]

[1] Department of Materials Science and Engineering, Korea Aerospace Univ., Republic of Korea

1-P-30. **Development of Hierarchically Porous Ceramic Membranes for Catalytic Membrane Reactors: Microstructure Engineering for Sustainable Synthetic Fuel Production**

Dagmara Uhl[1,2], Dariusz Kata[2], Gurdial Blugan[1]

[1] Empa, Swiss Federal Laboratories for Materials Science and Technology, Laboratory for High Performance Ceramics, 8600 Dübendorf CH

[2] AGH University of Science and Technology, Faculty of Material Science and Ceramics, 30-059 Krakow PL

■■ Tuesday, Oct 7, 2025 (3rd day) 17:00-18:30 ■■

2-P-1. **Synthesis and charge-discharge properties of W-doped anatase TiO_2 nanoparticle by hydrothermal synthesis process**

S. Taminato[1], Y. Yamada[1], D. Mori[1], N. Imanishi[1]

[1]Department of Applied Chemistry, Graduate School of Engineering, Mie University, Japan

2-P-2. **Synthesis of Phosphorus Adsorbent from Waste Limestone Cake for Fertilizer Application**

Takaaki Wajima[1]

[1]Graduate School of Engineering, Chiba University

2-P-3. **Fracture toughness improvement of SiC dispersed $Yb_2Si_2O_7$ by heat treatment for environmental barrier coatings**

Punnaphop Watcharamaisakul[1], Ayahisa Okawa[2], Hiroyuki Saito[1], Son Thanh Nguyen[3], Hisayuki Suematsu[1], Thi Mai Dung Do[1], Hideto Furuno[1], Yuya Takimoto[1] and Tadachika Nakayama[1]

[1]Extreme Energy-Density Research Institute, Nagaoka University of Technology, Japan, [2]Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan, [3]National Institute of Technology, Kushiro College, Japan

2-P-4. **Fabrication of Low-Power Consumption Hydrogen Sensor Based on TiO_x/Pt Nanocontacts via Local Atom Migration**

Yasuhisa Naitoh, Hisashi Shima, Hiroyuki Akinaga

National Institute of Advanced Industrial Science and Technology (AIST)

2-P-5. **Low-temperature sintering and improvement of ionic conductivity of LATP prepared via the glass-crystallization method**

Tatsuya Tezuka[1,2], Shohei Kodama[1], Hiroaki Takeda[1], Ikuo Yanase[1]

[1]Saitama University, [2] Sumita Optical Glass, Inc.

2-P-6. **Prototyping of Multilayer Ceramic Components Using Cold Sintering Process**

Satoshi Yokomizo[1], Shuichi Funahashi[1], Julian Fanghanel[2], Clive A. Randall[2], Masahiko Kimura[1]

[1]Murata Manufacturing Co., Ltd., [2]The Pennsylvania State University

2-P-7. **High heat dissipation circuit mounting using AD alumina insulating layer**

Hiroki Tsuda[1], Jun Akedo[1], Yasuhito Matsubayashi[1], Taku Goto[1], Satoshi Yoshida[2], Satsuki Murakami[2], Yoichi Higashi[2]

[1]National Institute of Advanced Industrial Science and Technology, [2]Iwatani Corporation

2-P-8. **Cold crystallization, morphology control, and facet control of metal oxide nano-materials in aqueous solutions for gas sensors and chemical sensors**

Yoshitake Masuda[1]

[1]National Institute of Advanced Industrial Science and Technology (AIST)

2-P-9. **Fabrication of Aluminum Nitride Thick Film by Aerosol Deposition Method**

M. Mori[1], T. Ninomiya[2,3], T. Takagi[2,3], M. Niwa[2,3], T. Kuroda[2,3]

[1]Faculty of Advanced Science and Technology, Ryukoku University, Japan, [2]Systems Design Lab., The University of Tokyo, [3]Research Association for Advanced Systems (RaaS)

2-P-10. **Enhanced energy storage in lead zirconate titanate (PZT) thick film deposited by Aerosol Deposition Method**

Sewoong Oh[1], Hiroki Tsuda[1], Jun Akedo[1]

[1]National Institute of Advanced Industrial Science and Technology (AIST)

2-P-11. **Improvement for electrical properties and reduction of variation in their properties of Aerosol deposition (AD) films by using Robust Design**

Sewoong Oh[1], Jun Akedo[1]

[1]National Institute of Advanced Industrial Science and Technology (AIST)

2-P-12. **No-firing Ceramic Coatings Using Electrophoretic Deposition Process**

Tetsuo Uchikoshi[1]

[1]National Institute for Materials Science

2-P-13. **Development of transparent ceramics through colloidal process and SPS methods**

Tohru S. Suzuki[1], Kiyoshi Kobayashi[1]

[1]National Institute for Materials Science

2-P-14. **Cold sintering process for densification of $Zr_2SP_2O_{12}$ with negative thermal expansion**

Tsuyoshi Aburano[1], Yasuhide Mochizuki[1], Akira Nakajima[1], Toshihiro Isobe[1]

[1]Institute of Science Tokyo

2-P-15. **Additive Manufactured Solid Oxide Electrochemical Stacks for Power Generation**

T. Suzuki[1], C. Junaedi[1] and S. Roychoudhury[1]

[1]Precision Combustion, Inc., U.S.A

2-P-16. **Low-Environmental-Impact Synthesis of LED Phosphor Materials via Microwave Heating**

Masayuki Hirota[1], You Zhou[2], Kiyoshi Hirao[2]

[1]College of Industrial Technology, [2]National Institute of Advanced Industrial Science and Technology (AIST)

2-P-17. **Creation of a YSZ film with a spiny surface that combines antibacterial properties and biocompatibility**

Masami Hashimoto[1], Norio Yamaguchi[1], Soma Hashimoto[1], Satoshi Kitaoka[1], Hiroyasu Kanetaka[2]

[1]Japan Fine Ceramics Center, [2]Tohoku University

2-P-18. **Preparation of orientation map of perovskite type compounds on fluorite structure oxides on Si(001)**

Naoki Wakiya[1], Takahiko Kawaguchi[1], Naonori Sakamoto[1]

[1]Shizuoka University

2-P-19. **LiOH-flux LPE growth of Li-ion solid electrolyte LLZTO epitaxial thin films**

T. Kawaguchi[1], M. Moriya[1], A. Machino[1], N. Sakamoto[1], N. Wakiya[1]

[1]Graduate school of Integrated Science and Technology, Shizuoka University, Japan

2-P-20 **Development and application of nano-coating technology to particles with sub-micron size diameter**

Tomoya Ohno[1], Jeevan Kumar Padarti[1], Naonori Sakamoto[2] Shigeto Hirai[1]

[1]Kitami Institute of Technology, [2]Shizuoka University

2-P-21. **Investigation of lower process temperature for SiC ceramics diffusion bonding using insert material**

T. Ozaki[1], H. Tsuda[2], S. Mori[2]

[1]Osaka Research Institute of Industrial Science and Technology, [2]Osaka Metropolitan University

2-P-22. **Producing Solid-State Batteries by the Powder Aerosol Deposition Method: Overview and Recent Progress**

Ralf Moos[1,2], Lukas Hennerici[1,2], Mutlucan Sozak[1,2], Kim Wiedemann[1,2], Daniel Paulus[1], Jürgen Schneider[1], Nils Donker[1], Daniela Schönauer-Kamin[1]

[1]University of Bayreuth, Department of Functional Materials, Germany, [2]Bavarian Center for Battery Technology (BayBatt), Germany,

2-P-23. **Relation Between Cooling Rate and Structural Phase Transition in $Bi_{0.5}Na_{0.5}TiO_3$-Based Energy Storage Ceramics**

Y. Takagi, H, Nam, H. Nagata

[1]Tokyo Institute of Technology

2-P-24. **Low-Temperature Sputtering Growth of Supersaturated Sc-based Nitrides under Non-Thermal Equilibrium Conditions for Functional Devices**

Masato Uehara[1], Kenji Hirata[1], Kazuki Okamoto[2], Sri Ayu Anggraini[1], Hiroshi Yamada[1], Hiroshi Funakubo[2], Morito Akiyama[1]

[1]National Institute of Advanced Industrial Science and Technology (AIST), Japan, [2] Institute of Science Tokyo, Japan

2-P-25. **Development of ceramic sintering process monitoring technology using nanosecond pulses**

Tadachika Nakayama, Hiroyuki Saito, Wataru Mita, Hisayuki Suematsu, Koichi Niihara

Nagaoka Univ of Tech

2-P-26. **Interface Enhancement and Engineering in Solid-State Kinetic Spray Deposition**

Kentaro Shinoda[1], Mitsugu Sato[1], Takashi Nagoshi[1]

[1] Core Manufacturing Technology Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), 1-2-1 Namiki, Tsukuba, Ibaraki 305-8564, Japan

2-P-27. **Li dendrite suppression effect of $Li_{6.25}Ga_{0.25}La_3Zr_2O_{12}$-chloride composite solid-electrolyte**

Daisuke MORI[1], Ryota Katsu[1], Takuya Wada[1], Kazuki Yonezawa[1], Sou Taminato[1], Nobuyuki Imanishi[1,] Kota Suzuki[2], Masaaki Hirayama[3]

[1] Department of Applied Chemistry, Graduate School of Engineering, Mie University, Mie 514-8507, Japan

[2] Research Center for All-Solid-State Battery, Institute of Innovative Research, Institute of Science Tokyo, Yokohama, 226-8502, Japan. [3] Department of Chemical Science and Engineering, Institute of Science Tokyo, Yokohama, 226-8502, Japan.

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Please use as a notepad

A. Bruera	2-A-1
A. Elsenberg	2-A-1
A. Machino	2-P-19
Adisu Tsige Shibiru	1-P-12
Akira Kishimoto	1-P-1, 2-C-3
Akira Miura	3-C-4
Akira Nakajima	2-P-14
Aleksej Zarkov	1-P-13
Alexander Martin	2-C-6
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