XIX

ECerS

CONFERENCE

2025

Organized by

ECERS

Fraunhofer IKTS

DKG Deutsche Keramische Gesellschaft e. V.

PROGRAM BOOK

XIXth Conference of the European Ceramic Society

August 31 – September 4, 2025

International Congress Center Dresden, Germany

www.ecers2025.org

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Welcome to the ECerS XIX

The XIXth Conference of the European Ceramic Society will take place from August 31 to September 4, 2025 at the International Congress Center in Dresden, Germany.

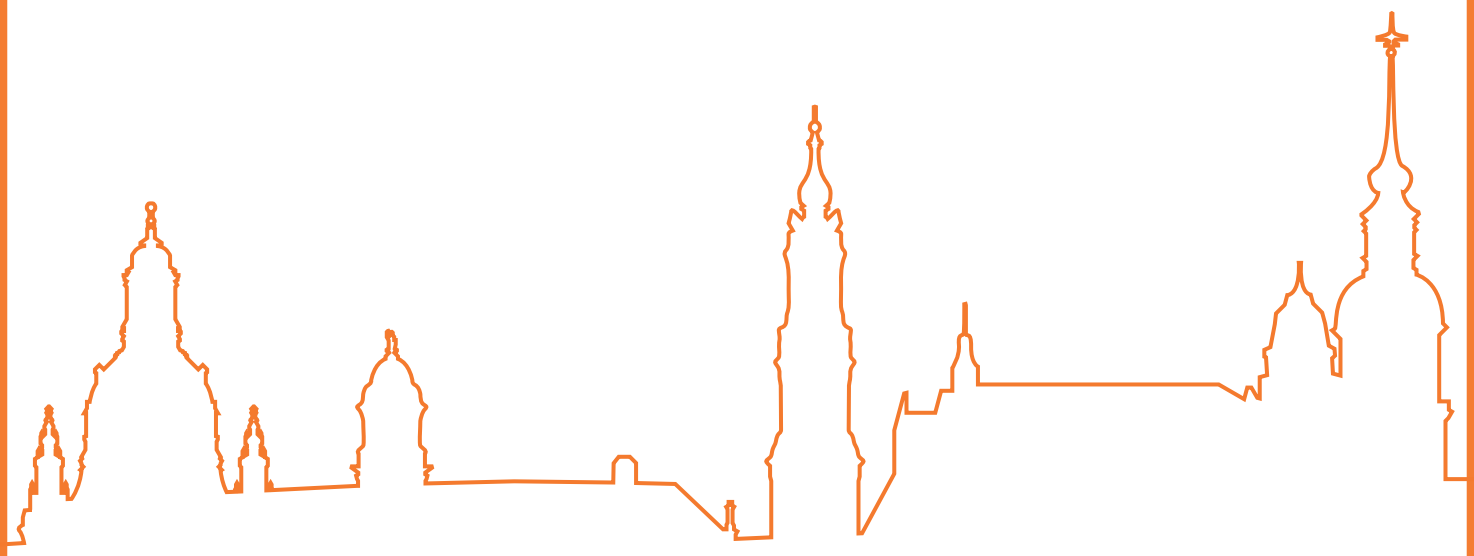
On behalf of the European Ceramic Society ECerS, the Deutsche Keramische Gesellschaft DKG, and the Fraunhofer Institute for Ceramic Technologies and Systems IKTS, it is our great pleasure to welcome you to the beautiful city of Dresden.

Planned every two years, the ECerS Conference focuses on cutting-edge research and product developments in a wide range of ceramic-related areas. The program provides an opportunity for scientists, researchers, engineers, and industry leaders from around the world to present and exchange their latest findings in ceramic science and technology.

The XIXth ECerS Conference is divided into 15 symposia covering all relevant aspects of ceramic science and technology. It specifically addresses the most important challenges of our society, such as sustainability, energy transition and closed cycle technologies. The Korea-Germany Research Synergy workshop and three sattelite symposia will round off the program: the ACerS-ECerS and the KCerS-ECerS joint symposium as well as the 6th International Sodium Battery Symposium (SBS6). Moreover, the 100th annual meeting of DKG is fully integrated.

Dresden's beauty is undisputed – and unmistakable it reveals itself to visitors at first glance and is characterized by an irresistible combination of romantic landscape, Baroque architecture and one of the most beautiful historic city centres in Germany. At second glance, "Florence on the Elbe", as it is often called, attracts visitors with a wealth of art and culture that can easily hold its own on an international level. The locals love and enjoy their city, its streets and squares and its concert halls with regular performances by world-class artists – and guests from all over the world are very much invited to join in.

Moreover, Dresden is the "city of science" in Germany. With ten Fraunhofer institutes, four Max Planck institutes, five Leibnitz institutes, two Helmholtz institutes and Dresden University of Technology as one of Germanys top ranked Universities of Excellence Dresden has the densest agglomeration of research institutions all over Europe. Dresden also ranks No. 1 in Europe with around 1,500 companies and 48,000 employees in the areas of information and communication technology and microelectronics. Therefore, the conference also serves a hub to discover new R&D opportunities in Europe.



Conference committee

Chair
Alexander Michaelis

Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Institute Director, Germany

Chair
Thomas Graule

European Ceramic Society, President, Belgium

Chair
Christos Aneziris

Technische Universität Bergakademie Freiberg, Deutsche Keramische Gesellschaft e.V. (DKG), President, Germany

International advisory board

The international advisory committee of ECerS 2025 is an independent, international expert committee that advises the organizing committee in **scientific issues.**

We are pleased to welcome the following international experts as members of the advisory committee.

Younes Abouliatim
Université Hassan 2, Morocco

Erik Adolfsson
Swerea - Swedish Research, Kista, Sweden

Simeon Agathopoulos
University of Ioannina, Greece

José Carlos Almeida
University of Aveiro, Portugal

Christos G. Aneziris
Technische Universität Bergakademie Freiberg, Germany

Csaba Balazsi
Centre for Energy Research, Hungary

Katalin Balazsi
Centre for Energy Research, Hungary

Sara Banijamali
Iran University of Science and Technology, Iran

Bikramjit Basu
Indian Institute of Science, India

Jon Binner
University of Birmingham, United Kingdom

Astri Bjørnetun Haugen
Technical University of Denmark, Denmark

Aldo Boccaccini
University of Erlangen-Nuremberg, Germany

Richard Bowman
Australian Ceramic Society, Australia

Annabel Braem
KU Leuven, Belgium

Eddy Brinkman
Betase B.V., The Netherlands

Francis Cambier
Belgian Ceramic Research Centre, Belgium

María Canillas Pérez
Universidad Politécnica de Madrid, Spain

Jérôme Chevalier
INSA-Lyon, University of Lyon, France

Paolo Colombo
Università di Padova, Italy

Thierry Cutard
Ecole des Mines d'Albi-Carmaux, France

Eamonn De Barra
University of Limerick, Ireland

Hugo Fernandes
University of Aveiro, Portugal

Erkka J. Frankberg
Tampere University, Finland

Thomas Graule
Empa Swiss Federal Laboratories for Materials Science and Technology, Switzerland

Stuart Hampshire
University of Limerick, Ireland

Jean-Marc Heintz
ICMCB, France

Adelina Ianculescu
University POLITEHNICA Bucharest, Romania

Ondrej Jankovsky
University of Chemistry and Technology Prague, Czech Republic

Alpagut Kara
Turkish Ceramic Federation, Turkey

Taner Kavas
Turkish Ceramic Federation, Turkey

Andraz Kocjan
Jožef Stefan Institute, Slovenia

Thomas Konegger
TU Wien - Vienna University of Technology, Austria

Zviad Kovziridze
Georgian Technical University, Georgia

Thomas Kronberg
Åbo Akademi University, Finland

Zoltan Lences
Slovak Academy of Sciences, Slovak Republic

Anne Leriche
Université Polytechnique - Hauts-de-France, France

Dagnija Loca
Latvian Materials Research Society, Latvia

Vilko Mandić
University of Zagreb, Croatia

Branko Matovic
Vinka Institute of Nuclear Science, Serbia

Marcel Menet
Swiss Association for Materials Science and Technology (SVMT), Switzerland

Gary Messing
Penn State University, USA

Larisa Mezentseva
Russian Academy of Sciences, Russia

Jadra Mosa
CSIC, Instituto de Cerámica y Vidrio, Spain

Dayirou Njoya
Université de Yaoundé I, Cameroun

Tatsuki Ohji
National Institute of Advanced Industrial Science and Technology (AIST), Japan

Luka Pavić
Ruđer Bošković Institute, Croatia

Zbigniew Pedzich
AGH - University of Science and Technology, Poland

Michal Pribyl
PROMAT, Czech Republic

Angelika Priese
Imerys Murg GmbH, Germany

Klaus Reichmann
Graz University of Technology, Austria

Jacques Rennotte
Belgian Ceramic Research Centre, Belgium

Erling Ringgaard
Meggitt, Denmark

Pavol Sajgalik
Slovak Academy of Sciences, Slovak Republic

Kristine Salma-Ancane
Riga Technical University, Latvia

Basma Samet
Ecole Nationale d'Ingénieurs de Sfax, Tunisia

Vladimir Shevchenko
Russian Academy of Sciences, Russia

Cristina Siligardi
"Enzo Ferrari" Università di Modena e Reggio Emilia, Italy

Matjaz Spreitzer
Jožef Stefan Institute, Slovenia

Vladimir V. Srdic
University of Novi Sad, Serbia

Richard Todd
University of Oxford, Department of Materials, United Kingdom

Athena Tsetsekou
National Technical University of Athens, Greece

Adrian Volceanov
University POLITEHNICA of Bucharest, Romania

Moritz von Witzleben
INMATEC Technologies GmbH, Germany

Julian Walker
NTNU, Norway

Jingyang Wang
Chinese Ceramic Society, China

Pan Wei
Peking University, China

Paulina Wiecinska
Warsaw University of Technology, Poland

Louis Winnubst
University of Twente, The Netherlands

Youn-Wook Kim
University of Seoul, Republic of Korea

Practical information

Registration
Desk opening hours

Sunday, August 31	13:00 – 20:00
Monday, September 1	7:00 – 18:00
Tuesday, September 2	7:30 – 18:00
Wednesday, September 3	7:30 – 18:00
Thursday, September 4	7:30 – 18:00

Badges

For security reasons, you are required to wear your badge at all times while at the conference. Participant badges give access to the welcome reception, opening and plenary session, conference symposia, award ceremonies, poster area and industrial exhibition, and access to all coffee and lunch break stations.

Participants with special exhibitor passes will not have access to the conference symposia.

Language

English is the official conference language.

Cloakroom

A cloakroom and baggage room is available near the registration desk. For security reasons we suggest to leave your belongings at your hotel. For “lost and found” items, please check at the registration desk.

Coffee and lunch breaks

The registration fee includes coffee breaks and lunches. They will be served as standing buffet every day in the exhibition hall and on the terrace level. Daily break times are:

Coffee break I	10:30 – 11:00
Lunch break	13:00 – 14:15
Coffee break II	16:00 – 16:30

Poster session

The poster presentations will take place in the exhibition hall at the poster area along with the industrial exhibition and during all breaks. Posters will be hung from Monday, September 1 until Thursday, September 4, 15:00.

Speaker-Ready Room

All speakers are required to bring their presentations to this room. All presentations will be sent out to the corresponding conference rooms from here. Own devices for the lectures are not allowed.

► **Check for room SEMINAR 2 on Seminar level.**

All speakers are required to check in at the speaker ready room 2 hours before their presentation or the day before, in case you have a lecture in the morning.

Speaker ready room will be open on Sunday, August 31 from 12:00 and from Monday, September 1 until Thursday, September 4, between 8:00 – 18:00.

Industrial exhibition

The exhibition will run in parallel on all ECerS conference days and can be visited during all conference days, especially during the breaks. It will start on Monday, September 1 after the opening at 11:00.

Mobile conference app

The ECerS 2025 mobile webapp is your resource to make the most of your conference experience. You can plan your personal schedule, connect with speakers and attendees, access the floor plan and find exhibitors and posters as well as abstracts. All last-minute program changes will be posted in the conference app. Voting for the best poster of ECerS 2025 will also be available via the app.

Every registered participant has received a login email to access the webapp prior to the conference. You can also ask at the registration desk for assistance.

ecers2025.plazz.net

WIFI

Free Wifi is available at the entire International Congress Center Dresden for ECerS participants.

Dress code

The dress code for the conference is (business) casual and informal for the social events.

Help

Should you have any questions or require help, please ask at the registration desk or get in touch with the organizational team on site wearing orange lanyards.

Social events

Welcome reception

Sunday, August 31 at the International Congress Center Dresden from 18:00 to 20:00 on the **terrace level.**

The organizing committee is excited to host the ECerS 2025 delegates for a welcome reception with a beautiful view of the Dresden city center and the Elbe river.

Career fair

Monday, September 1, from 18:00 to 19:00 **in Hall 5.**

This event is a great opportunity to bring together students, young professionals, industry experts, and research groups to network and discuss their interests and job/career opportunities.

Whether you are currently looking for a job or willing to discuss future career opportunities, make sure to join the fair for networking with your colleagues and the ceramic industry leaders!

Besides students and postdocs, all the exhibiting companies and sponsors, as well as research group representatives are welcome to participate as well.

Industrial evening and poster session

Monday, September 1, 2025 from 18:00 to 22:00 **in the exhibition and poster halls.**

For the poster session, which will start at 19:00 right after the career fair, authors are required to be present at their poster boards in order to discuss their work with other conference attendees. The best poster will be awarded during the conference dinner on Wednesday.

Fingerfood and drinks will be offered during the industrial evening and the poster session.

Walking tour with a difference - come with us on a fascinating journey through time!

Tuesday, September 2, 2025, 18:00

Certified tour-guides bring Dresden's past alive with their captivating anecdotes and stories about major events in the city's history. During an entertaining walking tour, they lead you through the dark days of the Middle Ages and conjure up the power of the Reformation, the splendour of the Baroque age, the destruction by World War II and the inspiring stories behind the reconstruction. Accompany us as we revisit the events of 1989, known as the Peaceful Revolution, and discover what inspired the people involved. In small groups, we delve into past and present, making sure you see the city's most important highlights and turning you into a Dresden insider.

Don't miss this entertaining experience.

Walk through the historical old town: Neumarkt with Frauenkirche, Stallhof, Fürstenzug, Brühlsche Terrasse, Hofkirche, Residenzschloss, Semperoper, Taschenberg Palais and the Augustus Bridge (the exact route of the tour is subject to change).

Included: certified guides, tour in English, insider tips on restaurants, shopping, night life and events, small groups, wheelchair friendly

Meeting point:	**International Congress Center Dresden - at the grand staircase**
Duration:	**approx. 2 hours**
Price:	**20.00 €**

Book online in advance or on-site at the registration desk.

Organ recital: European music at its best

Wednesday, September 3, 11:30 to 12:00

Venue: **Hofkirche Dresden**
Performer: **Prof. Dr. Olivier Guillon, Luxembourg**
Price: **The recital is free of charge.**

Take a musical break from the conference and enjoy a unique cultural highlight: a 30-minute organ recital at Dresden's magnificent cathedral Sanctissimae Trinitatis (Hofkirche). This midday performance offers a moment of reflection and inspiration through the rich sound of one of Saxony's most remarkable historical instruments.

The tradition of organ building has evolved over several centuries and is recognized as part of the UNESCO World Heritage.

The three-manual instrument in the Dresden Hofkirche is Gottfried Silbermann's final work. Silbermann was one of the most famous organ builders in history and a representative of the Baroque tradition in Saxony.

The program opens with the brilliant J. S. Bach and goes on to explore European music from Italy, France, England (with a nod to Spain) and the Netherlands.

Program:

- Johann Sebastian BACH **(1685-1750)**
  Praeludium & Fuga BWV 541
- Alessandro MARCELLO **(1684-1750)** / Johann Sebastian BACH
  Concerto in d BWV 974
  Andante & Spiccato, Adagio, Presto
- Louis COUPERIN **(1626-1661)**
  Fantaisie en la
- Giles FARNABY **(1583-1640)**
  The old Spagnoletta
- Jan Pieterszoon SWEELINCK **(1562-1621)**
  Malle Sijmen *(Silly Simon)*

About the musician:

Olivier Guillon studied the organ at the Conservatoire de Besançon in France, specializing in early music, and was further inspired by his wife, Soline Guillon. The French-German scientist was director at Forschungszentrum Jülich (Institute of Energy Materials and Devices: Materials Synthesis and Processing) and a professor at RWTH Aachen University for over a decade. He is now the new CEO of the Luxembourg Institute of Science and Technology, the only national research and technology organization focusing on the natural sciences and engineering in Luxembourg. Professor Guillon is a fellow of both the European and American Ceramic Societies, as well as a member of the World Academy of Ceramics.

Conference dinner

Wednesday, September 3 from 18:00 to 22:00
on the terrace level.

The conference dinner offers an excellent opportunity to continue the day's discussions in a more informal and convivial setting. Participants can look forward to an evening of networking, recognition, and cultural enrichment in one of Dresden's most scenic venues.

The program includes the presentation of various distinctions, among them the Best Poster Award, selected by vote of the conference participants. Musical and entertaining cultural interludes inspired by Saxony's Baroque heritage and its historical connection to the invention of Meissen porcelain will accompany the evening in an amusing way.

Please note that attendance is limited to participants with a paid conference dinner registration.

Opening and plenary session

Monday, September 1, 2025 (Auditorium)

8:15-8:30	**Welcome by the Conference Committee** with string music
8:30-8:40	**Greeting from the Mayor of Dresden Dirk Hilbert**
8:40-8:55	**Welcome address by Fraunhofer President Prof. H. Hanselka**
8:55-9:20	**Plenary talk I** Jan Domhardt (thyssenkrupp nucera HTE GmbH, Germany)
9:20-9:45	**Plenary talk II** Prof. Dušan Galusek (Alexander Dubček University of Trenčín, Slovakia)
9:45-10:10	**Plenary talk III** Chris Parr (Imerys, France)
10:10-10:35	**Plenary talk IV** Iggy Tan (Altech Batteries Limited, Australia)

Dirk Hilbert
Lord Mayor of Dresden, Germany

Prof. Holger Hanselka
President of the Fraunhofer Gesellschaft, Germany

Jan Domhardt
Managing Director of thyssenkrupp nucera HTE GmbH, Germany

Prof. Dušan Galusek
Director of the Centre for functional and surface-functionalized glass (FunGlass) at Alexander Dubček University of Trenčín, Slovakia

Chris Parr
Vice President of Science and Technology for Imerys, France

Iggy Tan
CEO & Managing Director Altech Batteries Limited, Australia

ECerS **awardees**

Stuijts Award

Jacques POIRIER, France

Jacques Poirier graduated in Physical Science and Engineering at INSA, in 1980. He obtained his M.Sc. in Materials Science from the University of Rennes in 1980. He completed a Ph.D. in Metallurgy and Nuclear Engineering in 1983, at the University of Orléans.

Prof. Jacques Poirier worked in the steel industry, from 1983 to 2001. From 1989 to 1990, he was a visiting professor at the Polytechnical School of Montreal. From 2001 to 2020, Dr. Poirier was a full professor of Ceramic Science and Metallurgy at the University of Orléans. In 2020, he became Professor Emeritus.

Prof. Poirier has published over 140 papers and 108 publications in proceedings. He has given over 264 oral presentations (over 54 invited conferences). He has contributed to 16 book chapters or books. He holds 15 patents (including 9 international patents). Prof. Poirier has supervised over 25 Ph.D. students. He has managed over 50 training courses (continuing education) and is a founding member of FIRE (Federation for International Refractories Research and Education). He has received numerous awards: Drouin Prize (1986), Wakabayashi Award (2008), Metallurgical Research & Technology Award (2015), Embury Prize (2016), Veolia Award (2018), Alfred W. Allen Award (2018), ICR Award (2018)

- Fellow of ECerS, 2021
- President of the French Ceramic Society, 2019-2024
- Chairman of the French Refractory Commission, 2011-2019
- Co-Organizing Chair of the Lyon ECerS Conference, 2023
- Organizer of the ECerS Summer School (Torino, 2019)
- Co-organizer of the ECerS /FIRE Summer School (Aachen, 2022)

Richard Brook Award

Clive A. RANDALL, USA

Clive A. Randall is an Evan Pugh Professor of Materials Science and Engineering and Director of the Materials Research Institute at The Pennsylvania State University. He received a B.Sc. with Honors in Physics in 1983 from the University of East Anglia (UK), and a Ph.D. in Experimental Physics from the University of Essex (UK) in 1987.

He was Director for the Center for Dielectric Studies 1997-2013, and Co-Director of the Center for Dielectrics and Piezoelectrics 2013-2015, still serving as Technical Advisor.

He has authored/co-authored over 500 technical papers (36,000 citations H-index 99) and holds 25 patents (with 5 pending) in the field of electroceramics. His research interests are in the area of discovery, processing, material physics, and compositional design of functional materials; with different processing and characterization methods.

He has graduated over 40 Ph. D students, and 20 Master Students, along with training many postdoctoral scholars and visiting scientists. Prof. Randall has received a number of awards from various societies, including the American Ceramic Society Fulrath Award, Fellow of the American Ceramic Society, Academician of the World Academy of Ceramics; Spriggs Phase Equilibria Award; Friedberg Lecture at the American

GN Babini (Industrial) Award

Chris PARR, France

Chris Parr is the Vice President of Science and Technology for Imerys spanning Refractory, Advanced ceramics, Abrasives and Construction materials based in Paris, France.

After receiving a BSc honors degree in Chemistry from York University, England in 1981, he was initially employed in the refractory producing industry, during a 13 year period, with refractory producers in both South Africa and England. He joined his current employer, Imerys in 1994 (as Lafarge). Initially employed in the central marketing department, followed by applications and development Director in 1999. After a number of role changes this then led to being appointed in 2010 as the Product Development Director. A period as VP for Innovation and Sustainability then followed prior to assuming his current role in 2019.

He has authored over 120 technical and scientific papers and holds numerous patents in the field of hydraulic binders and refractory raw materials. He is a fellow of the American Ceramic Society and Planje award recipient as well as a distinguished life member of UNITECR. He has received the Wakabayashi award from the Technical Association of Refractories Japan on two occasions and is a serving member of the counsel of the Institute of Refractory engineers (UK). He is also the current Chairman of the F.I.R.E Research federation uniting more than 25 academic institutions and industrial partners with a common goal to promote education and research in refractory materials engineering.

He is a member of the Groupe Française de Ceramique and is an elected member of the advisory board.

Young Scientist Award

Erkka J. FRANKBERG, Finland

In 2018, Dr. Frankberg received his Doctor of Science in Technology degree with distinctions from Tampere University, majoring in Materials Science and Engineering. During his Doctoral studies, he conducted a one-year research visit to France at the Institut National Des Sciences Appliquées de Lyon (INSA Lyon). After graduating, he held a two-year postdoctoral researcher position in Italy, at the Istituto Italiano di Tecnologia (IIT Milano) and was granted the Marie Sklodowska Curie Individual Fellowship. After returning to Finland in 2020, he received the Academy Postdoctoral Researcher position at Tampere University. Dr. Frankberg continues to work at Tampere University and was recently granted the prestigious Academy Fellowship by the Research Council of Finland with a funding period between 2024-2028. Dr. Frankberg has co-authored more than 15 technical papers, and he holds two patents. His research field consists of interdisciplinary studies on ceramic and glass processing and characterization, focusing on room temperature plasticity phenomena in amorphous oxide ceramics. Dr. Frankberg has received numerous awards for his research, including the Young Researcher Award of the European Materials Research Society in 2021.

Frankberg is an active member of the European Ceramic Society and is currently leading the Young Ceramists and Training working group of ECerS. He is the cofounder of the new Young Ceramists Network (YCN) and acted as the executive committee member of YCN between 2016-2022.

He has co-organized numerous international conferences, workshops and webinars affiliated to ECerS, most recently the 2024 young Ceramists Additive Manufacturing forum (yCAM). In addition, Dr. Frankberg has guest-edited two special issues for the Open Ceramics journal.

JECS Trust Award

Diletta SCITI, Italy

Diletta Sciti is Director of Research at the National Research Council – Institute of Science, Technology, and Sustainability for Ceramics (CNR-ISSMC) in Faenza, Italy. She began her academic journey with a master's degree in physics from the University of Bologna and later earned a Ph.D. in Engineering from the Kyoto Institute of Technology in Japan.

A permanent researcher at CNR since 2001 and later group leader, her research focuses on the fundamental correlations between processes, microstructures, and properties of structural and ultra-high temperature ceramics and composites for severe environments. She is particularly interested in exploring novel processes, manufacturing prototypes, and testing materials in relevant environments. She has led international projects funded by EU, US, and Italian agencies, including an €8M EU-Horizon 2020 program focused on ultra-high temperature ceramic matrix composites for aerospace. Additionally, she is involved in technology transfer contracts for Italian companies. In 2021, following a brief assignment as pro-tempore director of former ISTEC, she co-founded a CNR spin-off to bring UHTCMC materials to market.

She has actively contributed to the academic community by serving as a Ph.D. Faculty Board Member in Material Science & Technology at the University of Parma, Italy, organizing symposia for ECERS and other conferences, serving on editorial boards, and was recently appointed Chair of the 2024 ECI conference on UHTCs in Italy. With around 250 technical publications and 10 patent applications, she was recognized as a Fellow of the European Ceramic Society in 2023.

JECS Best Paper Award

Subhadip BHANDARI, Italy

Subhadip Bhandari is a research fellow at the University of Trento, Italy, working with Prof. Vincenzo M. Sglavo. He completed his doctoral studies in 2025 from University of Padova, Italy, under the supervision of Prof. Giorgia Franchin, Prof. Paolo Colombo, and Prof. Mattia Biesuz. He holds a master's in Materials Science & Engineering from Indian Institute of Technology Patna, India (2021) and a bachelor's in Ceramic Technology from Government College of Engineering and Ceramic Technology, Kolkata, India (2018).

Subhadip's research focuses on coupling extrusion-based additive manufacturing of oxide ceramics with non-conventional sintering techniques, as well as tape casting and flash sintering of non-oxide ceramics. Previously, he worked at Forschungszentrum Jülich, on flash sintering of oxide ceramics under Prof. Devinder Yadav (from IIT Patna), Prof. Martin Bram, and Prof. Olivier Guillon. He has authored eight papers and co-authored one, with two among the most downloaded in JECS and Materials Science and Engineering: R with an impact factor of 31.

He has received several awards, that includes silver medal during his bachelor's, gold and silver medals for best postgraduate student at IIT Patna, DAAD scholarship for his master's thesis in Germany, the NSP scholarship of the Slovak Republic during his PhD, and several travel grants from the European and American Ceramic Societies. Recently, he won 1st place in the YCN photo contest, best poster award at yCAM 2024 and ICACC 2024 for his work on additive manufacturing of piezoceramics. Subhadip currently serves as a reviewer for Open Ceramics, JECS, and Ceramics International.

James Zhijian Shen (Open Ceramics) Best Paper Award

Yi-Chen LAN, USA

Dr. Yi-Chen Lan currently is a postdoctoral appointee in Chemical Sciences & Engineering Division at Argonne National Laboratory in United States. She earned her M.Sc. in Chemical Engineering from National Taiwan University and Ph.D. in Chemical Engineering from Penn State University. Her doctoral research focused on recycling all-solid-state lithium batteries, with an emphasis on reprocessing strategies, interfacial engineering, and materials science to enhance battery performance and sustainability. At Argonne National Laboratory, Dr. Lan is currently investigating SEI formation on silicon anodes to address calendar life challenges in lithium-ion batteries, developing anode-free solid-state batteries, and enhancing solid-state battery manufacturing through scalable processing in dry-room environments.

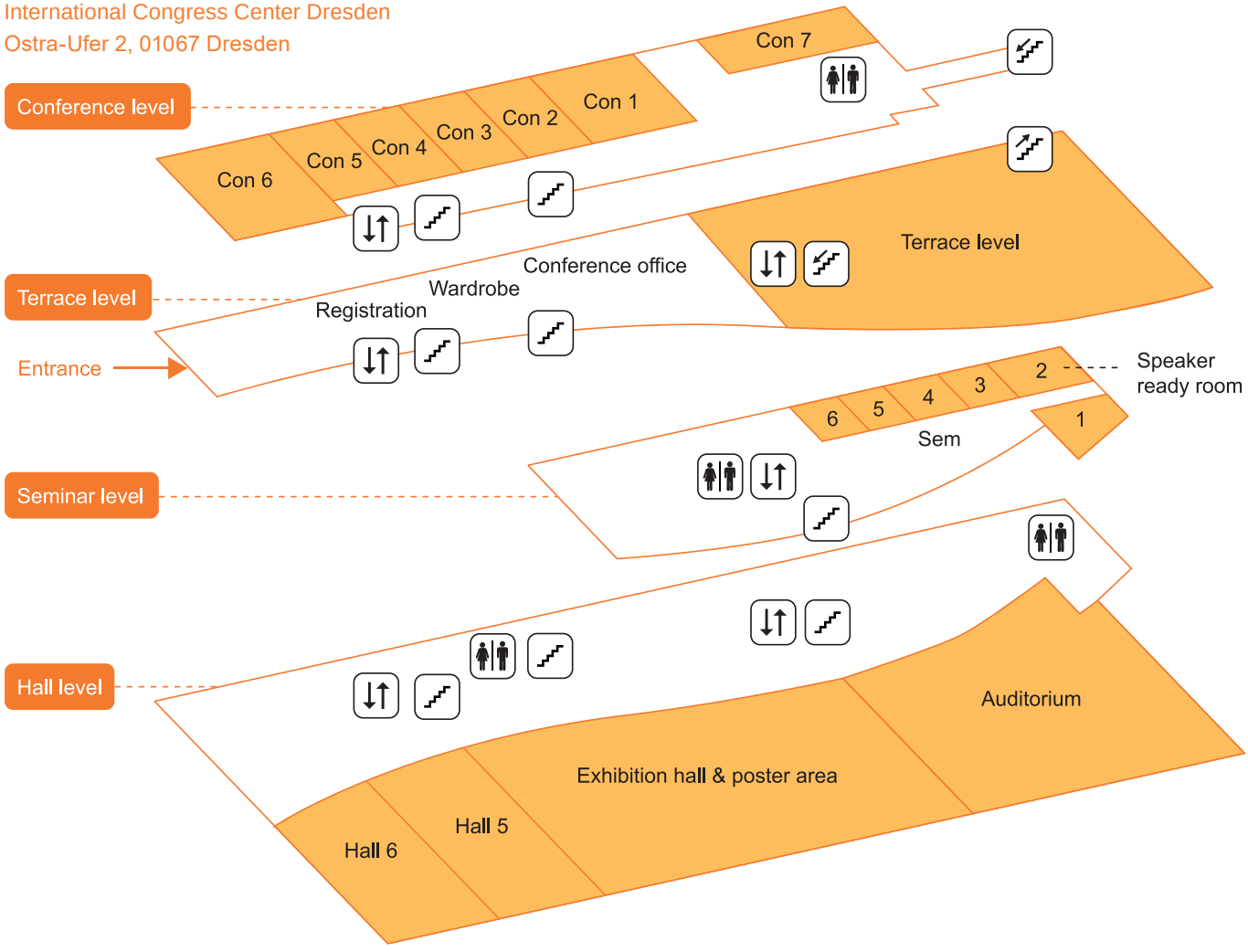
Program overview

Symposia legend

S1) Innovative ceramic syntheses, processing and shaping / Ceramic coatings / Porous ceramics	S6) Ceramics for environmental technologies / Recycling	S11) Ceramics and construction materials for building applications / Silicate ceramcs / Art + Archeology	S16) ECerS-ACerS Joint Symposium
S2) Thermal processes and advanced sintering / Cold sintering	S7) Glass-ceramics and glasses	S12) Advanced characterization techniques	S17) International Sodium Battery Symposium SBS6
S3) Additive manufacturing	S8) Functional ceramics	S13) Modeling and digitalization of materials and processes	S18) KCerS-ECerS Joint Symposium
S4) Advanced structural ceramics and composites / Architectured materials / Defense / Subsea systems	S9) Ceramics for energy conversion and storage, chemistry and environment / Hydrogen	S14) Ceramic membranes, water & solvent treatment and gas separation	Student Speech Contest (SSC)
S5) Refractories / High and ultra-high temperature ceramics / Hardmetals	S10) (Bio)ceramics, composites, and bioactive glasses for healthcare	S15) Transparent ceramics	K-FAST – Korea-Germany Research Synergy through GITCC Program and Program by KEIT

Conference venue

International Congress Center Dresden
Ostra-Ufer 2, 01067 Dresden



Monday, September 1, 2025

	Sem 1	Sem 3	Sem 4	Sem 5	Sem 6	Con 1	Con 2	Con 3	Con 4	Con 5	Con 6	Con 7	Hall 6	A	Hall 5
8:15-10:30	Opening and plenary talks in Auditorium														
Coffee break															
11:00-13:00	S2	S14	S10	S12	S15	S3	S4	S5	S8	S1	S9	S11	K-FAST	S9	SSC
Lunch break															
14:15-16:00	S2	S14	S10	S12	S15	S3	S4	S5	S8	S1	S9	S11	K-FAST	S9	SSC
Coffee break															
16:30-18:00		S14	S10	S12	S15	S3	S4	S5	S8	S1	S9	S11	K-FAST	S9	SSC
18:00-19:00	Career fair in Hall 5														
18:00-22:00	Poster session and industrial evening in exhibition area														

Tuesday, September 2, 2025

	Sem 1	Sem 3	Sem 4	Sem 5	Sem 6	Con 1	Con 2	Con 3	Con 4	Con 5	Con 6	Con 7	Hall 6	A	Hall 5
8:30-10:30	S2	S14	S10	S12	S15	S3	S4	S5	S8	S1	S9	S11	S18	S9	SSC
Coffee break															
11:00-13:00	S2	S14	S10	S12	S15	S3	S4	S5	S8	S1	S9	S11	S18	S9	
Lunch break															
14:15-16:00	S2	S14	S10	S12	S15	S3	S4	S5	S8	S1	S9	S6		S9	
Coffee break															
16:30-18:00		S14	S10		S7	S3	S4	S5	S8	S1	S9	S6	S16	S9	

Wednesday, September 3, 2025

	Sem 1	Sem 3	Sem 4	Sem 5	Sem 6	Con 1	Con 2	Con 3	Con 4	Con 5	Con 6	Con 7	Hall 6	A	Hall 5
8:00-10:30	ECerS award ceremony														SBS6
Coffee break															
11:00-13:00	S2	S14	S10	S13	S7	S3	S4	S5	S8	S1	S9	S6	S16	S3	SBS6
Lunch break															
14:15-16:00	S2	S14	S10	S13	S7	S3	S4	S5	S8	S1	S9	S6	S16	S3	SBS6
Coffee break															
16:30-18:00	S2	S14	S10	S13	S7	S3	S4	S5	S8	S1	S9	S6	S16	S3	SBS6
18:00-22:00	Conference dinner														

Thursday, September 4, 2025

	Sem 1	Sem 3	Sem 4	Sem 5	Sem 6	Con 1	Con 2	Con 3	Con 4	Con 5	Con 6	Con 7	Hall 6	A	Hall 5
8:30-10:30	S2	S12	S10	S13	S7	S3	S4	S5	S8	S1	S9	S6		S3	SBS6
Coffee break															
11:00-13:00	S2	S12		S13	S7	S3	S4	S5	S8	S1	S9	S6		S3	SBS6
Lunch break															
14:15-16:00	S2				S4	S3	S4	S5	S8	S1		S6		S3	SBS6
16:00-16:15	Closing remarks in Auditorium														

Program (sorted by symposium)*

S1) Innovative ceramic syntheses, processing and shaping / Ceramic coatings / Porous ceramics

Monday, September 1, 2025

Room: Conference 5	Session: Synthesis of ceramic powders I | Chair: T. Moritz (Fraunhofer IKTS, Germany)
11:00-11:20	Reactive sintering of high entropy carbide in various Spark Plasma Sintering systems D. Salamon (Alexander Dubcek University of Trencin, Slovakia)
11:20-11:40	Accelerated Discovery of High-Entropy Oxide Catalysts via High-Throughput Synthesis and Testing A. Knorpp (Empa, Switzerland)
11:40-12:00	Synthesis and spark plasma sintering of dense Hibonite $CaAl_{12}O_{19}$ ceramics F. Delorme (ISL, France)
12:00-12:20	Fabrication of Silica Particles for Vibration-Absorbing Ceramics in Rotating Detonation Engines B. Pajo (Purdue University, USA)
12:20-12:40	The falsh synthesis of $LiCO_2$ Y. Wang (Beijing Institute of Technology, China)

Room: Conference 5	Session: Suspensions and feedstocks I | Chair: M. Trunec (Brno University of Technology, Czechia)
14:15-14:40	**Applications of microfluidic chip rheology to ceramic processing** R. Moreno (Institute of Ceramics and Glass-CSIC, Spain)
14:40-15:00	Emulsion template combined with microextrusion for the elaboration of halloysite and halloysite/alumina based porous ceramics L. Mathieu (University of Limoges, France)
15:00-15:20	$Ti_3C_2T_x$ MXenes as Multifunctional Additive for Direct Ink Writing of Ceramics S. Barg (Universität Augsburg, Germany)
15:20-15:40	Coordination complexes as metallic precursors in colloidal processing of ceramic-matrix-composites J. Tanska (Warsaw University of Technology, Poland)

Room: Conference 5	Session: Suspensions and feedstocks II | Chair: R. Moreno (Institute of Ceramics and Glass-CSIC, Spain)
16:30-16:50	Exploration of Electroceramics from Silicone-Based Emulsions A. Zilio (University of Padova, Italy)
16:50-17:10	Alumina bio-sourced feedstock development for FGF additive manufacturing process D. Jouglard (CTTC, France)
17:10-17:30	Production and characterisation of feedstocks for Ceramic Injection Molding L. Gorjan (Treibacher Industrie AG, Austria)
17:30-17:50	Performance evaluation of new polymer additives for technical ceramic shaping processes F. Rossignol (IRCER, France)

Tuesday, September 2, 2025

Room: Conference 5	Session: Synthesis of ceramic powders II | Chair: F. Delorme (ISL, France)
8:30-8:50	In- situ formation of the microporosity of polymer-derived ceramics to stimulate superior OER activity of **confined non-noble metal nanoparticles** M. Potestas (University of Limoges, France)
8:50-9:10	**Novel carbon/ceramic hybrid fibers with improved** oxidation resistance G. Motz (University of Bayreuth, Germany)
9:10-9:30	Improving mechanical properties of polymer-derived dense SiC ceramics with the integration of 2D MXene W. Li (Zhengzhou University, China)
9:30-9:50	Synthesis of zirconia and yttria stabilized zirconia in Supercritical Water: from lab scale to pilot scale C. Quilfen (Imerys, France)
9:50-10:10	A novel synthesis of low-viscosity ZrC precursors for ultra-high-temperature ceramics (UHTCs) K. Lee (Korea Institute of Materials Science/Pusan National University, South Korea)
10:10-10:30	Solar-assisted synthesis of ceramics D. Fernández-González (Centro de Investigación en Nanomateriales y Nanotecnología (CINN-CSIC), Spain)

Room: Conference 5	Session: Synthesis of ceramic powders III | Chair: G. Motz (University of Bayreuth, Germany)
11:00-11:20	Synthesis and radiation response of compositionally complex MAX phases in the (Zr,Ti,Hf,Nb,V/Ta)-(Al,Sn)-C system I. Ehikhioya (University of Huddersfield, UK)
11:20-11:40	Innovative synthesis of bi-metallic cyano-bridged coordination polymers on alumina for enhanced NH_3 sorption P. Plaza-Joly (Institut Européen des Membranes, France)
11:40-12:00	Synthesis and High Temperature Evolution of Hafnium Carbonitride Ultra-high Temperature Ceramic Precursor Y. Fu (Henan Academy of Sciences, China)
12:00-12:20	A facile approach for the synthesis of rare-earth compounds using carbonate precursors A. K. Gupta (Indian Institute of Technology Jammu, India)
12:20-12:40	Synthesis of One-Dimensional Zirconia Particles and Their Application in Zirconia-Toughened Alumina composites Z. Xue (KU Leuven, Belgium)

Room: Conference 5	Session: Porous structures I | Chair: P. Colombo (University of Padova, Italy)
14:15-14:40	Polymer-Derived Ceramic Ambi-&-aerogels C. Ahmetoglu (Technische Universität Berlin, Germany)
14:40-15:00	Lightweight porous $(Y_{0.25}Ho_{0.25}Yb_{0.25}Lu_{0.25})_2Si_2O_7$ thermal insulator with excellent thermal stability Z. Wu (Chinese Academy of Sciences, China)
15:00-15:20	Innovative Manufacturing of Porous Ceramics for Advanced Space Applications M. Vozarova (RHP-Technology GmbH, Austria)

*as of August 12, 2025

Room: Conference 5	Session: Porous structures II | Chair: C. Ahmetoglu (Technische Universität Berlin, Germany)
16:30-16:50	Deformation Control Optimizes Kelvin Cell Architecture S. Funk (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany)
16:50-17:10	Hybrid processing of preceramic polymers for the development of hierarchically porous ceramics applicable in chemical conversion applications T. Konegger (TU Wien, Austria)
17:10-17:30	Additive manufacturing of alumina ceramics with spatially tailored porosity M. Schwentenwein (Lithoz GmbH, Austria)
17:30-17:50	Highly-porous Metal Oxide Structures Fabricated by 3D Printing combined with Colloidal Assembly K. Pagnan Furlan (Karlsruhe Institute of Technology (KIT), Germany)

Wednesday, September 3, 2025

Room: Conference 5	Session: Coatings I | Chair: R. Mücke (Forschungszentrum Jülich GmbH, Germany)
11:00-11:20	Design of new oxide feedstock material compositions for surface technologies S. Conze (Fraunhofer IKTS, Germany)
11:20-11:40	Thermal spray coating on metallic surfaces of spray dried planetary regolith powders D. Karl (TU Berlin, Germany)
11:40-12:00	Thermophysical properties of 9-component composite phase high-entropy ceramics M. Babaei (Alexander Dubcek University of Trencín, Slovakia)
12:00-12:20	Plasma-particle interactions and properties of atmospheric plasma sprayed Al_2O_3-based solid solution coatings M. Grimm (University of Technology Chemnitz, Germany)
12:20-12:40	Functionally Graded Oxide Scale on (Hf,Zr,Ti)B_2 Coating with Exceptional Ablation Resistance Induced by Unique Ti Dissolving T. Li (Henan Academy of Sciences, China)
12:40-13:00	Nanoindentation and superconducting transition temperature investigations of high entropy stabilized $(NbMoTaW)_{100-x}(CN)_x$ coatings with variable stoichiometry F. Lofaj (IMR SAS, Slovakia)

Room: Conference 5	Session: Shaping I | Chair: M. Stuer (Empa, Switzerland)
14:15-14:40	Rapid Sintering of Additively Manufactured Multimaterial Ceramics with Nanocellulose A. Kocjan (Jožef Stefan Institute, Slovenia)
14:40-15:00	A ceramic container produced by gelcasting: an alternative concept for the disposal of high-level radioactive waste? V. Alvarez (Andra - ICMCB - Galtenco Solutions, France)
15:00-15:20	Electrochemical machining – a novel approach to machine solid-state sintered silicon carbide based ceramics T. Lein (TU Dresden, Germany)

Room: Conference 5	**Session: Shaping II | Chair: A. Kocjan (Jožef Stefan Institute, Slovenia)**
16:30-16:50	Fabrication of textured lanthanum silicate oxyapatite **by magnetic field and SPS** T. Suzuki (National Institute for Materials Science, Japan)
16:50-17:10	2D biotapes of ferrite nanoparticles for magnetostrictive biosensors F. Tresoldi (Instituto de Ceramica y Vidrio (CSIC), Spain)
17:10-17:30	Quality inspection during the ceramic tape casting process G. Hagen (KMS Technology Center GmbH, Germany)

Thursday, September 4, 2025

Room: Conference 5	Session: Coating II | Chair: A. Elsenberg (Helmut Schmidt University, Germany)
8:30-8:50	**Influence of metal buffer layer on water vapor oxidation** of Cr_2AlC coatings on Zry-4 substrates for accident tolerant fuel applications Y. Lei (Chinese Academy of Sciences, China)
8:50-9:10	Optimization of hydrosilylation-derived polysilazane-based SiCN(O) coatings on Crofer 22APU steel Z. Kucia (AGH University of Krakow, Poland)
9:10-9:30	Microstructural and Phase Stability of TBC in Water Vapor Environments for Hydrogen Gas Turbines J. Pyeon (Changwon National University, South Korea)
9:30-9:50	Polymer-derived SiOC coatings: protective materials for next-generation nuclear systems M. Gaweda (National Centre for Nuclear Research, Poland)
9:50-10:10	Corrosion- and wear-resistant coatings of the Ti-Al-C, (Ti, Mo)-Al-C and (Ti, Cr)-Al-C systems for high-temperature-long-term operation T. Prikhna (National Academy of Sciences, Ukraine)

Room: Conference 5	Session: Coatings III | Chair: B. Ferrari (Instituto de Ceramica y Vidrio, CSIC, Spain)
11:00-11:20	Aerosol Deposition of Alumina A. Elsenberg (Helmut Schmidt University, Germany)
11:20-11:40	Characterization and CMAS corrosion resistance of YbMS and YbDS multilayered EBCs M. Cescon (Università di Modena e Reggio Emilia, Italy)
11:40-12:00	Exploration of the phase formation in Yb-Si-O coatings S. Mráz (RWTH Aachen University, Germany)
12:00-12:20	Functional coatings on battery active materials by Atomic Layer Deposition (ALD) M. Höhn (Fraunhofer IKTS, Germany)
12:20-12:40	Aerosol Deposition (AD) Technology: Advances and Challenges for High-Performance Coatings O. Rojas (Center for Technology Transfers in Ceramics (CTTC), France)
12:40-13:00	Simulation of the Powder Aerosol Deposition Process R. Mücke (Forschungszentrum Jülich GmbH, Germany)

Room: Conference 5	Session: Shaping III | Chair: D. Safranchik (Technion - Israel Institute of Technology Israel)
14:15-14:40	**Reactive infiltration synthesis of metal/ceramic composites for high-performance applications** A. Katz Demyanetz (Technion - Israel Institute of Technology, Israel)
14:40-15:00	Alumina microdevices produced from a derived slip-casting technique for dermatological applications R. Trihan (Empa, Switzerland)
15:00-15:20	High-Throughput development of AZO/ZrO_2 composites E. Wolf (FAU Erlangen-Nürnberg, Germany)
15:20-15:40	Multiple-strand extrusion for resource saving manufacturing of ceramic capillaries R. Hoffmann (Fraunhofer IKTS, Germany)

S2) Thermal processes and advanced sintering / Cold sintering

Monday, September 1, 2025

Room: Seminar 1	Session: Spark plasma sintering of oxides | Chair: C. Elissalde (University Bordeaux, France)
11:00-11:20	Dense nanostructured Yttria-Stabilized Zirconia by combining chemical reactivity of precursors and low temperature Spark Plasma Sintering C. Estournes (CNRS/University Toulouse, France)
11:20-11:40	Grain Growth behavior under Electric Field/Current in Zirconia Ceramics (8Y-CSZ) K. Morita (National Institute for Materials Science (NIMS), Japan)
11:40-12:00	Towards strong and tough alumina-based ceramics through rapid sintering T. Prötsch (Montanuniversität Leoben, Austria)
12:00-12:20	Controlling Anisotropic Grain Growth of Alumina Using Solutes and Fields W. Kaplan (Technion - Israel Institute of Technology, Israel)
12:20-12:40	Pressureless Spark Plasma Sintering of barium titanate electroceramics V. Marak (Brno University of Technology, Czechia)
12:40-13:00	Plasma etching resistance of rare-earth substituted yttrium aluminium garnets M. Bram (Forschungszentrum Jülich GmbH, Germany)

Room: Seminar 1	Session: Microwave sintering and treatment | Chair: J. Räthel (Fraunhofer IKTS, Germany)
14:15-14:35	**Densification by microwave sintering of centime**ter-sized porcelain objects shaped by robocasting – **Influence of the sintering cell** C. Petit (Ecole Nationale Supérieure des Mines de Saint-Etienne, France)
14:35-14:55	Microwave vs. Conventional Sintering: Insights from SnO_2-ZnO Ceramic Processing P. Simonova (University of Chemistry and Technology, Czechia)
14:55-15:15	Thermal treatment of MgO in a furnace heated with microwave plasma burner M. Oppelt (TU Bergakademie Freiberg, Germany)
15:15-15:35	Fast microwave treatment of 3D-printed zirconia parts A. Krzyzaniak (Université Polytechnique des Hauts-de-France, France)
15:35-15:55	Sintering of zirconium oxide using a microwave plasma torch system K. Moritz (Technische Universität Bergakademie Freiberg, Germany)

Tuesday, September 2, 2025

Room: Seminar 1	Session: Cold sintering I | Chair: J. Lee (Penn State University, USA)
8:30-8:50	Exploring the structural integrity of cold sintered ceramics A. Jabr (Montanuniversität Leoben, Austria)

8:50-9:10	Controlling Grain Boundaries at Low Temperatures: Impedance Insights in Cold Sintered ceramics T. Herisson de Beauvoir (CNRS - University of Toulouse, France)
9:10-9:30	Non-equilibrium relaxation during the Cold Sintering Process S. Momjian (The Pennsylvania State University, USA)
9:30-9:50	Cold Sintering Process of Hexagonal Boron Nitride Ceramics H. Nishiyama (The Pennsylvania State University, USA)
9:50-10:10	Cold Sintering Process with reactive precursors of Yttria-Stabilized-Zirconia Y. Denis (Université de Bordeaux, France)
10:10-10:30	Effect of cold sintering temperatures on the microstructure and mechanical properties of Ba-$Zr_{0.7}Ce_{0.2}Y_{0.1}O_{3-?}$ (BZCY721) proton-conductor S. A. Afzal (Forschungszentrum Jülich, Germany)

Room: Seminar 1	Session: Cold sintering II | Chair: W. Rheinheimer (University of Stuttgart, Germany)
11:00-11:20	Cold sintering of electroceramic composites K. Singh (University of Bath, UK)
11:20-11:40	Synthesis and sintering of lead free piezoceramics: novel routes of synthesis based on precursors and consolidation using cold sintering and spark plasma sintering D. Fernández-González (Consejo Superior de Investigaciones Científicas, Spain)
11:40-12:00	**Cold sintering of BT/BST-PTFE composite films prepared via solvent-free polymer fibrillation process** C. Ribeiro (University of Aveiro, Portugal)
12:00-12:20	Functional bioceramics with embedded metallization using cold sintering processes A. Sharipova (Fraunhofer IKTS, Germany)
12:20-12:40	Cold Sintering Process for the consolidation of geopolymer and geopolymer-zeolite composite adsorbents E. Papa (CNR-ISSMC, Italy)
12:40-13:00	Cold assisted sintering of alpha and gamma alumina I. Reaney (University of Sheffield, UK)

Room: Seminar 1	Session: Cold sintering III | Chair: M. Vinnichenko (Fraunhofer IKTS, Germany)
14:15-14:40	Developing Cold Sintered $Li_{1-X}Al_xTi_{2-X}(PO_4)_3$ Electrolytes for All-Solid-State Batteries N. Vicente Agut (Universitat Jaume I, Spain)
14:40-15:00	Cold Sintering of $Li_{1.3}Al_{0.3}Ti_{1.7}(PO_4)_3$: Insights into Densification Behavior A. Mormeneo-Segarra (Universitat Jaume I, Spain)
15:00-15:20	Cold sintering of oxide ceramic electrolytes and composite electrodes for solid state batteries C. Baumgärtner (Fraunhofer IKTS, Germany)
15:20-15:40	Development of High-Performance MnO_2 Polymorphs Cathodes for Zn-Ion Batteries via Cold Sintering J. Lee (Penn State University, USA)
15:40-16:00	Cold sintering of transparent ceramics – The case of NaCl and LiF V. Necina (University of Chemistry and Technology, Czechia)

Wednesday, September 3, 2025

Room: Seminar 1	Session: Ultrafast sintering | Chair: C. Estournes (CNRS/University Toulouse, France)
11:00-11:20	Development of Ultra-High Temperature Ceramics by Ultra-Fast Sintering D. Zolotaryov (Technion - Israel Institute of Technology, Israel)
11:20-11:40	Instrumentation for Ultrafast-High-Temperature Sintering (UHS): A Programmable Furnace Design M. U. Yildrim (Hacettepe University, Turkey)
11:40-12:00	Ultrafast high-temperature sintering of proton conductor yttria-doped barium zirconate ceramics M. Kermani (University of Trento, Italy)
12:00-12:20	Residual chlorine in yttria-stabilized zirconia ceramics: The enemy of ultrafast sintering V. Prajzler (Brno University of Technology, Czechia)
12:20-12:40	**Energy efficient, Ultra-fast sintering of $Ti_3C_2T_x$ MXene-based ceramic composites** M. Scholl (Universität Augsburg, Germany)
12:40-13:00	**Densification, microstructure and properties of ceramics sintered under high pressure** W. Li (Wuhan University of Technology, China)

Room: Seminar 1	Session: Photonic and radiative sintering | Chair: M. Bram (Forschungszentrum Jülich GmbH, Germany)
14:15-14:40	Blacklight sintering: a photonic sintering process for ceramics W. Rheinheimer (University of Stuttgart, Germany)
14:40-15:00	A systematic study of Photonic Sintering: Dependence of grain growth and porosity on processing parameters, thermal and optical properties P. Zahler (University of Stuttgart, Germany)
15:00-15:20	Thermal Laser Sintering: Advancements in Hermetic Glass Sealing and Printed Electronics A. Görk (Hamamatsu Photonics Deutschland GmbH, Germany)
15:20-15:40	Rapid Radiation Sintering of Ceramics with Graphene-like Networks N. Bhootpur (Jožef Stefan Institute, Slovenia)
15:40-16:00	On the existence of a scaling law for rapid sintering M. Biesuz (University of Trento, Italy)

Room: Seminar 1	Session: Thermal processes under high pressure | Chair: L. Silvestroni (CNR-ISSMC, Italy)
16:30-16:50	**HIP as benchmark for energy efficient, high volume** manufacturing of high end advanced ceramics A. Magnusson (Quintus Technologies, Sweden)
16:50-17:10	High pressure effect on microstructure and properties of high-density nanostructured $MgAl_2O_4$ spinel ceramics produced by High Pressure SPS S. Cottrino (INSA Lyon, France)
17:10-17:30	Fast Consolidation Methods of M-type Strontium Ferrite by Pressure-less Spark Plasma Sintering (pSPS) and Quasi-Hot-Isostatic Pressing in Spark Plasma Sintering (Q-HIP-SPS) A. Mishra (Jožef Stefan Institute, Slovenia)
17:30-17:50	Nanostructured zirconia processed through High Pressure-Spark Plasma Sintering E. Roitero (INSA Lyon, France)

Thursday, September 4, 2025

Room: Seminar 1	Session: Spark plasma sintering | Chair: W. Kaplan (Technion - Israel Institute of Technology, Israel)
8:30-8:50	**Nanostructured Ceramics Densification and Grain** Growth Control using Reactive SPS A. Ragulya (Frantsevich Institute for Problems in Materials Science, Ukraine)
8:50-9:10	Low-temperature sintering of lead-free piezoelectric ceramics: levers and locks C. Elissalde (University Bordeaux, France)

9:10-9:30	The Role of Electric Fields in Spark Plasma and Flash Sintering of Ceramics: A Phase-Field and Analytical Approach D. Gomez-Garcia (University of Seville, Spain)
9:30-9:50	Effects of electrochemical reduction on the properties and phase evolution of stabilised zirconia C. Bechteler (University of Oxford, UK)
9:50-10:10	Pore growth in sintered zirconia nanoceramics M. Trunec (Brno University of Technology, Czechia)
10:10-10:30	Carbon, interfaces and sintering in oxides M. Biesuz (University of Trento, Italy)

Room: Seminar 1	Session: Flash sintering | Chair: A. Ragulya (Frantsevich Institute for Problems in Materials Science, Ukraine)
11:00-11:20	**Rapid densification kinetics of 3 mol% yttria-stabilized zirconia during current-surge stage of flash sintering** K. Ren (Beijing Institute of Technology, China)
11:20-11:40	**Flash defect-engineering of oxygen-deficient zirconia** X. Su (Chang'an University, China)
11:40-12:00	Flash Cold Sintering Process of ZnO: a systematic study S. Rea (University of Aveiro, Portugal)
12:00-12:20	Cationic interdiffusion behavior in Er_2O_3/Y_2O_3 under **AC-flash events with various frequencies** Y. Yang (The University of Tokyo, Japan)
12:20-12:40	Flash Sintering of Lunar Regolith Simulant D. Pearmain (Lucdideon Ltd, UK)
12:40-13:00	Flash sintering of oxides: Is Debye temperature the limit? D. Lewin (Universität Duisburg-Essen, Germany)

Room: Seminar 1	Session: Thermal processing | Chair: M. Trunec (Brno University of Technology, Czechia)
14:15-14:40	Understanding Abnormal Grain Growth Kinetics of Eu-doped $MgAl_2O_4$ C. Marvel (Louisiana State University, USA)
14:40-15:00	Two-step sintering of partially stabilized zirconia: effect of cation diffusion on bulk 3YSZ mechanical properties C.-L. Tiani (INSA Lyon, France)
15:00-15:20	The importance of microclimate during debinding process J. Blath (ONEJOON GmbH, Germany)
15:20-15:40	**Overcoming the hindered densification of magnesium** chromite spinel A. Veronese (University of St Andrews, UK)
15:40-16:00	Study on materials performance and degradation in solid state batteries for EV applications V. Nekouie (Sheffield Hallam University, UK)

S3) Additive manufacturing

Monday, September 1, 2025

Room: Conference 1	Session: Industrial insights | Chair: U. Scheithauer (Fraunhofer IKTS, Germany)
11:00-11:25	How to boost industrial ceramic AM or what is holding AM of ceramics back? S. Diener (Kyocera Fineceramics Precision GmbH, Germany)
11:25-11:50	AM of Ceramics: Challenges and Perspectives on the Path to Mass Production P. Gingter (Schunk Ingenieurkeramik GmbH, Germany)
11:50-12:10	Status quo and future perspectives of vat photopolymerization for high-performance ceramics J. Homa (Lithoz GmbH, Austria)
12:10-12:30	Material Jetting: a high potential 3D printing method for ceramics? – Insights from the development and industrial perspectives D. Nikolay (WZR ceramic solutions GmbH, Germany)
12:30-12:50	Analysis and categorisation of defects in additive manufacturing of ceramics M. Staudacher (Montanuniversität Leoben, Austria)
12:50-13:10	Micro Particle JettingTM: A novel AM technology for oxide and non-oxide ceramics A.-K. Hofer (D3-AM GmbH, Italy)

Room: Conference 1	Session: Biomaterials | Chair: F. Schmidt (Charité Universitätsmedizin Berlin, Germany)
14:15-14:35	Vat Polymerization for Bioscaffold Fabrication Using Hydroxyapatite-Based UV-Curable Slurries V. Rstakyan (A.B. Nalbandyan Institute of Chemical Physics, Armenia)
14:35-14:55	DLP fabrication of PLA/HA scaffolds with a unique combination of structural and compositional gradient P. Palmero (Politecnico di Torino, Italy)
14:55-15:15	Additive manufacturing of Cu-doped Akermanite scaffolds with potential in tissue engineering M. E. Puscasu (National University of Science and Technology Politehnica Bucharest, Romania)

Room: Conference 1	Session: Hybridization of technologies | Chair: C. Berger (Fraunhofer IKTS, Germany)
16:30-16:50	2PP of ceramic – What's next? J. Sänger (BAM, Germany)
16:50-17:10	Hydroxyapatite-Based Interpenetrating Phase Composites: Additive Manufacturing and Hybrid Scaffold Reinforcement L. Drotárová (CEITEC BUT, Czechia)
17:10-17:30	Developing advanced carbide components through the combination of vat photopolymerization and sol-gel techniques G. Franchin (University of Padova, Italy)
17:30-17:50	3D-printed and ALD-functionalised isoporous ceramic **guides for microfluidics** A. Jiménez (Karlsruhe Institute of Technology, Germany)

Tuesday, September 2, 2025

Room: Conference 1	Session: Hot topics in AM of ceramics | Chair: A. Zocca (Bundesanstalt für Materialforschung und -prüfung (BAM), Germany)
8:30-8:55	Fiber Printed Tougher Ceramics for Aerospace Engineering H. Mei (Northwestern Polytechnical University, China)
8:55-9:15	CharAM - A new methodology to analyze the mechanical and geometrical properties of additively manufactured ceramics U. Scheithauer (Fraunhofer IKTS, Germany)
9:15-9:35	Strength testing of additive manufactured ceramics – A round robin using the CharAM-methodology M. Staudacher (Montanuniversität Leoben, Austria)
9:35-9:55	Implementation of a AI strategy for an optimized control of 3D-printing by micro-extrusion F. Rossignol (Université de Limoges, France)
9:55-10:15	Coupling rules for metal-ceramic 3D printing via co-axial extrusion V. Gastaldi (University of Padova, Italy)
10:15-10:35	Challenges of printing large ceramic parts by SLA 3D printing C. Clark (3DCeram, France)

Room: Conference 1	Session: Multi-material components I | Chair: J. Günster (Bundesanstalt für Materialforschung und -prüfung (BAM), Germany)
11:00-11:25	Fabrication of Simultaneous Color and Translucency Graded Zirconia Dental Crowns H.-S. Yun (Korea Institute of Materials Science, South Korea)
11:25-11:45	Architectural design of 3D-printed alumina-based multimaterial components with enhanced damage tolerance P. Bermejo (Montanuniversität Leoben, Austria)
11:45-12:05	Multi Material Jetting: Combine Material Properties R. Johne (AMAREA Technology GmbH, Germany)
12:05-12:25	Development of SOFC components by multi-material LCM 3D printing A. Novokhatska (FunGlass, Alexander Dubcek University of Trencín, Slovakia)
12:25-12:45	Multi-material additive manufacturing: different approaches for bioactive glass/calcium phosphate 3D parts N. Somers (University of Liège, Belgium)
12:45-13:05	The potential of integrating precise functionality and utilizing the vast design freedom in ceramic components using Multi Material Jetting technology L. Gottlieb (Fraunhofer IKTS, Germany)

Room: Conference 1	Session: Multi-material components II | Chair: L. Gottlieb (Fraunhofer IKTS, Germany)
14:15-14:35	Ceramic-based printed electronics using Multi Material Jetting S. Weingarten (AMAREA Technology GmbH, Germany)
14:35-14:55	Development of 3D-printed ceramics with conductive layers for semiconductor industry L. Babejova (RHP-Technology GmbH, Austria)
14:55-15:15	Investigation of a process for manufacturing ceramic Multimaterial components using low viscous inks P. Pandey (Fraunhofer IKTS, Germany)
15:15-15:35	Ceramic/metal multi-material parts by 3D extrusion printing and sintering: experiments and FEM modeling of the sintering stage E. Nouguier (Grenoble INP, France)
15:35-15:55	Multi-material 3D printing of metal-ceramic components by extrusion of customized pellets L. Biasetto (University of Padova, Italy)

Room: Conference 1	Session: Multi-material components III | Chair: G. Franchin (University of Padova, Italy)
16:30-16:50	Additive manufacturing of carbide-oxide composites for body armour application E. Neubauer (RHP-Technology GmbH, Austria)
16:50-17:10	Synergetic co-printing of Y_2O_3 and Nd: Y_2O_3 and its optical functionalities S. Zhang (Korea Institute of Materials Science, South Korea)
17:10-17:30	Development of a multi-layer ceramic / metal substrate with high interconnection density by additive manufacturing for space applications A. Junger (Université de Limoges, France)
17:30-17:50	Multi-materials additive manufacturing of alumina-zirconia ceramics for biomedical applications A. Vettorel (KU Leuven, Belgium)

Room: Conference 1	Session: Material extrusion I | Chair: H.-S. Yun (Korea Institute of Materials Science, South Korea)	Room: Auditorium	Session: Process development I | Chair: L. Wahl (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany)
11:00-11:20	**Additive Manufacturing of continuous fiber-reinforced** CMCs P. Colombo (University of Padova, Italy)	11:00-11:20	Numerical prediction of curl distortion in SLA printed ceramic green parts G. Alonso Aruffo (Limoges University, France)
11:20-11:40	Direct ink writing of zeolite porous bodies for atmospheric water generation A. Zocca (BAM, Germany)	11:20-11:40	3D printing of mullite complex architectures and their functionalization for CO_2 capture B. Coppola (Politecnico di Torino, Italy)
11:40-12:00	Fused Deposition Modelling (FDM) or Fused Fillament Fabrication (FFF) Strategies for Achieving High Mechanical Strength F. J. Clemens (Empa, Switzerland)	11:40-12:00	Laser-Induced Forward Transfer to adress challenges in additive manufacturing for ceramics M. Canillas (Universidad Politécnica de Madrid, Spain)
12:00-12:20	Extrusion based additive manufactured ceramic components and possibilities of machining: A current state at IKTS J. Abel (Fraunhofer IKTS, Germany)		
12:20-12:40	3D printing by binder jetting fabrication of electrode for electrochemical storage S. Charrier (Université Picardie Jules Verne, France)		

Room: Conference 1	Session: Material extrusion II | Chair: F. Rossignol (Université de Limoges, France)	Room: Auditorium	Session: Vat photo-polymerization I | Chair: M. Schwentenwein (Lithoz GmbH, Austria)
14:15-14:35	Optimizing Porosity: Mechanical Strength Comparison of Random vs. FDM-Structured Alumina A. Sevin (Université de Paris-Saclay, France)	14:15-14:35	Two-Photon Polymerization (TPP) for Advanced Ceramic Manufacturing E. Storti (Empa, Switzerland)
14:35-14:55	Shaping tomorrow using robocasting: Fabrication of periodic and non-periodic porous ceramic structures L. Wahl (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany)	14:35-14:55	Design of Novel 3D-Printed SiOC Ceramics as Promising Heterogeneous Catalysts C. Youssef (Université de Montpellier, France)

14:55-15:15	Fabrication of multi-scale porous structures for hydrogen evolution: DIW of strontium titanate pH-responsive emulsion gels Z. Luo (University of Liverpool, UK)	14:55-15:15	Additive Manufacturing of Catalyst Supports for the Conversion of Bio-sourced Molecules M. Mounaj (Univ. Polytechnique Hauts-de-France, France)
15:15-15:35	Machine Learning Approaches for Optimizing Robocasting Materials and Process Parameters N. Mediukh (Frantsevich Institute for Problems of Materials Science, Ukraine)	15:15-15:35	Additive manufacturing of porous ceramics: A systematic analysis of material design, process parameter optimization, and thermal post-processing I. Kim (Korea Institute of Materials Science (KIMS), South Korea)
15:35-15:55	Manufacturing of receiver-reactors made of ceria for the regenerative production of hydrogen - A comparison of different AM methods T. Herrmann (WZR ceramic solutions GmbH, Germany)	15:35-15:55	Additive manufacturing of tailored nanoporous glass for wastewater treatment D. Lago (FunGlass – Alexander Dubcek University of Trencín, Slovakia)

Room: Conference 1	Session: Material extrusion III | Chair: F. J. Clemens (Empa, Switzerland)	Room: Auditorium	Session: Vat photo-polymerization II | Chair: E. Schwarzer-Fischer (Fraunhofer IKTS, Germany)
16:30-16:50	Silicon carbide additive manufacturing for space mirrors M. Gauthé (Safran REOSC, France)	16:30-16:50	Digital Light Processing of SiO_2-TiO_2 materials by combination of ceramic slurries and metal precursors M. Borlaf (Universidad Autónoma de Madrid (UAM), Spain)
16:50-17:10	Development and characterization of porous inert media manufactured by Fused Granulate Fabrication for non-premixed ammonia combustion B. Bock-Seefeld (TU Bergakademie Freiberg, Germany)	16:50-17:10	Additive manufacturing of SiOC(Fe) structures from iron **modified preceramic polymers** M. Vuksic (Jožef Stefan Institute, Slovenia)
17:10-17:30	Simple and versatile 3D printing process for ceramics **based on colloidal assembly in a microfluidic device** M. Cerbelaud (Université de Limoges, France)	17:10-17:30	Advancing Polymer-Derived Ceramics: 3D Printing, Enhanced Formulations, and Architectured Designs for Lightweight Ceramic Structures B. Ashrafi (National Research Council, Canada)
17:30-17:50	Selective powder deposition of multi-ceramic parts: residual stress optimization and mechanical performance B. Göksel (KU Leuven, Belgium)		

Thursday, September 4, 2025

Room: Conference 1	Session: Material extrusion IV | Chair: F. J. Clemens (Empa, Switzerland)	Room: Auditorium	Session: Vat photo-polymerization III | Chair: J. Sänger (BAM, Germany)
8:30-8:50	Analysis of Debinding and Sintering Behavior of Fused Filament Fabrication (FFF) Samples D. Gruner (Fraunhofer IKTS, Germany)	8:30-8:50	Additive Manufacturing of Ceramic Parts using Xolography A. Anaby (xolo GmbH, Germany)
8:50-9:10	Sustainable additively manufactured refractories for high-temperature hydrogen processes L. Freitag (Tampere University, Finland)	8:50-9:10	Effect of design and printing parameters on the accuracy of ceramic gyroid resonators made by additive manufacturing T. Lavie (Université de Rennes, France)
9:10-9:30	Advanced TiO_2-Graphene Nano-Composite Electrodes via Material Thermal Extrusion for Enhanced Photoelectrochemical Hydrogen Production P. Ortega Columbrans (Instituto de Cerámica y Vidrio, CSIC | COLFEED4Print S.L. | URJC, Spain)	9:10-9:30	Deeper Insights into the Dynamics and Curing Kinetics of DLP Ceramic-Filled Resins W. Yared (University Stuttgart, Germany)
9:30-9:50	**Rapid debinding and sintering of fused filament-deposited ceramics by UHS** M. Biesuz (University of Trento, Italy)	9:30-9:50	Centrifugation-assisted cleaning – A novel approach in CerAM vat photopolymerization E. Schwarzer-Fischer (Fraunhofer IKTS, Germany)
9:50-10:10	Thermal shock resistant 3D-printed alumina for hydrogen-combustion application F. Kerber (Technische Universität Bergakademie Freiberg, Germany)	9:50-10:10	Recyclability of alumina in CerAM vat photopolymerization M. Aronne (Politecnico di Torino, Italy)
10:10-10:30	Development and characterization of ceramic granulate feedstocks for an extrusion based 3D printing process A. Ahrend (Universität Rostock, Germany)		

Room: Conference 1	Session: Material Extrusion V | Chair: F. J. Clemens (Empa, Switzerland)	Room: Auditorium	Session: Process development II | Chair: S. Funk (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
11:00-11:20	Synthesis and printing parameter optimization of 3D polycarbosilane-derived silicon carbide (SiC) architectures by granule-based fused deposition modeling D. Sazarin (Univ. Limoges, France)	11:00-11:20	Debinding of large ceramic samples produced using vat photopolymerization P. Stastny (Brno University of Technology, Czechia)
11:20-11:40	Optimizing the ink characteristics to manufacture high **density alumina ceramics with fine features via direct** ink writing S. Cinar Aygun (Middle East Technical University, Turkey)	11:20-11:40	**Incorporation of activated carbon into red mud/fly ash-containing** 3D-printed alkali-activated materials for enhanced acid mine drainage remediation M. Almeida (University of Aveiro, Portugal)

11:40-12:00	Robocasting of Architected Auxetic Structures using Piezoelectric Materials M. Weichelt (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany)	11:40-12:00	In-situ SEM investigation on the damage behavior of discontinuous C/C-SiC J. Riesner (University of Augsburg, Germany)
12:00-12:20	Fused Filament Fabrication of In-Situ Mullite-Bonded SiC Complex Shapes Using Preceramic-Based Feedstock V. Pandey (Jožef Stefan Institute, Slovenia)	12:00-12:20	Parameters involved in the Printing by Fused Filament Fabrication of commercial Graphene Filaments S. Wisike (COLFEED4Print S.L., Spain)
12:20-12:40	Enhancing Reproducibility and Density of Alumina Ceramics Fabricated Through Direct Ink Writing I. S. Geven (Middle East Technical University, Turkey)	12:20-12:40	Alternative ceria-based electrolytes for IT-SOFC obtained **by fused filament fabrication** J. C. Pérez Flores (Universidad de Castilla La Mancha, Spain)
12:40-13:00	Determination of rheological behaviour of volcanic ash and waste glass-based alkali-activated inks for 3D printing by direct ink writing approach S. E. Zafarana (University of Catania, Italy)		

Room: Conference 1	Session: Material Extrusion VI | Chair: J. Abel (Fraunhofer IKTS, Germany)	Room: Auditorium	Session: Powder-bed-based Additive Manufacturing | Chair: U. Scheithauer (Fraunhofer IKTS, Germany)
14:15-14:35	Additively manufactured metal-ceramic-hydrogel systems for enhanced osseointegration: Integrating Eu/Ag co-Doped bioglass in orthopedic implant design A. Trifan (National University of Science and Technology POLITEHNICA Bucharest, Romania)	14:15-14:35	Microstructure and Mechanical properties of SiC ceramic fabricated by additive manufacturing P. Wang (Henan Academy of Sciences, China)
14:35-14:55	Nitridation of 3D printed mullite-based ceramics J. Záchenská (Slovak University of Technology in Bratislava, Slovakia)	14:35-14:55	Cost-effective manufacturing of SiSiC from complex components using Powder Bed Fusion – Laser Beam C. Berger (Fraunhofer IKTS, Germany)
14:55-15:15	3D Printing of glass structures by Fused deposition of material M. Benköová (Slovak University of Technology in Bratislava, Slovakia)	14:55-15:15	Additive manufacturing of a lunar regolith analog T. Cutard (IMT Mines Albi, France)
15:15-15:35	UV-assisted DIW of ZrO_2-$ZrSiO_4$ composite P. Falkowski (Warsaw University of Technology, Poland)	15:15-15:35	Effect of addition of carbon phases on the sinterability of laser beam sintered zirconia P. Zbies (AGH University of Krakow, Poland)
15:35-15:55	Integrated Manufacturing of Lithium-Ion Battery Electrodes and Current Collectors using Fused Filament Fabrication J. F. Valera Jiménez (University of Castilla-La Mancha, Spain)		

S4) Advanced structural ceramics and composites / Architectured materials / Defense / Subsea systems

Monday, September 1, 2025

Room: Conference 2	Session: Ceramic matrix composites I | Chair: M. Zins (Fraunhofer IKTS, Germany)
11:00-11:20	High temperature oxidation of ZrB_2-containing SiC/SiCN CMC H.-J. Seifert (Karlsruhe Institute of Technology (KIT), Germany)
11:20-11:40	Thin layer deposition for ceramic matrix composites for electrical applications L. Friedrich (Deutsches Zentrum für Luft- und Raumfahrt e.V., Germany)
11:40-12:00	Optimization of Pyrolysis Conditions for the production of Sustainable Ceramic Matrix Composites A. Schneller (University of Augsburg, Germany)
12:00-12:20	Lost Epoxy Cores Enable Enhanced Design Flexibility in Shaping of C/C-SiC Composites J. Stiller (TU Chemnitz, Germany)
12:20-12:40	Oxide/oxide ceramic matrix composites exposed to high thermal loads - degradation effects and potential stability improvement P. Mechnich (Deutsches Zentrum für Luft- und Raumfahrt e.V., Germany)
12:40-13:00	Testing of Ceramic Matrix Composites (CMCs) in Environmental Conditions Relevant to Civil Aeroengine Applications A. Kent (Rolls-Royce, UK)

Room: Conference 2	Session: Ceramic matrix composites II | Chair: J. Adler (Fraunhofer IKTS, Germany)
14:15-14:35	Research on preparation process and performance of C/SiC composites with high thermal conductivity fabricated by RMI method Y. Cao (Northwestern Polytechnical University, China)
14:35-14:55	**Design and construction of carbon fiber reinforced** ultra-high temperature ceramic matrix composites D. Ni (Chinese Academy of Science, China)
14:55-15:15	**Influence of the fiber/matrix interface on the mechani**-cal behavior of a ceramic matrix composite at room and high temperatures L. Giner (INSA Lyon, France)
15:15-15:35	Towards the development of ceramic matrix composites from agro-resources T. Laporte (Université de Limoges, France)
15:35-15:55	Research challenges posed by the development of Carbon/Carbon composites G. L. Vignoles (University of Bordeaux, France)

Room: Conference 2	Session: Ceramic matrix composites III | Chair: C. Steinborn (Fraunhofer IKTS, Germany)
16:30-16:50	Ceramic Matrix Composite and Metallic interactions **and their influence on material integrity** T. McFarland (Swansea University, UK)
16:50-17:10	Mechanical Testing of Ceramic Matrix Composites: The role of test conditions, sample size and alignment S. Flauder (University of Bayreuth, Germany)
17:10-17:30	**Development and characterization of short-fiber CMC** M. Bechelany (Safran Tech, France)
17:30-17:50	Carbon matrix precursors for ceramic matrix composites – Novel and established polymer systems for C/C-SiC F. Wich (University of Bayreuth, Germany)

Tuesday, September 2, 2025

Room: Conference 2	Session: Non oxide ceramics I | Chair: S. Kunze (Fraunhofer IKTS, Germany)
8:30-8:50	Acoustic Emission Informed Assessment of SiCf/SiC CMC Matrix Cracking Onset and Saturation via in-situ X-Ray Computed Tomography Z. Quiney (Swansea University, UK)
8:50-9:10	Deformation and fracture mechanisms of carbon **fibre-reinforced silicon carbide (C/C-SiC) at 1200°C** using in situ X-ray micro-tomography imaging G. Yuan (University of Bristol, UK)
9:10-9:30	**Effect of TiC powder size and molar ratio on densifica**-tion and fracture toughness of LPS SiC-TiC fabricated by pressureless sintering K. Kawahara (AGC, Japan)
9:30-9:50	Sintering and characterization of SiC and TiB_2 ceramics L. De Bellis (CNR-ISSMC, Italy)

Room: Conference 2	Session: Non oxide ceramics II | Chair: E. Zschippang (Fraunhofer IKTS, Germany)
11:00-11:20	Double-tough ceramics D. Giuntini (Eindhoven University of Technology, The Netherlands)
11:20-11:40	Development and characterization of high-temperature resistant silicon nitride materials A.-K. Wolfrum (Fraunhofer IKTS, Germany)
11:40-12:00	Effect of Oxidation on the Micro/Nano-Hardness of Silicon Nitride-Carbon Nanotube Composites Prepared via Hot Isostatic Pressing A. Almansoori (HUN REN Centre for Energy Research, Hungary)
12:00-12:20	Strength of silicon nitride bearing balls with respect to Hertzian contact and tensile loading M. Munz (Montanuniversität Leoben, Austria)
12:20-12:40	Heat resistance in air and dynamic tensile strength of BL-group cBN ceramics for high-speed turning of alloy steels T. Prikhna (National Academy of Sciences, Ukraine)

Room: Conference 2	Session: Manufacturing aspects I | Chair: A.-K. Wolfrum (Fraunhofer IKTS, Germany)
14:15-14:35	Potential of renewable raw materials for sustainable C/C-SiC production via the LSI process D. Dorn (Technische Hochschule Augsburg, Germany)
14:35-14:55	Additively manufactured bio-inspired ceramic/metal structures with enhanced damage tolerance and self-monitoring J. Zhang (KU Leuven, Belgium)
14:55-15:15	**3D printing of continuous fiber reinforced oxide-based** ceramic matrix composites I. Ohta (Tosoh Corporation, Japan)
15:15-15:35	**Pressureless infiltration of metals into porous alumina:** binder jetting as a viable route for preforms 3D printing M. Mariani (Politecnico di Milano, Italy)

Room: Conference 2	Session: Manufacturing aspects II | Chair: D. Haase (Fraunhofer IKTS, Germany)
16:30-16:50	Development of a Novel LSI SiCf/SiC Composite Fabrication Process Using Porous Carbon Prepared by CVD D. Kim (Korea Atomic Energy Research Institute (KAERI), South Korea)
16:50-17:10	Thermomechanical properties of C/C-SiC based on **additive manufacturing by fused filament fabrication** (FFF) N. Langhof (Universität Bayreuth, Germany)
17:10-17:30	Abrasive wear behavior of SiC-bonded diamond composites S. Kunze (Fraunhofer IKTS, germany)
17:30-17:50	Al-Al_2O_3 Intepenetrating Phase Composites: Binder **Jetting and Pressureless Infiltration** F. Bertolini (Politecnico di Milano, Italy)

Wednesday, September 3, 2025

Room: Conference 2	Session: Oxide ceramic matrix composites | Chair: T. Moritz (Fraunhofer IKTS, Germany)
11:00-11:20	Oxide-oxide ceramic matrix composites based on an alumina-silica matrix T. Cutard (IMT Mines Albi, France)
11:20-11:40	Processing of solvent-based slit tape feedstock for manufacture of oxide/oxide ceramic matrix composites T. Nelson (University of Birmingham, UK)
11:40-12:00	**Influence of the fiber reinforcement on the direction-dependent mechanical properties of oxide fiber** composites G. Puchas (Universität Bayreuth, Germany)
12:00-12:20	Porosity-dependent damage tolerant behavior in weak matrix all-oxide ceramic matrix composites L. Wagner (Universität Bayreuth, Germany)
12:20-12:40	Mullite matrix selection for all-oxide ceramic matrix composites based on monolithic crack energy assessment F. Lindner (Universität Bayreuth, Germany)

Room: Conference 2	Session: Multi phase composites I | Chair: B. Matthey (Fraunhofer IKTS, Germany)
14:15-14:35	Multi-scale modelling of ultra-high-performance composite T. Rumen (Université de Bordeaux, France)
14:35-14:55	**Multi-scale study of alumina ceramic fibers phase** evolution upon temperature P. Colomban (Sorbonne Université, France)
14:55-15:15	Utilization of the electrical behavior of titanium oxide for use in cold plasma electrodes K. Schönfeld (Fraunhofer IKTS, Germany)
15:15-15:35	Development of plastic deformability in high-strength **oxides by fabricating refined fibrous eutectic microstructure** Y. Aoki (The University of Tokyo, Japan)

Room: Conference 2	Session: Multi phase composites II | Chair: H.-P. Martin (Fraunhofer IKTS, Germany)
16:30-16:50	Molten salt shielded synthesis (MS3) of high-temperature MAX phase ceramics like Nb_2AlC, Ta_2AlC, V_4AlC_3 in open air C. Roy (Denmark Technical University, Denmark)
16:50-17:10	Compositionally complex MAX phase ceramics with high phase-purity based on distortion engineering and entropy-enhancing solid solutions N. Goossens (Empa, Switzerland)
17:10-17:30	Tribomechanical response of $SrTiO_3$: impact by mechanically seeded dislocations C. Okafor (Karlsruhe Institute of Technology, Germany)
17:30-17:50	Silicon carbide bonded diamond composites - Overview of mechanical and thermal properties and their correlation with the microstructure B. Matthey (Fraunhofer IKTS, Germany)

Thursday, September 4, 2025

Room: Conference 2	Session: Enviromental barrier coatings and others | Chair: T. Moritz (Fraunhofer IKTS, Germany)
8:30-8:50	Cracking and Kinking in Atomically Layered Ternary Carbides M. Dujovic (Texas A&M University, US)
8:50-9:10	Development of the ISiComp®, the CMC for thermal protection system and body flap assembly of Space Rider R. Verde (Italian Aerospace Research Centre (CIRA), Italy)
9:10-9:30	Advancements on environmental barrier coatings for SiCf/SiC composite J. Wang (Chinese Academy of Science, China)
9:30-9:50	Coupled Phase Diagram Experiment and Thermodynamic Modeling of the Yb_2O_3-CaO-SiO_2 System for CMAS Corrosion in Yb-Silicate Environmental Barrier Coatings J.-M. Cheon (Seoul National University, South Korea)
9:50-10:10	Surface plasma treatment for dispersion of high-solid-loading aqueous SiC slurry W.-H. Kwon (Korea Institute of Materials Science, South Korea)

Room: Conference 2	Session: Mechanical properties | Chair: J. Adler (Fraunhofer IKTS, Germany)
11:00-11:20	**Efficiency of different tin oxide antimony oxide** mixtures as dopants to induce selective laser induced autocatalytic metallization of alumina ceramics S. Keller (Universität Stuttgart, Germany)
11:20-11:40	On the contribution of zirconia phase transformation on fracture properties and crack propagation at the interface of nacre-like alumina composites B. Bert (INSA Lyon, France)
11:40-12:00	Investigating the Self-Sharpening Mechanism of Ti-Stabilized Eutectic Alumina-Zirconia Abrasives: A Microstructural and Thermal Analysis A. Villalba Weinberg (Imerys Villach GmbH, Austria)
12:00-12:20	Low-temperature sintering to control friction and wear-rate: a way to sustainability A. Bonilla-Molina (Universitat Politècnica de València, Spain)
12:20-12:40	Improving the mechanical properties of yttria-stabilized zirconia by making it more transformable H. Reveron (University of Lyon-INSA Lyon, France)
12:40-13:00	Soft Ceramics Inspired by Nature: Optimizing Flexibility, Impact Resistance, and Energy Absorption B. Ashrafi (National Research Council Canada)

Room: Conference 2	Session: Diamond and other composites | Chair: M. Herrmann (Fraunhofer IKTS, Germany)	Room: Seminar 6	Session: Ballistic protection | Chair: S. Hildebrandt (Fraunhofer IKTS, Germany)
14:15-14:35	Estimation of single crystal elastic constants from polycrystalline ceramic materials – A case study with an entropy stabilized transition metal oxide R. Kumar (Indian Institute of Technology-Madras, India)	14:15-14:35	Microstructural characterization of commercial materials for body armor applications D. Olevano (RINA CONSULTING CENTRO SVILUPPO MATERIALI SpA, Italy)
14:35-14:55	Effect of cryoprotectants on the drying shrinkage behavior of ceramic slurries J. Yoon (Korea Institute of Materials Science/ Pusan National University, South Korea)	14:35-14:55	**Influence of Abnormal Grain Growth on the Mechanical** and Ballistic Properties of Hot-Pressed Silicon Carbide Ceramics I. S. Geven (Middle East Technical University, Turkey)
14:55-15:15	Effects of Cobalt Content on Wear Behavior of Polycrystalline Diamond Compact (PDC) Material K. Alnabulsi (Expec Advanced Research Center, Saudi Arabia)	14:55-15:15	Structural Analysis of SiC/Sialon Composite Ceramics in Spark Plugs for Aeronautical Engines: Impact of Sintering Phenomena on Electrical and Mechanical Properties C. Elghazouali (University of Limoges, France)
15:15-15:35	Understanding gas phase formation of silicon carbide **during reactive melt infiltration of carbon substrates** D. Koch (Universität Augsburg, Germany)		
15:35-15:55	Effect of phase composition on thermal and electrical conductivity of additive-free silicon carbide ceramics O. Hanzel (Slovak Academy of Sciences, Slovakia)		

S5) Refractories / High and ultra-high temperature ceramics / Hardmetals

Monday, September 1, 2025

Room: Conference 3	Session: UHTC I – High entropy concept | Chair: J. Pötschke (Fraunhofer IKTS, Germany)
11:00-11:25	High-entropy ultra-high temperature ceramics S. Filipovic (Institute of technical sciences of SASA, Serbia)
11:25-11:45	Development and Integration of High Entropy Ceramics P. Tatarko (Slovak Academy of Sciences, Slovakia)
11:45-12:05	Groups V and VI metals in (MeTiZrHf)B_2-(MeTiZrHf)C ceramics A. Feltrin (Missouri University of Science and Technology, USA)
12:05-12:25	Mechanical and Structural Insights into High Entropy Carbides Produced from High Entropy Alloys D. Valášek (Brno University of Technology, Czechia)
12:25-12:45	Compositionally complex transition metal diborides for future space exploration F. Monteverde (CNR-ISSMC, Italy)

Room: Conference 3	Session: UHTC II – Properties | Chair: J. Binner (University of Birmingham, UK)
14:15-14:35	Liquid phase sintering of Cf – ZrB_2 UHTCMCs L. Zoli (CNR-ISSMC, Italy)
14:35-14:55	**Influence of liquid phase sintering aids on the** high-temperature strength of ZrB_2/SiC-based UHTCMCs B. Zanardi (Università degli Studi di Parma, Italy)
14:55-15:15	Acquiring and evaluating novel UHTC composites incorporating B_4C and MAX phases W. Banas (AGH University of Krakow, Poland)
15:15-15:35	Processing and characterization of ZrB_2-based UHTC-**MCs obtained by Liquid silicon infiltration** A. Vinci (ISSMC - CNR, Italy)

Room: Conference 3	Session: Refractories I: Overview | Chair: E. de Bilbao (Univ. Orléans, France)
16:30-16:55	Reframing the ceramic refractory area V. C. Pandolfelli (Federal University of São Carlos, Brazil)
16:55-17:15	The data mining: a major issue to improve the performance of refractories in steel making J. Poirier (University of Orleans, France)
17:15-17:35	Discrete Element Method (DEM): A promising technique to insight on the relationship between the thermomechanical properties and the microstructural design of composite refractory materials H. Ranganathan (IMERYS technology centre/University of Limoges, France)
17:35-17:55	Resistance of zirconia refractories to thermal cycling as function of stabilizing oxides and binders R. Soth (IMERYS S.A., France)

Tuesday, September 2, 2025

Room: Conference 3	Session: Refractories II: Materials | Chair J. Poirier (University of Orleans, France)
8:30-8:50	On the Interaction Between CrMo-Steel and Alumina-Rich Refractory Material Pre-Treated via Microwave Plasma Burner Technology F. Kerber (Technische Universität Bergakademie Freiberg, Germany)
8:50-9:10	Corrosion behavior of fused-cast AZS refractory materials in contact with barium cristallin glass S. Khan (Alexander Dubcek University of Trencin, Slovakia)
9:10-9:30	Effect of hydrogen containing gases on stabilized Zirconia refractories exposed to high temperatures F. Lacoue (IMERYS ALUMINATES, France)
9:30-9:50	Refractory Materials for Carbochlorination Conditions M. Meling (NTNU Norwegian University of Science and Technology, Norway)
9:50-10:10	Hydrogen technologies for decarbonization of industrial heating processes and the enabling contribution of refractories T. Tonnesen (RWTH Aachen University, Germany)
10:10-10:30	Corrosion of Yttria-Stabilized Zirconia (YSZ) in CaF_2-Free Mold Flux Systems J.-M. Cheon (Seoul National University, South Korea)

Room: Conference 3	Session: Refractories III: DFG 30101 | Chair: S. Schafföner (University of Bayreuth, Germany)
11:00-11:20	**Influence of the rheological properties of ceramic Al_2O_3** masses on the quality of components manufactured using extrusion-based 3D printing C. Faßauer (TU Bergakademie Freiberg, Germany)
11:20-11:40	Processing of Nb- and Ta/Al_2O_3 composites via SPS for high temperature applications G. Kallien (KIT, Germany)
11:40-12:00	Effect of production method on high-temperature mechanical behaviour of Nb-Al_2O_3 refractory composites under compressive loads G. Günay (TU Bergakademie Freiberg, Germany)
12:00-12:20	Cross-scale investigation of the metal ceramic interface in (Nb-Al)-Al_2O_3 and (Nb-Si)-Al_2O_3 composites M. Ludwig (Karlsruher Institut für Technologie, Germany)
12:20-12:40	Application of Thermodynamic Extremal Principle to the Sintering of Irregular Powder Particles M. Weiner (TU Bergakademie Freiberg, Germany)
12:40-13:00	High-temperature electrodes based on Nb-Al_2O_3 composites T. Zienert (TU Bergakademie Freiberg, Germany)

Room: Conference 3	Session: Hardmetals – WC-based hardmetals | Chair: J. Pötschke (Fraunhofer IKTS, Germany)
14:15-14:35	Thermal conductivity of tungsten carbide-cobalt hardmetals A. Vornberger (Fraunhofer IKTS, Germany)
14:35-14:55	Complexions in V-doped cemented carbides G. Wahnström (Chalmers University of Technology, Sweden)
14:55-15:15	Processing conditions of WC based cermets with low additions of Ni A. Martínez Barja (Universidad Politécnica de Madrid, Spain)
15:15-15:35	Soft sintering and mechanical performance of WC/W_2C composites with traces of Nickel processed through colloidal routes A. J. Sanchez-Herencia (Instituto de Cerámica y Vidrio, CSIC, Spain)

Room: Conference 3	Session: UHTC III: Properties | Chair: D. Sciti (National Research Council of Italy)
16:30-16:50	Deposition and performance of ZrB2-based coatings under cyclic stress D. Chernomorets (CNR-ISSMC, Italy)
16:50-17:10	Oxidation and Passivation Mechanisms of Spark Plasma Sintered ZrC Ultra-High Temperature Ceramic Y.-C. Lin (TU Delft, The Netherlands)
17:10-17:30	Operation behavior of ZrC heating elements and their **electrical contacts at temperatures above 2000 °C** H.-P. Martin (Fraunhofer IKTS, Germany)
17:30-17:50	Development of oxidation protective coatings on ZrB_2 based UHTC materials: Current status and implications R. Naraparaju (German Aerospace Center, Germany)
17:50-18:10	ZrB_2-SiC composites drived from boron carbide and intermetallic compounds Z. Pedzich (Polish Ceramic Society, Poland)

Wednesday, September 3, 2025

Room: Conference 3	Session: Refractories IV: Recycling | Chair: T. Tonnesen (RWTH Aachen University, Germany)
11:00-11:20	Development of Green Refractories using Recycled MgO-C Based on Eco-friendly Fructose, Collagen and Lignin Binder system D. K. Gunasekar (TU Bergakademie Freiberg, Germany)
11:20-11:40	Sustainable MgO-C refractories based on improved eco-friendly lignin/collagen-binder system T. M. J. Stadtmüller (TU Bergakademie Freiberg, Germany)
11:40-12:00	Development and characterization of composite inert anodes based on MgO-C recyclate mixed with 316L stainless steel for sustainable aluminum production S. Yaroshevskyi (TU Bergakademie Freiberg, Germany)
12:00-12:20	**Refractory bricks with over 80% recycled materials:** Combining circular economy and performance C. Pagliosa (RHI MAGNESITA, Brazil)
12:20-12:40	Innovative automated sorting device for Refractory based Circular Materials: A game changer E. Gueguen (RHI MAGNESITA, France)
12:40-13:00	Effect of Different Pre-Oxidation Treatments on the Corrosion Resistance and Electrical Properties of MgO/Steel-Composite Inert Anodes for the Aluminium Industry P. Kaiser (TU Bergakademie Freiberg, Germany)

Room: Conference 3	Session: Hardmetals II – Hardmetals with alternative hard phases | Chair: J. M. Sánchez Moreno (University of Navarra, Spain)
14:15-14:35	Strategies for replacement of WC-Co in surface engineering L.-M. Berger (Fraunhofer IKTS, Germany)
14:35-14:55	Electric Current Assisted/Activated Sintering of B_4C-based and Ti(C,N)-based cermets R. Mineiro (University of Aveiro, Portugal)
14:55-15:15	Mechanical and tribological properties of NbC and NbCN-based cermets S. Conze (Fraunhofer IKTS, Germany)

15:15-15:35	Aluminum in Titanium Carbide Ceramics: Enhancing Sintering Without Compromising Mechanical Properties? D. Gómez García (University of Seville, Spain)
15:35-15:55	**Influence of Composition and Grain Size in High Entropy** Carbide based Hardmetals J. Pötschke (Fraunhofer IKTS, Germany)

Room: Conference 3	Session: UHTC IV: Shaping and sintering | Chair: L.-M. Berger (Fraunhofer IKTS, Germany)
16:30-16:50	Hot pressing and high-pressure high-temperature sintering of UHT HfB_2-, ZrB_2- and TaB_2-based composites for aerospace applications T. Prikhna (National Academy of Sciences, Ukraine)
16:50-17:10	Fabrication and characterization of near-net shaped UHTC by PIP process S. H. Lee (Korea Institute of Materials Science, South Korea)
17:10-17:30	Synthesis of Ultra-High Temperature Ceramics (UHTCs) composite from titanium-silicon system using a low-temperature approach D. Kozien (AGH University of Krakow, Poland)

Thursday, September 4, 2025

Room: Conference 3	Session: Refractories V: Materials II | Chair: C. Parr (Imerys, France)
8:30-8:50	Thermo- physical properties measurement of slag and other oxide-based melts. What we've done, what we are trying to do, and what we dream of... E. de Bilbao (Univ. Orléans, France)
8:50-9:10	Study of the mechanisms of the out-of-equilibrium **solidification in the alumina-zirconia binary system** R. Hebrard (CEMHTI, France)
9:10-9:30	Synthesis and high temperature properties of Al_3BC_3 for refractory applications R. Maki (Okayama University of Science, Japan)
9:30-9:50	Microstructural design of tabular and white fused alumina-based refractory castables for thermomechanical behaviour optimisation K. A. Boateng (IMERYS / IRCER, France)
9:50-10:10	Next-Generation Oxide Ceramic Fibers for High-Performance Applications in Aerospace and Future Technologies L. Glaser (Fraunhofer ISC, Germany)
10:10-10:30	Thermodynamic Modeling of the ZrO_2-RE_2O_3 systems: Systematic analysis and optimization of the ZrO_2-Lanthanide series (RE=Y, and La - Lu) S. Park (Seoul National University, South Korea)

Room: Conference 3	Session: Refractories VI: Properties | Chair: V. C. Pandolfelli (Federal University of São Carlos, Brazil)
11:00-11:20	Thermo-mechanical behavior of geopolymer-bonded refractory castables A. P. da Luz (UFSCar, Brazil)
11:20-11:40	New insight into the dynamic thermo-mechanical failure of alumina-magnesia castables Y. Dai (Wuhan university of science and technology, China)
11:40-12:00	3D- manufactured thermal shock resistant zirconia based macro-structures for use as functional components in metallurgical applications or as burners C. Heuer (Technische Universität Bergakademie Freiberg, Germany)
12:00-12:20	Refractory metals impact on harsh environment stability of a ceramic in a Functionally Graded Material G. Pernette (Université Technologique de Belfort Montbéliard, France)
12:20-12:40	Thermodynamics and phase diagrams of ternary refractory systems Nb_2O_3-Al_2O_3-SiO_2 and Ta_2O_3-Al_2O_3-SiO_2 H. J. Seifert (Karlsruhe Institute of Technology (KIT), Germany)

Room: Conference 3	Session: UHTC V: Properties | Chair: J. Pötschke (Fraunhofer IKTS, Germany)
14:15-14:35	Combinatorial and high throughput investigation on Ta-Hf-C ternary ceramics: rapid exploration of chemical composition with optimized mechanical properties and oxidation resistance X. Lv (Chinese Academy of Sciences, China)
14:35-14:55	Synthesis of monodispersed ZrC nanoparticles derived from MOF-801 Y. Zou (Korea Institute of Materials Science, South Korea)
14:55-15:15	In situ Monitoring of the Oxidation Front in C/UHTC Composites Under Oxyacetylene Torch J. Seymour (Université de Bordeaux, France)
15:15-15:35	Oxidation behavior of ZrB_2-based solid solutions L. Silvestroni (CNR-ISSMC, Italy)
15:35-15:55	Microstructure and ablation resistance of CVD hafnium carbide-boride multiphase coatings H.-G. Lee (Korea Atomic Energy Research Institute, South Korea)

S6) Ceramics for environmental technologies / Recycling

Tuesday, September 2, 2025

Room: Conference 7	Session: New types of hybrideramic composites and design for recycling | Chair: G. L. Lecomte-Nana (University of Limoges, France)
14:15-14:35	Electroceramics Design for Recycling Performance X. Xiao (Technical University of Darmstadt, Germany)
14:35-14:55	Turning waste into value: sustainable utilization of dam sediments in porcelain stoneware tiles S. Javed (University of Parma, Italy)
14:55-15:15	Lightweight composites from alkali-activated ceramic waste and slag mixtures A. Hasnain (Åbo Akademi University, Finland)
15:15-15:35	Production and properties of building materials from ETNA volcanic ash by the cold sintering process L. Karacasulu (University of Trento, Italy)
15:35-15:55	Steelmaking by-products as secondary raw materials in concentrated solar technologies G. Alkan (DLR, Germany)

Room: Conference 7	Session: New types of hybrideramic composites and design for recycling | Chair: X. Xiao (Technical University of Darmstadt, Germany)
16:30-16:50	Rice husk-derived silica for sustainable and renewable material sources J. H. Lee (Korea institute of ceramic engineering and technology, South Korea)
16:50-17:10	**Preparation of silicon carbide macro-fibers using** silicon waste powder and natural carbon sources A. Ichangi (Empa, Switzerland)
17:10-17:30	Life cycle assessment of near-net-shape manufacturing processes for glass-ceramics with a view to sustainable production T. Pitschke (bifa Umweltinstitut GmbH, Germany)
17:30-17:50	Alkali Activation Effects on Fractionated Fly Ash Properties in Clay-Cement Sealing Suspensions J. Delihowski (AGH University of Technology, Poland)

Wednesday, September 3, 2025

Room: Conference 7	Session: Recycling of ceramic components | Chair: M. Singh (Ohio Aerospace Institute, USA)
11:00-11:25	Advancing Resource Recycling Through Innovative Disassembly Using Electric Pulse Techniques C. Tokoro (Waseda University, Japan)
11:25-11:45	Refractory Recycling: Innovations, Challenges, and the Path to Sustainability J. Astoveza (MIRECO - RHI Refractories France SA, France)
11:45-12:05	Enhanced glass recycling by weak alkali activation: challenges and opportunities E. Bernardo (University of Padova, Italy)
12:05-12:25	Recycling of strontium ferrite permanent magnets from end-of-life appliances A. Berja Torres (Institute of Ceramics and Glass (CSIC), Spain)
12:25-12:45	A combined experimental and statistical study on **factors influencing piezoelectric properties of up**-side-down composites towards machine learning-driv-en development for recycling Y. Bai (University of Oulu, Finland)

Room: Conference 7	Session: Recycling of ceramic components | Chair: J. Adler (Fraunhofer IKTS, Germany)
14:15-14:40	On sustainable and circular produced high quality silicon carbide raw materials - RECOSiC M. Hausmann (ESK-SIC GmbH, Germany)
14:40-15:00	Recycling waste frits in ceramic wall tile bodies for **enhanced efficiency and reduced environmental impact** for sustainability J. Özkurt (NG Kütahya Seramik Porselen Turizm A.S, Turkey)
15:00-15:20	**Reusing vitreous China fired ceramic scraps in ceramic** production: technological properties and mineralogical insights M. Beretta (University of Turin, Italy)
15:20-15:40	Recovering of silicon carbide and PGM from catalyzed **diesel particulate filters** U. Petasch (Fraunhofer IKTS, Germany)

Room: Conference 7	Session: Ceramics as substitutes for critical or less ef-**ficient materials | Chair: C. Tokoro (Waseda University,** Japan)
16:30-16:50	Sustainable glazes for ceramic tiles: exploiting in-ertized rock and glass wool waste as resources M. Sisti (University of Modena and Reggio Emilia, Italy)
16:50-17:10	Utilization of Spodumene Tailings in High-Silica Porce-lain Tiles P. Vedadi (University of Oulu, Finland)
17:10-17:30	Risk exposure for Critical Raw Materials (CRM) in the production of building materials C. Zanelli (ISSMC-CNR, Italy)
17:30-17:50	Bottom ashes from MSWI in ceramics: a higher value reuse of waste A. Bernasconi (University of Turin, Italy)
17:50-18:10	Recycling cobalt-zirconia catalysts using direct ink writing for hydrogen production S. A. Razavi (Universitat Politècnica de Catalunya, Barce-lonaTech, Spain)

Thursday, September 4, 2025

Room: Conference 7	Session: Sustainable ceramic production and ceramics as the key to sustainable processes | Chair: M. Partsch (Fraunhofer IKTS, Germany)
8:30-8:50	Impact of the choice of eco-friendly polymeric binders on the shaping of alumina pastes by robocasting L. Giardi (University of Limoges, France)
8:50-9:10	The challenges to improve the circular economy in the ceramic tiles production C. Zanelli (ISSMC-CNR, Italy)
9:10-9:30	LLZO garnet-based batteries - designed for circular economy M. Finsterbusch-Rosen (Foschungszentrum Jülich GmbH, Germany)
9:30-9:50	Innovative and Sustainable Binder Jetting with Eco-Friendly Alkali-Activated Materials H. Elsayed (University of Padova, Italy)
9:50-10:10	Modelling the compaction of different granulated pow-ders of a porcelain tile composition from the Heckel equation V. Sanz (Universitat Jaume I, Spain)

Room: Conference 7	Session: Sustainable ceramic production and ceramics as the key to sustainable processes | Chair: A. Gerbeth (Fraunhofer IKTS, Germany)
11:00-11:20	Holistic approach on reusability and recyclability determination of refractory lining materials for tundish in steel continuous casting A. Salerno (University of Limoges, France)
11:20-11:40	Themal Processing of CMC: A pathway leading to more sustainability T. Langmann (Universität Augsburg, Germany)
11:40-12:00	Comparative study of iron-enriched kaolins processed by Spark Plasma Sintering G. L. Lecomte-Nana (University of Limoges, France)
12:00-12:20	Evaluation of the performance of sintered endogenous waste applied to porcelain stoneware pastes printed by additive manufacturing T. Rodrigues da Silva (University of Aveiro, Portugal)
12:20-12:40	Application of ceramic membrane contactors for the re-covery of ammoniacal nitrogen from aqueous residues C. Pflieger (Fraunhofer IKTS, Germany)
12:40-13:00	Assessment on recycled ceria-based ceramic material for solar-driven fuel production B. Musig (IMDEA Energy, Spain)

Room: Conference 7	Session: Sustainable ceramic production and ceramics as the key to sustainable processes | Chair: B. Faßauer (Fraunhofer IKTS, Germany)
14:15-14:35	High-entropy oxide catalysts for degradation of volatile organic compounds A. Zuzic (University of Zagreb, Croatia)
14:35-14:55	Elaboration of porous ceramics from clays and peanut **shells: application for water filtration** I. Q. Maury Njoya (University of Limoges, France)
14:55-15:15	Preparation and stability of medium/high entropy **pyrochlore solidification** Z. Teng (China)
15:15-15:35	**Multilayer ceramic-based plasma systems for efficient,** chemical-free treatment of environmentally critical waste and process water - PLASKA A. Goldberg (Fraunhofer IKTS, Germany)

S7) Glass-ceramics and glasses

Tuesday, September 2, 2025

Room: Seminar 6	Session: Optical and spectroscopical properties | Chair: V. M. Sglavo (University of Trento, Italy)
16:30-16:50	Fiber Drawing Attempt from CMAS (CaO-MgO-Al_2O_3-SiO_2) Glass and Characterization of the Drawn Fibers E. Dölekçekiç (Eskisehir Technical University, Turkey)
16:50-17:10	Glass microspheres: Structural and optical characterization for WLED application M. Boujida (Alexander Dubcek University of Trencín, Slovakia)
17:10-17:30	Optimization of spectroscopic properties of Er^{3+} doped tellurite glasses P. Ramanan (Tampere University, Finland)
17:30-17:50	White-Light-Emitting Composite Fibers Based on YAG:Ce Crystals Embedded in Glass K. Nasser (Tampere University, Finland)

Wednesday, September 3, 2025

Room: Seminar 6	Session: Glass ceramics | Chair: I. Mitra (SCHOTT AG, Germany)
11:00-11:25	Transformation kinetics in glass-ceramics - From concept to practice J. Deubener (Clausthal University of Technology, Germany)
11:25-11:45	Power Ramp Flash Crystallization: An innovative **approach for fast and energy efficient crystallization** of glasses J. V. Campos (Federal University of São Carlos, Brazil)
11:45-12:05	Pressure-Assisted Sintering Approach for Up-converting $LiYF_4$**:Er/Yb Transparent Oxyfluoride Glass-Ceramics** N. M. P. Truong (Alexander Dubcek University of Trencín, Slovakia)
12:05-12:25	Compositional dependence of crystallization in sodium-alkaline earth aluminosilicate glass-ceramics A. Talimian (Alexander Dubcek University of Trencín, Slovakia)
12:25-12:45	Effect of Residual Glass Fraction on the Crystallization and Thermoelastic Properties of Sr-Fresnoite Class-Ceramics of Composistion $Sr_2TiSi_2O_8$ + x (1.3 SiO_2 – 0.2 Al_2O_3 – 0.1 K_2O) O. Zwein (UMONS, Belgium)

Room: Seminar 6	Session: Glass and glass ceramic applications | Chair: F. Smeacetto (Politecnico di Torino, Italy)
14:15-14:40	Novel Feedthroughs for High Temperature Applications I. Mitra (SCHOTT AG, Germany)
14:40-15:00	Dielectric coated steel substrates- glass-ceramics for circuit boards A. Rost (Fraunhofer IKTS, Germany)
15:00-15:20	The impact of alkalis oxides on the surfaces of mate **transparent floor tiles** K. Pasiut (AGH University of Science and Technology, Poland)
15:20-15:40	Sealing performance of a glass-based composite after operation in an oxygen transport membrane reactor S.-M. Groß-Barsnick (Forschungszentrum Jülich GmbH, Germany)
15:40-16:00	Glass-Ceramic Integration for Advanced ULTCC Technology J. Varghese (Fraunhofer IKTS, Germany)

Room: Seminar 6	Session: Fundamental / modeling | Chair: P. Jacobs (RWTH Aachen University, Germany)
16:30-16:55	Innovations in Specialty Glass at CSIR-CGCRI: Bridging Basic Science with Strategic, Societal, and Industrial Needs B. Basu (Indian Institute of Science, India)
16:55-17:15	Structure and properties of soda-lime silicate glass treated in hydrothermal conditions L. Karacasulu (University of Trento, Italy)
17:15-17:35	Atomic scale structure of Na_2O-V_2O_5-TeO_2 glasses **through XRD and first-principles model modeling** P. Thomas (Université de Limoges, France)
17:35-17:55	Flon-Dynamics of Sodium Alumino Phospho Silicate glasses: Composition-Structure-Property correlation S. Keshri (Indian Institute of Technology Delhi, India)

Thursday, September 4, 2025

Room: Seminar 6	Session: Ion exchange | Chair: J. Schilm (Fraunhofer IKTS, Germany)
8:30-8:55	Innovative sustainable chemical tempering processes V. M. Sglavo (University of Trento, Italy)
8:55-9:15	Waste glass hydration and foaming U. Hribar (Jožef Stefan Institute, Slovenia)
9:15-9:35	Tailoring of Fracture Propagation Areas on Ballistic Glass by Patterned Chemical Tempering E. Dölekçekiç (Eskisehir Technical University, Turkey)
9:35-9:55	Enhancing ion exchange by thermal poling P. Jacobs (RWTH Aachen University, Germany)
9:55-10:15	Ion Exchange in Mixed Alkali Silicate Glasses: Impact of Composition on Structure and Properties A. Talimian (Alexander Dubcek University of Trencin, Slovakia)

Room: Seminar 6	Session: Additive manufacturing | Chair: E. Bernardo (University of Padova, Italy)
11:00-11:20	Development of additively manufactured lithium disilicate glass ceramics for dental applications B. Günes (KU Leuven, Belgium)
11:20-11:40	Tuning of the additive manufacturing of wollastonite-diopside glass-ceramics by 'weak' alkali activation E. Bernardo (University of Padova, Italy)
11:40-12:00	3D printing of silica glass I. Laurent (University of Limoges, France)
12:00-12:20	Powder Injection Molding of Lithium Disilicate Glass-Ceramics A. Mannschatz (Fraunhofer IKTS, Germany)
12:20-12:40	Additive manufacturing of Biosilicate-like glass-ceramics **from silicone resins and engineered fillers** V. Diamanti (University of Padova, Italy)
12:40-13:00	Powder based additive manufacturing of low expansion glass ceramics D. Wagner (Fraunhofer IKTS, Germany)

S8) Functional ceramics

Monday, September 1, 2025

Room: Conference 4	Session: Ferroelectrics I – Piezoelectric ceramics | **Chair: B. Malic (Jožef Stefan Institute, Slovenia)**
11:00-11:20	Defects investigation of spark plasma sintered KNN-based lead-free ceramics and their piezoelectric properties I. Monot-Laffez (University of Tours, France)
11:20-11:40	Impact of ultrafast high-temperature sintering on the defect chemistry of potassium-sodium niobate ceramics J. L. Miranda (University of Aveiro, Portugal)
11:40-12:00	Alternative materials for the substitution of lead-containing piezoceramics F. Kazemi Renani (PI Ceramic, Germany)
12:00-12:20	Piezoelectric Sensitivity of PDMS-Composites Reinforced With Potassium-Sodium Niobate N. C. Zanini (University of Aveiro, Portugal)
12:20-12:40	**Enhanced longitudinal piezoelectric coefficient d33 in** lead-free piezoelectric ceramics $(Ba_{0.85}Ca_{0.15})(Zr_{0.1}Ti_{0.9})O_3$ (BCZT) via introducing a highly aligned porous structure Z. Li (University of Bath, UK)
12:40-13:00	Improved Piezoelectric Performance of Both Single Crystal and Textured Materials Using Pulse Poling M. Mervosh (Penn State University, USA)

Room: Conference 4	Session: Electrocaloric and thermoelectric materials and components | Chair: S. Gebhardt (Fraunhofer IKTS, Germany)
14:15-14:40	Recent Progress in the Development of Electrocaloric Multilayer Capacitors and Electrocaloric Heat Pump S. Hirose (Murata Manufacturing Co., Ltd., Japan)
14:40-15:00	Ceramic Multilayer Components for Application in Electrocaloric Systems C. Molin (Fraunhofer IKTS, Germany)
15:00-15:20	Dual-Engineering Strategy for Enhanced Thermoelectric Performance in $CaTiO_3$: Band Convergence Meets Interface Control H.-S. Kim (University of Seoul, South Korea)
15:20-15:40	The Effects of Al and Cu Addition on the Thermoelectric Properties of Designed ZnO Platelets S. C. Ozer (Eskisehir Technical University, Turkey)
15:40-16:00	Thermoelectric temperature sensors based on boron carbide or silicon carbide F. Bing (Fraunhofer IKTS, Germany)

Room: Conference 4	Session: Property optimization for future applications | Chair: K. Furlan (Karlsruhe Institute of Technology (KIT), Germany)
16:30-16:50	Non CentroSymmetric character in a-$CrPO_4$ family O. Toulemonde (Univ. Bordeaux, France)
16:50-17:10	Room-temperature multiscale plastic deformation of $KTaO_3$ A. Frisch (Karlsruhe Institute of Technology, Germany)
17:10-17:30	Tuning the properties of magnetoelectric nanoparticles to enable controlled brain stimulation A. Milojkovic (TU Munich, Germany)
17:30-17:50	Effect of reactivity of $BaTiO_3$ in composites on fracture behaviour Z. Chlup (Czech Academy of Sciences, Czechia)
17:50-18:10	Composites with controlled microstructure and their multifunctional properties H. Issa (Université de Tours, France)

Tuesday, September 2, 2025

Room: Conference 4	Session: Ionic, electronic and mixed conductors | Chair: P. Marchet (Université de Limoges, France)
8:30-8:50	Doping and annealing investigation for fabrication of a high TC lead free PTC ceramic based on $BaTiO_3$ with **18% $Bi_{0.5}Na_{0.5}TiO_3$** M. Arnold (Fraunhofer IKTS, Germany)
8:50-9:10	Charge compensation and phase stability in spinel-type NTCR ceramics K. Reichmann (Technische Universität Graz, Austria)
9:10-9:30	**Influence of dopants on microstructure development** and electrical properties of ZnO-Cr_2O_3-based varistor ceramics S. Bernik (Jožef Stefan Institute, Slovenia)
9:30-9:50	Model-Free Analysis of Sintering Mechanisms in Tape-Cast BZCY-Based Materials L.-A. Schäfer (IFKB-Universität Stuttgart, Germany)
9:50-10:10	Carbonate-free preparation of $BaCeO_3$ powders and its application in superconductors growth V. Sevcik (University of Chemistry and Technology Prague, Czechia)
10:10-10:30	Recent Advances in REBCO Bulk Superconductors: Single-Direction Melt Growth Manufacturing and Application Prospects F. Antoncik (UCT Prague, Czechia)

Room: Conference 4	Session: Ferroelectrics II – Piezoelectric ceramics | Chair: I. Monoz-Laffez (University of Tours, France)
11:00-11:20	Highly aligned textured $BaTiO_3$ freeze-casted piezoelectric-polymer composites A. Kumar (University of Bath, UK)
11:20-11:40	Freeze-cast piezoelectric ceramics with complex geometries J. Roscow (University of Bath, UK)

11:40-12:00	**Influence of ceramic particles on the photopolymerization process during additive manufacturing of lead-free piezoceramics** J. Koruza (TU Graz, Austria)
12:00-12:20	Elaboration of $BaTiO_3$ lead-free piezoelectric thick **films on thin metallic substrates by Aerosol Deposition** method (AD) P. Marchet (Université de Limoges, France)
12:20-12:40	Temperature-dependent Properties and Cooling Rate impact on Aerosol-Deposited thick $BaTiO_3$ Films M. Kuhfuß (FAU Erlangen, Germany)
12:40-13:00	Phase formation and microstructure control in lead-free $(Ba,Ca)(Zr,Ti)O_3$ piezoceramics A. Paulik (Graz University of Technology, Austria)

Room: Conference 4	Session: Multilayer technology | Chair: U. Partsch (Fraunhofer IKTS, Germany)
14:15-14:35	Development of Ni-Compatible $NaNbO_3$-Based Quasi-Linear Dielectrics via Precision Tolerance Factor Engineering for Multilayer Energy Storage Applications J. Lee (Penn State University, USA)
14:35-14:55	Metal electrode pastes for multilayer ceramic components J. Feng (Chinese Academy of Science, China)
14:55-15:15	Integration of functional materials in ceramic multilayer technology: ZnO-based varistor screen printing paste development A. Görne (Fraunhofer IKTS, Germany)
15:15-15:35	**Low-temperature co-fired ceramics (LTCC) and integrated sensors** M. Ma (Chinese Academy of Science, China)
15:35-15:55	Optimising Material Formulation and Additive Manufacturing **Processes for Low-Temperature Co-fired** Ceramic Circuits C. Farrell-John (University of Leeds, UK)

Room: Conference 4	Session: Dielectric ceramics for electronics | Chair: J. Töpfer (Ernst-Abbe-Hochschule Jena, Germany)
16:30-16:50	Comparative study of BST liquid phase sintering and resulting dielectric properties H. Labarrère (ICMCB, France)
16:50-17:10	Sintering Behavior and Mechanism of Bi-Zn-Nb-O Microwave Dielectric Ceramics Y. Zhang (Chinese Academy of Sciences, China)
17:10-17:30	Laser-Based Fabrication of Customizable Aluminum Nitride Circuit Boards for Low-Temperature Applications I. Käpplinger (CiS Forschungsinstitut für Mikrosensorik GmbH, Germany)
17:30-17:50	Dielectric properties of ceramic gyroid structures with **controlled air inclusions - influence on permittivity and losses** T. Lavie (Université de Rennes, France)

Wednesday, September 3, 2025

Room: Conference 4	Session: Ferroelectric ceramics III – Applications | Chair: H. Neubert (Fraunhofer IKTS, Germany)
11:00-11:20	**Influence of monoclinic phase on energy harvesting** performance and contribution of tetragonal phase to uncertainty in $Pb(Mg,Nb)O_3$-$PbTiO_3$ ceramics Y. Bai (University of Oulu, Finland)
11:20-11:40	Strong lead-free bioinspired piezoceramics with improved performance for durable energy harvesting R. Yang (Imperial College London, UK)
11:40-12:00	**Self-powered acoustic transmitter for fish tracking** A. Schönecker (Smart Material GmbH, Germany)
12:00-12:20	Piezoceramic particles for mechano-induced radical polymerization: synthesis and characterization K. Castkova (Brno University of Technology, Czechia)
12:20-12:40	**Enhancing Energy Efficiency in ZnO-Based Nanogenerators: The Role of Electrodes** G. Yüksel (Eskisehir Technical University, Turkey)
12:40-13:00	Enhanced Electrocatalytic N_2 Reduction to NH_3 through Piezo-Assisted Polarization B. Witulski (Universität zu Köln, Germany)

Room: Conference 4	Session: Ceramics for photonics and photochemistry | Chair: S. Stark (Fraunhofer IKTS, Germany)
14:15-14:35	**Influence of Samarium doping on the photoelectrochemical activity of Strontium Titanate for Solar Water Splitting** T. Islam (Fraunhofer IKTS, Germany)
14:35-14:55	Correlation between Domain Structure Dynamics and Electromechanical behavior in Sn-doped $BaTiO_3$ Photoferroelectrics V. Kraft (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany)
14:55-15:15	Sintering mechanisms of gadolinium niobates J.-M. Heintz (Institut de Chimie de la Matière Condensée de Bordeaux, France)
15:15-15:35	Porous $(Ba,Ca)(Zr,Ti)O_3$ piezoceramics featuring photocatalytic performance M. Peiteado (Instituto de Cerámica y Vidrio (CSIC), Spain)
15:35-15:55	High-performance pyroelectric composites for thermal energy harvesting Q. Wang (University of Bath, UK)

Room: Conference 4	Session: Strategies for material reserach and development | Chair: J. Koruza (TU Graz, Austria)
16:30-16:55	Effect of Oxygen Partial Pressure Control During Sintering of Mn-Zn-Ferrites J. Töpfer (Ernst-Abbe-Hochschule Jena, Germany)
16:55-17:15	Tailoring Ferroelectric Ceramics for Future Industrial Applications S. Gebhardt (Fraunhofer IKTS, Germany)
17:15-17:35	Exploring dopant strategies to stabilize antiferroelectricity in $NaNbO_3$-based ceramics A. A. Sha (Jožef Stefan Institute, Slovenia)
17:35-17:55	Atomic-Scale Insights into Nanoparticle Exsolution from Dislocation-Engineered Host Oxides M. L. Weber (Kyushu University & Massachusetts Institute of Technology, Japan)

Thursday, September 4, 2025

Room: Conference 4	Session: Films and coatings | Chair: K. Reichmann (Technische Universität Graz, Austria)
8:30-8:50	Epitaxial Growth and Functional Properties of $LaSrMnO_3$/$BaSrTiO_3$ Bilayers Deposited from Solution D. Piper (University of Novi Sad, Serbia)
8:50-9:10	Reverse-Engineered Filling Fraction Analysis of ALD processed Titania-Based Inverse Opal Structures N. Thonakkara James (Karlsruhe Institute of Technology, Germany)
9:10-9:30	Aqueous chemical deposition of thin $Sr_xBa_{1-x}Nb_2O_6$ **oxide films** M.-A. Einarsrud (NTNU Norwegian University of Science and Technology, Norway)
9:30-9:50	Promising ZrO_2-HfO_2-Y_2O_3-Ta_2O_5 system for novel high-performance materials for thermal barrier coating applications A. Habermann (Justus Liebig University Giessen, Germany)
9:50-10:10	ZnO 3D-printed porous structures for gas sensing W. Majeed (Politecnico di Torino, Italy)

Room: Conference 4	Session: Mixed topics (Synthesis, composites) | **Chair: S. Bernik (Jožef Stefan Institute, Slovenia)**
11:00-11:20	Innovative synthesis and exfoliation of Egyptian blue for antibacterial application I. Zanoni (CNR-ISSMC, Italy)
11:20-11:40	Hydrothermal synthesis of Fe(II)-substituted hydroxy-apatite S. Shioda (Nihon University, Japan)
11:40-12:00	Molten salt approach of x $SrTiO_3$ - (1-x) $Na_{0,5}Bi_{0,5}TiO_3$ dielectric material T. Nogueira (Bordeaux University, France)
12:00-12:20	**Mechanical seeded dislocations enable significant** thermal conductivity reduction in $SrTiO_3$ J. Ding (Karlsruhe Institute of Technology, Germany)

Room: Conference 4	Session: High entropy materials | Chair: M.-A. Einarsrud (NTNU Norwegian University of Science and Technology, Norway)
14:15-14:35	Beyond entropy: understanding the temperature and compositional stability of the high entropy oxide (Mg,Co,Ni,Cu,Zn)O M. Coduri (University of Pavia, Italy)
14:35-14:55	Design and Functionalization of Novel High-Entro-**py Ceramics: Pathways to Efficient Thermoelectric** Materials A. Ali (Slovak Academy of Sciences, Slovakia)
14:55-15:15	Thermophysico-chemical properties of high-entropy oxides as novel functional materials for thermal barrier coating applications G. Bianchi (Justus Liebig University Giessen, Germany)
15:15-15:35	High-throughput solid-state synthesis and dielectric properties of high-entropy perovskite oxides with A-site disorder U. Eckstein (Friedrich-Alexander-Universität Erlan-gen-Nürnberg, Germany)
15:35-15:55	Multiferroic properties of bismuth titanate based high entropy materials J. A. Eiras (Sao Carlos Federal University, Brazil)

S9) Ceramics for energy conversion and storage, chemistry and environment / Hydrogen

Monday, September 1, 2025

Room: Conference 6	Session: Progress in SOFC / SOE development | Chair: M. Kusnezoff (Fraunhofer IKTS, Germany)	Room: Auditorium	Session: Progress in development and applications of thermoelectric materials | Chair: E. Müller (DLR, Germany)
11:00-11:25	Robust and Reliable SOFC Power Generators in off-grid and back-up power applications M. Boltze (new enerday GmbH, Germany)	11:00-11:25	High-performance thermoelectric materials & devices for power generation and solid-state cooling T. Mori (NIMS, Japan)
11:25-11:50	SolydEra's Solid Oxide technology for multiple energy applications D. Montinaro (SolydEra SpA, Italy)	11:25-11:45	**Thin-film ceramics for energy applications** P. Eklund (Uppsala University, Sweden)
11:50-12:15	Novel approaches to Hydrogen, CO_2 Conversion and Ammonia to reduce carbon emissions J. Irvine (University Of St Andrews, UK)	11:45-12:05	Ductile inorganic thermoelectric materials P. Qui (Shanghai Institute of Ceramics, China)
12:15-12:40	Current R&D development in solid oxide cell research N. Menzler (Forschungszentrum Jülich GmbH, Germany)	12:05-12:25	High thermoelectric performance through co-doping strate-gies in p- and n-type Bi_2Te_3 M. Ohta (AIST, Japan)
12:40-13:00	The development of novel materials for next generation anode supported solid oxide cells O. Kurapova (Elcogen, Finland)	12:25-12:45	Exploration of New half-Heusler Composition to Achieve Carbon Neutrality K. Imasato (AIST, Japan)

Room: Conference 6	Session: Progress in air electrode development | Chair: D. Montinaro (SolydEra SpA, Italy)	Room: Auditorium	Session: Oxide-based thermoelectric materials for high temperature applications | Chair: T. Mori (NIMS, Japan)
14:15-14:40	Advanced Perovskite Oxides as Multifunctional Electrodes for High-Performance Solid Oxide Electrochemical Cells K. T. Lee (KAIST, South Korea)	14:15-14:40	Production and application of high temperature-resistant thermoelectric modules R. Funahashi (AIST, Japan)
14:40-15:00	High-entropy perovskites for solid oxide cell air electrodes E. Bucher (Montanuniversität Leoben, Austria)	14:40-15:00	Superior thermoelectric performance in calcium cobaltite ceramics through dual spark-plasma texturing and electro-spun nanoribbons A. Feldhoff (Leibniz Universität Hannover, Germany)
15:00-15:20	Molecular Strategies for Binary MO_2 (M = V, Sn, Ti, Zr, Hf) High-Entropy Oxides: Superior Catalysts for Enhanced Oxygen Evolution A. Ziyaad (Universität Köln, Germany)	15:00-15:20	Effect of A-site La doping in High-Entropy Perovskite Oxides for Thermoelectric Applications I. Longkumer (Slovak Academy of Sciences, Slovakia)
15:20-15:40	**Oxygen mass transport in A site deficient nickelate** Ruddlesden-Popper oxides studied by electrical conductivity relaxation. C. Croisé (University of Bordeaux, France)	15:20-15:40	**Microstructural and thermoelectric properties modification** induced by the laser wavelength on the $Bi_{1.6}Pb_{0.4}Sr_2Co_2O_8$ **textured ceramics produced by directional solidification** A. Sotelo (Universidad de Zaragoza, Spain)
15:40-16:00	$Ca_2Fe_2O_5$-based sustainable air electrodes for solid oxide electrolysis cells M. Aksoy (Montanuniversität Leoben, Austria)	15:40-16:00	Simulative Approach to Waste Heat Recovery in Solar Thermochemical Cycles by Thermoelectric Generators C. Stiewe (German Aerospace Center (DLR), Germany)

Room: Conference 6	Session: Structural durability and contaminants | Chair: N. Menzler (Forschungszentrum Jülich GmbH, Germany)	Room: Auditorium	Session: Next generation thermoelectric materials | Chair: A. Feldhoff (Leibniz Universität Hannover, Germany)
16:30-16:50	Long-term performance evaluation of nickel-scandia-yttria stabilized zirconia fuel electrodes for solid oxide electrolysis cells M. Yarahmadi (DTU, Denmark)	16:30-16:55	Durable and sustainable thermoelectric devices made from zinc and magnesium-antimony alloys K. Nielsch, (Leibniz IFW Dresden, Germany)
16:50-17:10	Reducing structural degradation of solid oxide electrolysis cells for long-term co-electrolysis operation through numerical simulations S. Beringer (HyCentA Research GmbH, Austria)	16:55-17:15	Next-Generation Environmentally Friendly MXene-Tetrahedrite Scalable Thermoelectric Generator D. Madan (University of Maryland, USA)
17:10-17:30	Mechanical characterization of fuel electrode in SOEC after 9,000 hours of operation B. U. Manam (University of Bayreuth, Germany)	17:15-17:35	Microstructure engineering in high-entropy perovskite oxides to improve thermoelectric performance R. Shukla (EMPA, Switzerland)
17:30-17:50	Silicon contamination of $La_{0.65}Sr_{0.3}Cr_{0.85}Ni_{0.15}O_{3-x}$ after 9,000 hours of operation E. Lust (University of Tartu, Estonia)	17:35-17:55	Theoretical and experimental investigation of the electronic structure and thermoelectric properties of high-entropy perovskites S. Bandaru (Slovak Academy of Sciences, Slovakia)
		17:55-18:15	Investigating the reactivity and stability of the High Entropy Oxide (Mg,Co,Ni,Cu,Zn)O through a diffusion couples approach G. Maranini (University of Pavia, Italy)

Tuesday, September 2, 2025

Room: Conference 6	Session: Novel manufacturing technologies | Chair: E. Lust (University of Tartu, Estonia)	Room: Auditorium	Session: Solid state Li-ion batteries | Chair: O. Guillon (Forschungszentrum Jülich GmbH, Germany)
8:30-8:55	**Artificial intelligence and full process automatization in** Additive manufacturing for Hydrogen E. Louradour (3DCeram, France)	8:30-8:55	Solid electrolytes: from mine to cell C. Hartnig (AMG Lithium, Germany)
8:55-9:15	Ultrafast High-Temperature Sintering (UHS) of 3D-Printed NiO-YSZ/NiO-GDC Layered Structures as Potential Anodes for Solid Oxide Fuel Cells (SOFCs) A. Hodaei (University of Twente, Netherlands)	8:55-9:15	Dilation Under Pressure: New Results on the Swelling of Battery Electrodes under Varying Applied Pressures B. Bugenhagen (EL-Cell GmbH, Germany)
9:15-9:35	Improvement of initial electrochemical performance of solid oxide electrolysis cells via ceramic processing optimizations S. Pirou (Topsoe, Denmark)	9:15-9:35	Playing with Sound: Advanced Ceramic Materials via Combination of Spray Pyrolysis and acoustic waves J. Buchheim (Glatt Ingenieurtechnik GmbH, Germany)
9:35-9:55	Implementation of conventional and phase-inversion tape casting processes for the manufacture of fuel cells and electrolysers M. Benoist (Université de Limoges, France)	9:35-9:55	Cost-effective halide solid electrolytes for lithium all solid-state batteries K. Wätzig (Fraunhofer IKTS, Germany)
9:55-10:15	Low-cost Cobalt-free Approach for the Interconnects Y. Naumovich (Institute of Power Engineering - National Research Institute, Poland)	9:55-10:15	Eco-friendly formulation of thick self-standing electrodes for Li-ion all solid-state batteries M. Boumahraz (Université de Limoges, France)
10:15-10:35	High-Throughput-Inspired Mapping of the Spray-Drying Process: Unlocking Morphology, Phase, and Performance Correlations in LNMO Synthesis M. Brunet Cabre, (EMPA, Switzerland)	10:15-10:35	**Identification of polarization phenomena on graphene** ceramic composites using the Distribution of Relaxation Times analysis R. Poyato (CSIC Materials Science Institute of Seville, Spain)

Room: Conference 6	Session: Properties and manufacturing of ZrO_2-based electrolyte | Chair: E. Bucher (Montanuniversität Leoben, Austria)	Room: Auditorium	Session: Ceramic Li-ion conducting electrolytes | Chair: K. Wätzig (Fraunhofer IKTS, Germany)
11:00-11:20	Superplasticity in yttria-stabilised cubic zirconia through dynamic recrystallization A. Morales Rodrigues (University of Seville, Spain)	11:00-11:25	Surface Chemistry of Ultrafast-Sintered LLZO Solid-State Electrolytes for High-Performance Li-Garnet Solid-State Batteries K. Kravchyk (EMPA, Switzerland)
11:20-11:40	Room and high temperature tensile strength of ultra-**thin 3% yttria-stabilized zirconia (3YSZ) ceramic tapes** for solid oxide fuel cells (SOECs) I. Bombarda (University of Bayreuth, Germany)	11:25-11:45	Garnet type $Li_7La_3Zr_2O_{12}$ ceramic electrolyte for Solid-State Lithium Battery C. Li (Imerys, France)
11:40-12:00	A multi-material approach to optimize mechanical A. Jana (Montanuniversität Leoben, Austria)	11:45-12:05	Synthesis and electrochemical characterization of new multicomponent Li-garnets B. Zimmermann (Universität Gießen, Germany)
12:00-12:20	SLA 3D-Printed YSZ Electrolytes for High-Performance Solid Oxide Cells I. Babeli (IREC, Spain)	12:05-12:25	Discovery of high entropy garnet solid-state electrolytes via ultrafast synthesis Y. Feng (SUSTECH, China)
12:20-12:40	**Depth-profiling of hydrothermally aged 3YSZ electro**-lytes by confocal Raman spectroscopy F. Werner (University of Bayreuth, Germany)	12:25-12:45	Processing of Garnet-Based All-Solid-State Batteries via FAST/SPS P.-C. Huang (Forschungszentrum Jülich GmbH, Germany)
12:40-13:00	Toward new approaches in SOFC/ECs: Induction melting of Scandia stabilized Zirconia electrolytes in the cold crucible D. Kommisarenko (Imerys, France)	12:45-13:05	Enhancing the electro-mechanical properties of LAGP and LATP ceramic electrolytes via two-step sintering technique O. Kapitanova (Limonocov Moscow State University, Russia)

Room: Conference 6	Session: Electrodes design and cell performance | Chair: J. Irvine (University of St Andrews, UK)	Room: Auditorium	Session: Solid state battery manufacturing | Chair: K. Kravchyk (EMPA, Switzerland)
14:15-14:40	Ultrasonic Spraying of Ceria based nano-catalysts for **Highly efficient LSGM based Electrolysis Cells; with a** Particular Focus on CO_2 Electrolysis T. H. Shin (Korea Institute of Ceramic Engineering and Technology, South Korea)	14:15-14:40	Multi-scale and multi-dimensional quantitative phase **classification and characterization of recycled batteries** (black mass) R. Mitchell (Carl Zeiss Microscopy, UK)
14:40-15:00	Tailoring surface and microstructure of electrodes as a strategy to improve Solid Oxide Cell (SOC) stability and performance in the SOE and co-SOE modes A. Niemczyk (Institute of Power Engineering - National Research Institute, Poland)	14:40-15:00	Additive-free ultra-thick porous LFP electrodes produced by robocasting for high-areal capacity Li-ion batteries A. Varez (Universidad Carlos III de Madrid, Spain)
15:00-15:20	$Y_2Ti_2O_7$-Based Pyrochlores as Alternative Materials for Diffusion Barrier Layer at The Fuel Electrode-Electro-lyte Interface in SOFC/SOEC A. Yaremchenko (University of Aveiro, Portugal)	15:00-15:20	Plasma-Enhanced Thin Films on Current Collectors for Safer and Next Gen Anode-Free Batteries D. Patrun (Universität zu Köln, Germany)
15:20-15:40	Electrochemical activation and NAP-XPS study of $La_{0.31}Sr_{0.58}Ti_{0.97}Ni_{0.03}O_{3-d}$ SOFC Thin Film Electrodes G. Nurk (University of Tartu, Estonia)		

Room: Conference 6	Session: SOC applications | Chair: T. H. Shin (Korea Institute of Ceramic Engineering and Technology, South Korea)	Room: Auditorium	Session: Coatings for Li-ion battery materials | Chair: A. Varez (Universidad Carlos III de Madrid, Spain)
16:30-16:55	The Future of the Shipbuilding and Marine Industry in the Era of Carbon Neutrality S. Park (HD Hyundai, South Korea)	16:30-16:50	Microjet Reactor Synthesis of $LiZrO_3$ Nano-Coatings on Ni-rich Cathode Materials for All-Solid-State Lithium-Ion Battery Applications G. Falk (Universität des Saarlandes, Germany)
16:55-17:15	Operation of a SOFC with MK35x stacks within a biomass micro-CHP system based on wood pellet **gasification** A. Seidl (Fraunhofer IKTS, Germany)	16:50-17:10	Improving the chemical and electrochemical stability of Li_6PS_5Cl thiophosphate solid electrolytes by ALD coating K. Nikolowski (Fraunhofer IKTS, Germany)
17:15-17:35	3D-Printed SOCs for High-Pressure Applications S. Marquez (Institut de Recerca en Energia de Catalunya (IREC), Spain)	17:10-17:30	Silicon/graphite anode performance improved by atomic **layer deposited ZnO films and fluoroethylene carbonate** additive Z. Lences (Slovak Academy of Sciences, Germany)
17:30-17:50	Direct Ink Writing of Nickel-Ceria monoliths for CO_2 methanation J. P. Gonçalves Queirós e Cunha (Universitat Politecnica de Catalunya, Spain)	17:30-17:50	**Manganese Difluoride (MnF_2)** Coating for Anode-Free Lithi-um Metal Batteries: A Molecular Perspective M. Steiner (Universität zu Köln, Germany)
17:50-18:10	Metallic nanoparticle exsolution from gadolini-**um-doped cerium oxides for efficient hydrogen produc**-tion via ammonia cracking A. López-García (Universitat Politècnica de València, Spain)		

Wednesday, September 3, 2025

Room: Conference 6	**Session: Ceramics in fusion and fisson | Chair: M. Vinnichenko (Fraunhofer IKTS, Germany)**
11:00-11:25	Development of ceramic permeation barriers for use in the breeder blanket of future fusion powerplants H. Gardner (UKAEA, UK)
11:25-11:50	Sintering behaviour of buffered UO_2 fuel doped with niobium oxides F. Audubert (CEA, France)
11:50-12:15	Tritium Breeding Ceramics for Nuclear Fusion J. Leys (Karlsruhe Institute of Technology (KIT), Germany)
12:15-12:35	Integrating experiments and simulations for cesium immobilization: a cold-consolidation strategy for repurposing glass waste in nuclear applications D. C. Lago (FunGlass – Centre for Functional and Surface Functionalized Glass, Slovakia)
12:35-12:55	Development of Protective Coatings for Components **in Gasifier of IGCC(Integrated Gasification Combined** Cycle) Power Plants S. Kim (Korea Institute of Ceramic Engineering and Technology, South Korea)

Room: Conference 6	Session: Proton conducting ceramic cells I | Chair: O. Joubert (Nantes University, France)
14:15-14:40	Upscaling of proton conducting ceramic cells W.-R. Kiebach (Technical University of Denmark (DTU), Denmark)
14:40-15:00	Improvement in hydrogen pumping performance of protonic ceramic electrochemical reactors for ammonia cracking systems H. Shimada (National Institute of Advanced Industrial Science and Technology (AIST), Japan)
15:00-15:20	Development and testing of ceramic proton conducting solid oxide cells with A. Bartoletti (CNR, Italy)
15:20-15:40	FeRu Exsolution catalysts for electrochemical ammonia synthesis using proton conducting cells M. Kindelmann (Technical University of Denmark (DTU), Denmark)
15:40-16:00	Examining the effect of charge and size mismatch on the segregation behavior of dopants in $BaZrO_3$ J. Ebert (Universität Stuttgart, Germany)

Room: Conference 6	Session: Proton conducting ceramic cells II | Chair: W.-R. Kiebach (Technical University of Denmark (DTU), Denmark)
16:30-16:55	Materials development for proton ceramic cells O. Joubert (Nantes University, France)
16:55-17:15	Advanced Ceramic Oxides for Proton Conducting Cells A. D. Dyrli (Ceramic Powder Technology AS, Germany)
17:15-17:35	Fabrication of Thin Electrolyte via Wet Powder Spraying and Investigation of Its Sintering Behavior for Solid Oxide Proton Conducting Cells Y. Zeng (Forschungszentrum Jülich GmbH, Germany)
17:35-17:55	Proton conductive electrolyte production by water-based tape casting F. Torazzi (University of Trento, Italy)

Thursday, September 4, 2025

Room: Conference 6	Session: Ceramics for combustion and thermochemical processes | Chair: A. Füssel (Fraunhofer IKTS, Germany)
8:30-8:50	Impact of water vapor on coating systems in gas turbines R. Vaßen (Forschungszentrum Jülich GmbH, Germany)
8:50-9:10	Si_3N_4-AlN-Y_2O_3-Al_2O_3 Ceramics for Hydrogen Combustor **in the Reverse-flow Reactor** C. Chun (Exxon Mobile, USA)
9:10-9:30	Self-pressurizing combustion on mixed ionic electronic **conductors for an efficient energy production** O. Ravkina (Fraunhofer IKTS, Germany)
9:30-9:50	$CaMnO_3$-based structures as promising building blocks for high temperature thermal/thermochemical energy C. Pagkoura (CERTH, Greece)
9:50-10:10	Optimization of $Ca_{1-x}Sr_xMnO_3$ ceramic foams for high-temperature thermochemical energy storage E. Dashjav (DLR e.V., Germany)
10:10-10:30	A novel decarbonisation path of the calcination of limestone M. Einax (HySON gGmbH, Germany)

Room: Conference 6	Session: Ceramics for solar, solar-thermal reactors and water splitting | Chair: R. Vaßen (Forschungszentrum Jülich GmbH, Germany)
11:00-11:20	Cellular absorber structures for open-volumetric air receiver in concentrated solar power plants A. Füssel (Fraunhofer IKTS, Germany)
11:20-11:40	Thermodynamic stability of functional materials for solar-thermal driven reactors K. T. Streckel (Forschungszentrum Jülich GmbH, Germany)
11:40-12:00	Synthesis and evaluation of structured Vanadium-based catalysts for the SO_3 splitting reaction used in the elemental Sulphur thermochemical energy storage cycle G. Skyfta (CERTH, Greece)
12:00-12:20	Enhancement of coloring/bleaching speed using dry-deposited cathodic WO_3 integrated with spray-py**rolyzed anodic NiO thin film** J. Kim (Hanyang University (ERICA), South Korea)

S10) (Bio)ceramics, composites, and bioactive glasses for healthcare

Monday, September 1, 2025

Room: Seminar 4	Session: Additive manufacturing and processing of bioceramics | Chair: M. Bohner (RMS Foundation, Switzerland)
11:00-11:20	**Commercial 3D printed ceramic filled dental resins for** clinical application - preclinical and clinical characterizations F. Schmidt (Charité Universitätsmedizin Berlin, Germany)
11:20-11:40	Utilization of Optical Coherence Tomography for Optimization and Quality Control in 3D Bio-Printing J. Opitz (Fraunhofer IKTS, Germany)
11:40-12:00	Additive manufacturing of complex shaped bioceramics based on heavily-doped stabilized glaserite-like phases for regeneration of the tubular bone segment P. Evdokimov (Lomonosov Moscow State University, Russia)
12:00-12:20	**Fused filament fabrication of bioceramic scaffolds –** materials available and their limitations M. Janek (Slovak University of Technology, Slovakia)
12:20-12:40	Bone-like degradable jawbone replacements for application in load-bearing critical bone defects M. Ahlhelm (Fraunhofer IKTS, Germany)
12:40-13:00	Combination of additive manufacturing (AM) and templated grain growth (TGG) for the development of **artificial bone with customized microstructure and** mechanical properties for future surgical training J. Apel (FGK - Forschungsinstitut Glas / Keramik GmbH, Germany)

Room: Seminar 4	Session: Additive manufacturing and processing of bioceramics | Chair: J. Opitz (Fraunhofer IKTS, Germany)
14:15-14:35	Evaluation of Triply Periodic Minimal Surface (TPMS) Structures in Calcium Phosphates for Bone Regeneration: Mechanical and Morphological Insights G. Verlato (Università di Padova, Italy)
14:35-14:55	Investigation of bioinspired mineral synthesis of hydroxyapatite in hydrogels using optical coherence tomography (OCT) and its complex shaping using volumetric 3D printing (3DVP) N. Kaube (Fraunhofer IKTS, Germany)
14:55-15:15	Innovative hydroxyapatite-chitosan composite granules for controlled drug delivery and enhanced bone healing M. Almeida (University of Aveiro, Portugal)

Room: Seminar 4	Session: Advanced calcium phosphates for bone regeneration and bioceramics | Chair: A. Boccaccini (University of Erlangen-Nuremberg, Germany)
16:30-16:55	Synthesis and room temperature sintering of calcium phosphates J. Locs (Riga Technical University, Latvia)
16:55-17:15	The Art of Bone Regeneration: Mastering Microstructure and Composition in Calcium Phosphate Scaffolds A. Ressler (Tampere University, Finland)
17:15-17:35	Characterization of an apatite forming calcium phosphate cement modified by bisphosphonate addition K. Hurle (FAU Erlangen-Nürnberg, Germany)
17:35-17:55	Cytotoxicity Evaluation of Hydroxyapatite-based Composites with Sintering Additives for Biomedical Scaffolds R. Fialka (Slovak University of Technology, Slovakia)

Tuesday, September 2, 2025

Room: Seminar 4	Session: Advanced calcium phosphates for bone regeneration and bioceramics | Chair: A. Boccaccini (University of Erlangen-Nuremberg, Germany)
8:30-8:50	Effect of Cooper and Titanium on the Properties of Novel Antibacterial Biomicroconcretes for Bone Substitution P. Pantak (AGH University of Krakow, Poland)
8:50-9:10	Effect of calcium-based bio ceramics addition on biological performance and bio degradation rate of Mg-based scaffolds for bone tissue engineering applications M. Maryam (Gdansk University of Technology)
9:10-9:30	High temperature dielectric characterization of carbonated hydroxyapatite ceramics R. Journiac (Univ Jean Monnet, France)
9:30-9:50	Applicability of ISO 10993-5 for calcium phosphate biomaterials evaluation: Towards more accurate in vitro cytotoxicity assessment J. Locs (Riga Technical University, Latvia)
9:50-10:10	Bioceramics with bone-like microstructure and properties prepared by cold sintering processes A. Sharipova (Fraunhofer IKTS, Germany

Room: Seminar 4	Session: Advanced bioactive materials: Glasses, ceramics, and hybrids for biomedical applications | Chair: J. Locs (Riga Technical University, Latvia)
11:00-11:20	Ion releasing bioactive glasses as building blocks for ionic medicine and tissue engineering applications A. Boccaccini (University of Erlangen-Nuremberg, Germany)
11:20-11:40	Gold-Doped Phosphate-Based Bioactive Glasses and Glass-Ceramics K. Kowalska (AGH University of Krakow, Poland)
11:40-12:00	Elaboration and characterization of new bioactive glasses doped with Cu, used in bone regenerative surgery H. El Bouami (University Polytechnique Hauts-de-France, France)
12:00-12:20	Significance of dissolution products and solution pH on bioactive glass in vitro M. Siekkinen (Åbo Akademi University, Finland)
12:20-12:40	Bacteriostatic Activity and Osteogenic Potential of Alumina-Toughened Zirconia (ATZ) for Dental Implants: An In Vitro Study I. Lackner (CeramTec GmbH, Germany)

Room: Seminar 4	Session: Advanced characterization and new methods and materials | Chair: J. Opitz (Fraunhofer IKTS, Germany)
14:15-14:35	Development of Biosilicification-Inspired Lipase-Silica Composites for Biocatalytic Ester Synthesis B. S. Jeon (KICET, South Korea)
14:35-14:55	Two-component Hybrid Bioceramic Implant Using Sinter-joining S. Nistler (TU Wien, Austria)
14:55-15:15	"ClicKit-Well": Next Generation In vitro Test Device for Standardized and Quantitative Biological Material Testing J. Spohn (Fraunhofer IKTS, Germany)
15:15-15:35	Study of the surface morphology of electrospun cellulose acetate fibers with different solvent systems and concentrations W. Alkaron (HUN-REN Centre for Energy Research, Hungary)

Room: Seminar 4	Session: Advanced characterization and new methods and materials | Chair: Juliane Spohn (Fraunhofer IKTS, Germany)
16:30-16:50	Rheological control of organic-inorganic hybrid solutions for electrospinning: effects on fiber morphology and processability J. C. Almeida (University of Aveiro, Portugal)
16:50-17:10	Iron Phosphate – New class of bioceramics? L. Baca (Slovak University of Technology, Slovakia)

Wednesday, September 3, 2025

Room: Seminar 4	Session: Zirconia and high-performance bioceramics for load-bearing applications | Chair: M. Bohner (RMS Foundation, Switzerland)
11:00-11:20	Alumina toughened zirconia with Yb,Pr co-stabilized zirconia matrix B. Oßwald (Universität Stuttgart, Germany)
11:20-11:40	ATZ Ceramic with Lanthanum Reinforcement K. Hans (Mathys Orthopaedie GmbH, Germany)
11:40-12:00	Influence of laser structuring of ceramic endoprostheses on mechanical strength and ageing behavior of ATZ ceramics as well as on the tribological properties C. Witt (Mathys Orthopaedie GmbH, Germany)
12:00-12:20	Properties of multiple rare earth oxides co-stabilized YDyGdSmNd-TZP ceramics F. Kern (Universität Stuttgart, Germany)
12:20-12:40	Pressure Slip Casting of Complex Geometries using the example of a ceramic knee S. Spange (Fraunhofer IKTS, Germany)

Room: Seminar 4	Session: Functional nanoparticles for bioceramic systems | Chair: N. Beshchasna (Fraunhofer IKTS, Germany)
14:15-14:35	TiO_2-based nanomaterials for laser desorption/ionization (LDI) mass spectrometry and biomedical applications J.-C. Pyun (Yonsei University, South Korea)
14:35-15:00	Eco-friendly Fast-facile Synthesis of Nanostructured Calcium Phosphate bioceramics by Liquid Flame Spray Method A. Charmforousha (Tampere University, Finland)
15:00-15:20	Electroconductive 4D Biomaterials: Integrating Bio-**electric Signals with PEDOT and Nanofibers for Bone** Tissue Engineering R. M. Martín Rodríguez (Institute of Ceramic and Glass (CSIC), Spain)

Room: Seminar 4	Session: Functional nanoparticles for bioceramic systems | Chair: J.-C. Pyun (Yonsei University, South Korea)
16:30-16:50	Functionalization of Hydroxyapatite Nanoparticles with Alternative Antimicrobials: Zinc Ions and Bacteriophages L. Stipniece (Riga Technical University, Latvia)
16:50-17:10	Mesoporous hydroxyapatite nanoparticles for dental tissue engineering N. Beshchasna (Fraunhofer IKTS, Germany)
17:10-17:30	Bioconjugated Glass Nanocarriers for Precision Drug Delivery S. Mathur (University of Cologne, Germany)

Thursday, September 4, 2025

Room: Seminar 4	Session: Functional nanoparticles for bioceramic systems | Chair: J. Opitz (Fraunhofer IKTS, Germany)
8:30-8:50	Multi-ion-doped mesoporous bioactive glass particles T. Matic (University of Belgrade, Serbia)
8:50-9:10	Multifunctional magnetic mesoporous silica-enriched biopolymer sponges for controlled drug delivery and hyperthermia Z. Vargas-Osorio (Alexander Dubcek University of Trencín)
9:10-9:30	Nanoparticle- Based Electrochemical Detection of Genetic Biomarkers Using Surface-Localized Nucleic Acid **Amplification for Ultrasensitive and Rapid Diagnosis** J. H. Lee (Hanyang University, South Korea)
9:30-9:50	Optical coherence tomography - a game changer for **visualization of calcific transformation in aortic valve** tissue cultures? C. Dittfeld (Technische Universität Dresden, Germany)
9:50-10:10	**Tailoring Modified Nanodiamond Suspensions for** Biomedical Coatings: Surface Functionalization, Size Control, and Stability Assessment A. I. Garcia Zintzun (Fraunhofer IKTS, Germany)

S11) Ceramics and construction materials for building applications / Silicate ceramics / Art + Archeology

Monday, September 1, 2025

Room: Conference 7	Session: Sustainable cements, alternatives and geopolymers | Chair: J.-M. Tulliani (Politecnico die Torino, Italy)
11:00-11:25	Aqueous carbonation of industrial by-products and their potential as Supplementary Cementitious Material P. Palmero (Politecnico di Torino, Italy)
11:25-11:45	Interest of biochar additions to cementitious materials J.-M. Tulliani (Politecnico di Torino, Italy)

11:45-12:05	Multi-physics investigation of the setting process of gypsum S. Meille (MATEIS Laboratory, France)
12:05-12:25	Functionalized carbon material in cement-based composites, a multivariate approach C. Amata (Politecnico di Torino, Italy)
12:25-12:45	**Recent advances in the research of nanomodified magnesium oxychloride cement-based composites** A.-M. Lauermannová (University of Chemistry and Technology Prague, Czechia)
12:45-13:05	Geopolymer foam A. Fiolet (Imerys, France)
14:15-14:35	Geopolymer Mortars from Thermally Activated Clayey Laterite Soil: Synthesis Condition and Characterization O. Cengiz (Afyon Kocatepe University, Turkey)

Room: Conference 7	Session: Novel and sustainable construction materials & porcelain stoneware I | Chair: A. Fiolet (Imerys, France)
14:35-14:55	**Geopolymer based extrusion of fine natural stone sands** D. Werner (Fraunhofer IKTS, Germany)
14:55-15:15	Recycling and reuse of GFRP for the production of clay bricks J. König (Jožef Stefan Institute, Slovenia)
15:15-15:35	Weak alkali activation supporting the conversion of **vitrified bottom ash into sustainable construction** material E. Bernardo (University of Padova, Italy)
15:35-15:55	Ceramic sanitaryware waste as a raw material for mineral wool production T. Kronberg (Åbo Akademi University, Finland)

Room: Conference 7	Session: Novel and sustainable construction materials & porcelain stoneware II | Chair: A. Fiolet (Imerys, France)
16:30-16:50	Mineral Foam: a clever alternative to produce optimized insulating materials with calcium aluminates and metakaolin J.-N. Bousseau (Imerys, France)
16:50-17:10	Engineered Living Materials - Novel biogenic building and construction materials for CO_2 **fixation** M. Ahlhelm (Fraunhofer IKTS, Germany)
17:10-17:30	**Vitrification paths in porcelain stoneware: how the bulk** chemical composition affects the sintering behaviour S. Conte (CNR-ISSMC, Italy)
17:30-17:50	Limitation of the shrinkage reduction in porcelain stoneware large slabs A. Fiolet (Imerys, France)
17:50-18:10	Recycling Man-Made Vitreous Fibres hazardous waste for the manufacture of traditional ceramics: sintering mechanisms, phase transformations and microstructure of porcelain stoneware S. Conte (CNR-ISSMC, Italy)

Tuesday, September 2, 2025

Room: Conference 7	Session: Art and glass | Chair: M. Ahlhelm (Fraunhofer IKTS, Germany)
8:30-8:50	When Europe taught polychrome enamelling techniques to Japan and China P. Colomban (Sorbonne Université, France)
8:50-9:10	Effects of granite and food wastes addition on porcelain rheological and technological properties for design jewellery and accessories production by direct ink writing C. Molinari (CNR - Issmc, Italy)
9:10-9:30	On-site micro-XRF mapping of enamelled porcelain paintings and sculpture. First demonstration P. Colomban (Sorbonne Université, France)
9:30-9:50	**Development of coloured solar reflective tiles for the** sustainable restoration of Italian building heritage of the Second Twentieth Century E. I. Cedillo Gonzalez (University of Modena and Reggio Emilia, Italy)

Room: Conference 7	Session: Tiles and slabs | Chair: M. Ahlhelm (Fraunhofer IKTS, Germany)
10:10-10:30	Novel glazes for ceramic tiles: effects of Ca- and Ba-based feldspar crystals on surface and aesthetic performances R. Fabris (Università degli studi di Bologna, Italy)
11:00-11:20	Use of confocal microscopy to assess surface topography of different ceramic tile pressed compacts E. Sanchez (University Jaume I, Spain)
11:20-11:40	Roof tiles manufacture. Inter-relationships between raw materials selection, pre-treatment, and processing parameters with microstructure and gelivity. Resource and environmental impact optimization F. Regnotto (Università di Padova, Italy)
11:40-12:00	Suitability of zeolitized tuff use in porcelain stoneware tiles production C. Molinari (CNR - Issmc, Italy)
12:00-12:20	Towards Laser-Assisted Defect Mitigation in Sanitaryware and Ceramic Slabs B. Yazırlı (Kaleseramik, Turkey)
12:20-12:40	Use of Syenites from Yozgat (Türkiye) as Feldspathic Materials for Production of Porcelain Stoneware Tiles K. Kayaci (Kaleseramik, Turkey)
12:40-13:00	Laser Surface Sintering of Ceramics under Controlled Volume Temperature G. F. de la Fuente (CSIC, Spain)

S12) Advanced characterization techniques

Monday, September 1, 2025

Room: Seminar 5	Session: Spectroscopical and diffraction methods I | Chair: B. Matthey (Fraunhofer IKTS, Germany)
11:00-11:20	Direct determination of dopant energy levels in oxides by x-ray photoelectron spectroscopy A. Klein (Technische Universität Darmstadt, Germany)
11:20-11:40	Observation of dislocation-related crystal symmetry reduction in single-crystal potassium niobate using Raman spectroscopy F. Drechsler (TU Bergakademie Freiberg, Germany)
11:40-12:00	Investigation of the network formation mechanism of colloidal boehmite by complementary spectroscopic and crystallographic analysis techniques N. L. Grosch (Universität Koblenz, Germany)
12:00-12:20	An Optical Technology for Inline Defect and Porosity Control in Ceramics L. Chen (Fraunhofer IKTS, Germany)

Room: Seminar 5	Session: Spectroscopical and diffraction methods II (operando/in-situ) | Chair: B. Matthey (Fraunhofer IKTS, Germany)
14:15-14:40	Transformation- Induced Plasticity and Shape Memory in Ce-stabilized zirconia: Compression testing of micro-pillars using in-situ Laue micro-diffraction and electron microscopy J. Chevalier (INSA Lyon, France)
14:40-15:00	**In-situ characterization of local fields in alumina using** Raman and luminescence piezospectroscopy J. Chalony (INSA Lyon, France)

Room: Seminar 5	Session: Advanced mechanical characterization I | Chair: T. Lube (Montanuniversität Leoben, Austria)
16:30-16:50	Determination of fracture toughness of ceramic thin plates and substrates – a critical comparison of methods H. Kühl (Technische Hochschule Nürnberg Georg Simon Ohm, Germany)
16:50-17:10	Extended statistical subcritical crack growth parameters evaluation method for dynamic 4 point bending test W. Beckert (Fraunhofer IKTS, Germany)
17:10-17:30	Nanohardness and strength of grains and grain boundaries in dual – phase boride/carbide high entropy ceramics J. Dusza (Institute of materials research, SAS, Slovakia)
17:30-17:50	Studying interface fracture of SiC composites locally using novel micromechanical specimens J. Schwiedrzik (Empa, Switzerland)

Tuesday, September 2, 2025

Room: Seminar 5	Session: Advanced microscopy I | Chair: M. Herrmann (Fraunhofer IKTS, Germany)
8:30-8:50	A new analytical ion microscope for high-resolution imaging and SIMS nano-analytics P. Gnauck (Raith GmbH, Germany)
8:50-9:10	High-resolution computer laminography as a powerful tool for non-destructive testing of Itcc multilayer components D. Hofmann (Fraunhofer IKTS, Germany)
9:10-9:30	Evaluation of the quality of a ceramic component by homogeneity assessment from data provided by Optical Coherence Tomography M. Kopycinska-Müller (Fraunhofer IKTS, Germany)
9:30-9:50	Porosity thickness calculation from uranium dioxide tomography images E. Delobre (CEA Cadarache, France)

9:50-10:10	Advancing microstructural characterisation of ceramic cores for aerospace: from state-of-the-art to in-situ synchrotron X-ray computed tomography P. Campos de Oliveira (Bundesanstalt für Materialforschung und -prüfung (BAM), Germany)

Room: Seminar 5	Session: Advanced microscopy II | Chair: T. Block (Fraunhofer IKTS, Germany)
11:00-11:20	Investigating Microstructural Details of Barium Zirconate Titanate-Barium Calcium Titanate Thin Films B. Malic (Jožef Stefan Institute, Slovenia)
11:20-11:40	Mechanically Seeded Dislocations Promote Room-temperature Plasticity in Ceramics X. Fang (Karlsruhe Institute of Technology, Germany)
11:40-12:00	Illuminating Dislocation Mechanisms in Ceramics via Dark-Field X-ray Microscopy A. Zelenika (KIT, Germany)
12:00-12:20	Complexion transitions in rare earth element-doped alumina A. Erlacher (Empa, Switzerland)

Room: Seminar 5	Session: Advanced mechanical characterization II | Chair. J. Dusza (Institute of materials research, SAS, Slovakia)
14:15-14:40	**Analysis of eigenmodes of well-defined elastic specimens** P. Supancic (Montanuniversität Leoben, Austria)
14:40-15:00	Standardisation on Technical Ceramics in Europe in the future – why and how should I participate? A. Rendtel (VKI, Germany)
15:00-15:20	X-NRT: the cross-notched roller strength test for ceramic cylinders T. Lube (Montanuniversität Leoben, Austria)
15:20-15:40	Mechanical characterization of thin ceramic substrates **at temperatures up to 850 °C** C. Steinborn (Fraunhofer IKTS, Germany)

Thursday, September 4, 2025

Room: Seminar 3	Session: Physical and thermophysical properties I | Chair: T. Zienert (TU Bergakademie Freiberg, Germany)
8:30-8:50	Evaluation of thermophysical parameters in inhomogeneous materials D. Beitelschmidt (Netzsch Gerätebau GmbH, Germany)
8:50-9:10	Oxide-based Melts Enthalpy Measurement at Very High Temperature by Aerodynamic Levitation A. Crochetet (CNRS/University of Orleans, France)
9:10-9:30	**Solidification phenomena in levitated Al_2O_3-ZrO_2 melts** J. Nießen (RWTH Aachen, Germany)
9:30-9:50	Investigation of the alumina-magnesia reactive sintering kinetics for innovative refractory ceramics at high temperatures M. Yehualaw (Arts et Metris, Norway)

Room: Seminar 3	Session: Physical and thermophysical properties II | Chair: T. Gestrich (Fraunhofer IKTS, Germany)
11:00-11:20	Investigation of the impact of hydrogen and hydrogen combustion atmosphere on additive manufactured alumina in the high-temperature range K. Markuske (TU Bergakademie Freiberg, Germany)
11:20-11:40	Sources of uncertainty in determination of densities and porosities of ceramic foams C. Voigt (TU Bergakademie Freiberg, Germany)
11:40-12:00	Space charge measurements in ceramics with the pulsed electroacoustic method: Design and validation of an experimental setup X. Ma (Fraunhofer IKTS, Germany)

S13) Modeling and digitalization of materials and processes

Wednesday, September 3, 2025

Room: Seminar 5	Session: Digitalization approaches in ceramic industry | Chair: C. Wunderlich (Fraunhofer IKTS, Germany)
11:00-11:25	Machine Learning in ceramics D. Krautz (Ceramtec, Germany)
11:25-11:45	Towards Digitalization in Ceramic Manufacturing – Optimizing the Ferrite-embedded LTCC Modules Q. K. Muhammad (VIA Electronic GmbH, Germany)
11:45-12:05	Digital design and optimization of the thermal processing of ceramics G. Seifert (Fraunhofer Institute for Silicate Research ISC, Germany)
12:05-12:25	A Machine Learning Approach to Finite Element Modelling of Sintering Deformation using Densification Data B. Saleem (University of Leicester, UK)
12:25-12:45	Strategy to predict mechanical properties of alumina ceramics by using AI-determined microstructures M. Fukushima (National Institute of Advanced Industrial Science and Technology (AIST), Japan)
12:45-13:05	CeraCode - marking solution for ceramics M. Heymann (Fraunhofer IKTS, Germany)

Room: Seminar 5	Session: Simulation and machine learning for optimized batteries | Chair: M. Heymann (Fraunhofer IKTS, Germany)
14:15-14:35	Optimizing the battery cathode coating process using combined CFD and machine learning approaches S. H. Lam (University of Leeds, UK)
14:35-14:55	**Modelling of influence of electrode calendering on** electrochemical-thermal performance of lithium-ion batteries M. Jabbari (University of Leeds, UK)
14:55-15:15	DEM analysis of twin-screw extruders for solvent-free battery electrode manufacturing K. Shi (University of Leeds, UK)
15:15-15:35	Multi-physics modelling of lithium-ion battery electrode drying M. Jabbari (University of Leeds, UK)

Room: Seminar 5	Session: Simulation of energy system components | Chair: R. Weidl (Fraunhofer IKTS, Germany)
16:30-16:50	Simulation of transverse thermoelectric generators based on oxide ceramics A. Ibrahim (Fraunhofer IKTS, Germany)
16:50-17:10	Designing ferroelectric composites with improved **performance and reliability using the finite element** method J. Roscow (University of Bath, UK)
17:10-17:30	Unraveling Structural Disorder and Oxide Ion Dynamics for $La_2Mo_2O_9$ (LAMOX) with high-temperature in situ ^{17}O NMR and DFT P. Groszewicz (Helmholtz-Zentrum Berlin für Materialien und Energie (HZB), Germany)

Thursday, September 4, 2025

Room: Seminar 5	Session: Simulation of structures and mechanisms I | Chair: H. Neubert (Fraunhofer IKTS, Germany)
8:30-8:50	A structural property-based semi-empirical approach to molar volume modeling in solid and liquid solutions Y. Kang (Eindhoven University of Technology, The Netherlands)
8:50-9:10	Unraveling the Plastic Deformation Mechanism in Oxide Glasses via Atomistic Simulation and Coarse-Grained Analysis J. Zhang (Tampere University, Finland)
9:10-9:30	**Finite element analysis of flash sintering with nested** machine learning R. He (University of Leicester, UK)
9:30-9:50	Multiscale modelling of sintering and prediction of re**sidual stresses in co-sintered fused-filament-fabricated** 17-4PH/TZ-3YS-E metal-ceramic composites M. Zhou (RWTH Aachen University, Germany)

Room: Seminar 5	Session: Simulation of structures and mechanisms II
11:00-11:20	Oxygen vacancy formation energetics in MgO-based high entropy oxides from DFT and experimental validation D. Aidhy (USA)
11:20-11:40	Addressing the challenge of fracture stress evaluation in nonlinear bending tests S. Schönfelder (Hochschule für Technik, Wirtschaft und Kultur Leipzig (HTWK Leipzig) Germany)
11:40-12:00	Density Functional Theory study of doped lanthanum manganite structures I. Tokovic (University of Novi Sad, Serbia)
12:00-12:20	Modelling and simulation of residual stresses of superhard cubic boron nitride ceramic composites L. Maier (Fraunhofer IKTS, Germany)

S14) Ceramic membranes, water & solvent treatment and gas separation

Monday, September 1, 2025

Room: Seminar 3	**Session: Pore design and surface modification | Chair:** L. Winnubst (University of Twente, The Netherlands)
11:00-11:25	Pore design in ceramics for selective transport and separation in membrane application I. Voigt (Fraunhofer IKTS, Germany)
11:25-11:45	Increasing hydrophobicity of ceramic membranes by post-deposition nitrogen annealing of molecular layer deposition grown hybrid layers H. Sondhi (University of Twente, Netherlands)
11:45-12:05	Development and demonstration of a ceramic mem**brane-based process to re-refine used lubricant oil** A. Buekenhoudt (VITO, Belgium)
12:05-12:25	Recovery of long chain dicarboxylic acid from fermentation broth: Tight membrane extraction based downstream processing P. Mondal (VITO, Belgium)
12:25-12:45	Brushing Up on Filtration: Polymer Brushes on Ceramic Membranes! M. Muhammad (VITO, Belgium)
12:45-13:05	**Treatment of saline waters by modified ceramic mem**branes M. Weyd (Fraunhofer IKTS, Germany)

Room: Seminar 3	**Session: Membranes for liquid filtration |** Chair: C. Göbbert (Nanostone Water GmbH, Germany)
14:15-14:40	The extruded ceramic membrane support and nanopore coating: Recent developments and prospect I.-H. Song (Korea Institute of Materials Science, South Korea)
14:40-15:00	Development and characterization of ceramic mem**branes for nanofiltration** H. J. Lee (Korea Institute of Materials Science, South Korea)
15:00-15:20	New liquid applications for ceramic UF- and NF-membranes C. Günther (Rauschert Kloster Veilsdorf GmbH, Germany)
15:20-15:40	Ceramic membrane based process for treatment of septic tank supernatant S. Bandyopadhyay (Vishva-Bharati University, India)
15:40-16:00	Defect- Free CeO_2 **Ultrafiltration Membranes with Sub- 4** nm Channels: In-Situ Ion-Mediated Sol-Gel Assembly and Size-Exclusion Performance H. Zhou (Nanjing Tech University, China)

Room: Seminar 3	Session: Zeolite and MOF membranes | Chair: I. Voigt (Fraunhofer IKTS, Germany)
16:30-16:55	Ultra-thin Zeolite Membranes for gas separation J. Hedlund (Luleå University of Technology, Sweden)
16:55-17:15	**High-performance zeolite membranes for efficient CO_2** separation from N_2 and CH_4 in industrial applications A. Taherizadeh (Fraunhofer IKTS, Germany)
17:15-17:35	Highly Permeable DDR Membranes for CO_2/CH_4 Separation L. Yu (Luleå University of Technology, Sweden)
17:35-17:55	Molten MOF Membranes – ZIF-Glasses for Highly Precise Molecular Sieving A. Knebel (University of Jena, Germany)

Tuesday, September 2, 2025

Room: Seminar 3	Session: Membrane supports | Chair: S. Bandyopadhyay (Vishva-Bharati University, India)
8:30-8:50	Valorization of natural materials in development of **ceramic microfiltration membranes for wastewater** treatment B. Achiou (University Hassan II Casablanca, Morocco)
8:50-9:10	Additively manufactured ceramic membranes and complex support structures inspired by nature H. G. Pensel (Ernst Abbe Hochschule Jena, Germany)
9:10-9:30	Eutectic composites from the ZrO_2-MgO-CaO system: towards porous ceramic membrane supports R. I. Merino (Consejo Superior de Investigaciones Científicas, Spain)
9:30-9:50	Achieving Ultra-High Strength in Alumina Porous Ceramic Supports via Well-Dispersed Nano-Silica at Low-Temperature M. Liu (Nanjing Tech University, China)
9:50-10:10	From the cradle to the full grown – the path to a new product line A. G. Roth (Nanostone Water GmbH, Germany)

Room: Seminar 3	Session: Catalytic membranes and membrane reactors | Chair: J. Serra (Instituto de Tecnología Química, CSIC, Spain)
11:00-11:20	**Enhancing Photocatalytic Efficiency through the** Integration of Foam Ceramic Filters with Photocatalytic Coatings F. Žíla (Lanik s.r.o., Czechia)
11:20-11:40	**Aluminum oxide-based microfiltration membranes with** electrochemically generated nano-TiO_2 coating for hybrid water treatment U. Langklotz (Fraunhofer IKTS, Germany)
11:40-12:00	Development of porous catalytic ceramics for biogas production V. Bouchaib (Université de Limoges, France)
12:00-12:20	Ceramic Membranes for Membrane Reactor Applications J. Richter (Fraunhofer IKTS, Germany)
12:20-12:40	Insights from module autopsy and post-test analysis **of Jülich's first Oxygen transport membrane reactor** module F. Schulze-Knüppers (Forschungszentrum Jülich GmbH, Germany)
12:40-13:00	Development of high-temperature membrane reactor materials for solar-driven production of syngas A. J. Carrillo (Universitat Politècnica de València, Spain)

Room: Seminar 3	Session: Hydrogen transport membranes | Chair: J. Hedlund (Luleå University of Technology, Sweden)
14:15-14:40	Fabrication of Proton Conducting Membranes by Tape Casting and Additive Manufacturing for Dehydrogenation of Alkanes W. A. Meulenberg (Forschungszentrum Jülich GmbH, Germany)
14:40-15:00	Zeolite and carbon membranes in H2-economy H. Richter (Fraunhofer IKTS, Germany)
15:00-15:20	Ceramic Membranes: Strategies to Improve Hydrogen Permeation E. Mercadelli (National Research Council of Italy, Italy)
15:20-15:40	Analytical expressions for permeation and defect **fluxes in proton conducting membranes based on** Bariumzirconate materials J. Restrepo Lozano (University of Twente, Netherlands)
15:40-16:00	Development of ceramic gas separation membranes to obtain pure hydrogen from biomass syngas V. Marzaroli (RSE S.p.A., Italy)

Room: Seminar 3	Session: Microporous gas separation membranes | Chair: W. A. Meulenberg (Forschungszentrum Jülich GmbH, Germany)
16:30-16:55	Bio-inspired fabrication of carbon molecular sieve membranes T. van Gestel (Forschungszentrum Jülich GmbH, Germany)
16:55-17:15	Advancing Solvent Dehydration with Innovative HybSi® **AR Membranes: Economic and Environmental Benefits** of Pervaporation I. Lammerink (Pervatech BV, Netherlands)
17:15-17:35	Acid Resistant Hybrid Silica (HybSi) Membrane for Enhanced **Esterification Reaction through Pervaporation:** From Lab to Pilot-Scale Multi-Channel Membranes M. Nikbakht Fini (TNO, Netherlands)
17:35-17:55	Cold sintered geopolymer-zeolite based solid sorbents for selective CO_2 adsorption C. Di Pietro (National Research Council of Italy, Italy)

Wednesday, September 3, 2025

Room: Seminar 3	Session: Oxygen transport membranes | Chair: M.-L. Fontaine (Sustainable Energy Technology, Norway)
11:00-11:20	Development of glass-ceramic sealing layers for the integration of planar Oxygen Transport Membranes in modules for pure oxygen production P. Fedeli (RSE S.p.A., Italy)
11:20-11:40	Enhanced Oxygen Permeation in La_2NiO_{4+d} Membranes via Nanorod-Based Crystal Facet Engineering and Microemulsion-Based Synthesis M. Wellmann (Leibniz Universität Hannover, Germany)
11:40-12:00	Oxygen Production using MIEC-Membranes and Steam Circulation Process K. Khajryan (TU Bergakademie Freiberg, Germany)
12:00-12:20	Enhanced anisotropic oxygen transport in Ruddlesden-Popper oxide ceramic membranes by means of grain **orientation in a magnetic field** A. Feldhoff (Leibniz Universität Hannover, Germany)
12:20-12:40	Analysis of gas transport in oxygen permeation experiments considering asymmetric membrane structures and 3D-test cell geometry by CFD K. Wilkner (Forschungszentrum Jülich GmbH, Germany)
12:40-13:00	Oxygen Generators by POXOS® - Pros and Cons R. Kriegel (Fraunhofer IKTS, Germany)

Room: Seminar 3	Session: Novel Membrane preparation methods | Chair: A. Buekenhoudt (VITO, Belgium)
14:15-14:40	Emerging applications and novel developments in Atmospheric-Pressure Atomic Layer Deposition of high-porosity materials H. Sondhi (University of Twente, Netherlands)
14:40-15:00	Textile wastewater treatment using low-temperature plasma technology with integrated alumina foam ceramic S. Schönekerl (Picon GmbH, Germany)
15:00-15:20	Negatively charged ceramic membranes made by CVD of SiC on an alumina support B. Heijman (Delft University of Technology, Netherlands)

Room: Seminar 3	Session: New membrane materials | Chair. F. Drago (Ricerca sul Sistema Energetico RSE S.p.A., Italy)
16:30-16:55	Synthesis and characterization of pure Ti_4O_7 Magnéli phase for water anodic oxidation treatment A. Gallois (Université de Montpellier, France)

16:55-17:15	E-membranes - a novel approach to fabricate alumina **membranes for ion filtration** U. Langklotz (Fraunhofer IKTS, Germany)
17:15-17:35	Water treatment through the use of geopolymer-based adsorbents V. Medri (National Research Council of Italy, Italy)

S15) Transparent ceramics

Monday, September 1, 2025

Room: Seminar 6	Session: Challenges and opporunities of transparent ceramic materials | Chair: M. Rubat du Merac (Consultant Technical Ceramics, Canada)
11:00-11:25	Research and Perspectives of Transparent Optical Ceramics Y. Wu (Alfred University, USA)
11:25-11:45	Transparent ceramics with large sizes or complex shapes for extreme environment applications J. Zhang (Chinese Academy of Sciences, China)
11:45-12:05	Elaboration of transparent AION ceramics: role of the nitrogen atmosphere and Al_2O_3/AlN ratio on the reaction sintering mechanism N. Kerkad (University of Limoges, France)
12:05-12:25	Advancements in Transparent $MgAl_2O_2$ Spinel Ceramics for Fusion Reactor Window A. Hawel (Université Sorbonne paris nord, France)

Room: Seminar 6	Session: Advanced manufacturing of transparent ceramics I | Chair: S. Begand (Fraunhofer IKTS, Germany)
14:15-14:35	Spark plasma sintering of lithium aluminate T. Thor (UCT Prague, Czechia)
14:35-14:55	High-entropy aluminium garnets with photoluminescent properties prepared via combustion synthesis T. Havlikova (Brno University of Technology, Czechia)

Room: Seminar 6	Session: Advanced manufacturing of transparent ceramics II | Chair: S. Begand (Fraunhofer IKTS, Germany)
16:30-16:50	Cold Sintering of Highly Transparent Calcium Fluoride Nanoceramic for High-Power Lighting Y. Fan (Donghua University, China)
16:50-17:10	Efforts Combating greying of Mg-spinel in graphite HIP A. Magnusson (Quintus Technologies, Sweden)
17:10-17:30	The importance of layer compatibility in laminar structures for transparent ceramics A. Najafzadehkhoee (Slovak Academy of Sciences, Slovakia)
17:30-17:50	Melt Growth of High Melting Point Oxide Single Crystals: From W Crucibles and Cold Crucibles A. Yoshikawa (Tohoku University, Japan)

Tuesday, September 2, 2025

Room: Seminar 6	Session: Transparent ceramics for optical applications | Chair: L. Esposito (CNR ISSMC, Italy)
8:30-8:50	From well-known polycrystalline transparent ceramics to novel compositions – a journey in pursuit of advanced optical materials -part I. Lecture dedicated to Professor Georges Boulon Y. Guyot (Université Lyon1, France)
8:50-9:10	From well-known polycrystalline transparent ceramics to novel compositions – a journey in pursuit of advanced optical materials -part II. Lecture dedicated to Professor Georges Boulon M. Guzik (University of Wroclaw, Poland)
9:10-9:30	Optimizing LiF-assisted Spark Plasma Sintering processing for highly translucent passive and Nd^{3+}-doped cubic $BaLaLiWO_6$ micro-ceramics K. Prokop (University of Wroclaw, Poland)
9:30-9:50	Doping transparent ceramics: A compromise between optical and mechanical properties R. Macaigne (Solcera, France)
9:50-10:10	Spectroscopic characterizations of Er^{3+}-doped La_2O_2S phosphors M. Poitou (University of Rennes, France)

Room: Seminar 6	Session: Transparent ceramics for laser applications | Chair: S. Hayun (Ben-Gurion University of the Negev, Israel)
11:00-11:25	Progress and outlook on rare earth doped sesquioxide laser ceramics R. Boulesteix (Univ. Limoges, France)
11:25-11:45	Additive manufacturing technique for gradient-doped transparent laser ceramics H. Ji (Chinese Academy of Sciences, China)
11:45-12:05	Doped IR-transparent $Y_3Fe_5O_{12}$ (YIG) Ceramics for Laser Applications M. Drüe (Fraunhofer IKTS, Germany)
12:05-12:25	Advancements in laser waveguides by a hybrid ceramic process F. Picelli (Institute of Science, Technology, and Sustainability for Ceramics ISSMC-CNR, Italy)
12:25-12:45	Fabrication of c-axis aligned Nd:FAP transparent **ceramics with fine crystal grains** H. Furuse (National Institute for Materials Science, Japan)

Room: Seminar 6	Session: Transparent ceramics for IR applications | Chair: M. Drüe (Fraunhofer IKTS, Germany)
14:15-14:35	Transparent Y_2O_3, MgO and $MgAl_2O_4$ Ceramics for Infrared Sensor Applications A. Frickel (Fraunhofer IKTS, Germany)
14:35-14:55	Investigation of new infrared transparent ceramic materials O. Merdrignac-Conanec (University of Rennes, France)
14:55-15:15	New synthesis of tellurate ceramic powders at room temperature by the co-precipitation method G. Guy (University of Limoges, France)
15:15-15:35	Ga_2Se_3 **infrared transparent ceramics densified by** Spark Plasma Sintering M. Chevereau (University of Rennes, France)

S16) ECerS-ACerS Joint Symposium: Emerging leaders in advanced shaping of ceramics and environmental technologies

Tuesday, September 2, 2025

Room: Hall 6	Session chairs: R. Bordia (Clemson University, USA) and T. Graule (ECerS)
16:30-17:00	Combining rapid debinding and sintering of additively manufactured ceramics G. Franchin (Padova University, Italy)
17:00-17:30	Property-constrained generative modeling of microstructures in sintering-assisted additive manufacturing of ceramics U. Schiller (University of Delaware, USA)
17:30-18:00	**Additive Manufacturing of Patient Specific Implants** made of Ductile Ce-TZP based Composites: Advances, Opportunities and Challenges H. Reveron (INSA Lyon, France)

Wednesday, September 3, 2025

Room: Hall 6	Session chairs: R. Bordia (Clemson University, USA) and T. Graule (ECerS)
11:00-11:30	Novel Ceramics by Design: Assembly and Fusion of 2D Ceramic Building Blocks B. Anasori (Purdue University, USA)
11:30-12:00	MAX phases for Concentrated Solar Power (CSP) J. Gonzalez (LCTS, France)
12:00-12:30	Stressing interfaces to change microstructures K. van Benthem (University of Alabama, USA)
12:30-13:00	Photo-Ionic Materials: Controlling Ion Fluxes with Light N. Perry (University of Illinois Urbana Campaign, USA)

Room: Hall 6	Session chairs: M. Ferraris (Politecnico di Torino, Italy) and R. Todd (University of Oxford, UK)
14:15-14:45	3D-Printing of highly transparent alumina ceramics M. Stuer (EMPA, Switzerland)
14:45-15:15	Multi-ceramic additive manufacturing and its core technology elements H.-S. Yun (KIMS, South Korea)
15:15-15:45	Additive manufacturing of lead-free piezoelectric ceramics A. Haugen (Danish Technical University, Denmark)

Room: Hall 6	Session chairs: M. Ferraris (Politecnico di Torino, Italy) and F. Cambier (ECerS-JECS Trust, Belgium)
16:30-17:00	Progress in ceramic matrix composites: innovations in functional additives and manufacturing technologies. P. Wiecińska (Warsaw University of Technology, Poland)
17:00-17:30	$Sr_{1-x}Ca_xTi_{1-y}Fe_yO_{3-\delta}$ perovskites: a promising class of MIEC materials for Oxygen Transport Membranes P. Fedeli (RSE, Italy)
17:30-18:00	Opportunities and challenges with functional molecular ceramics J. Walker (Norwegian University of Science and Technology, Norway)

S17) International Sodium Battery Symposium SBS6

Wednesday, September 3, 2025

Room: Hall 5	Session: Plenary | Chair: M. Kusnezoff (Fraunhofer IKTS, Germany)
8:30-8:55	From lithium to sodium – metal anodes on solid electrolytes J. Janek (Justus Liebig University Giessen, Germany)
8:55-9:15	Advancements in sodium alumina solid-state batteries U. Ahrens (Altech Batteries GmbH, Germany)
9:15-9:35	The challenges and methodology to scale-up sodium metal cloride battery production line Z. Yu (AMPower, Germany)
9:35-9:55	Na-based all-solid-state batteries – advanced processing strategies M. Finsterbusch (Forschungszentrum Jülich GmbH, Germany)
9:55-10:15	From system requirements to material development: progress and remaining challenges of sodium-ion batteries from an automotive OEM perspective J. Sprengelmeyer and J. Baumbach (Volkswagen AG, Germany)
10:15-10:35	Cathode materials for sodium ion batteries via thermal processes: from lab scale to industrial production K. Wegner (IBU-tec advanced materials AG, Germany)

Room: Hall 5	Session: Liquid electrolyte Na-ion batteries | Chair: P. Adelhelm (HU Berlin, Germany)
11:00-11:20	Advancing high-performance, cost-effective hard carbon to meet global Na-ion battery demand H. Dong (Ingevity Corporation, USA)
11:20-11:40	**Investigation of surface-modified hard-carbon materials** for enhanced performance in sodium ion battery full-cells utilizing atmospheric pressure chemical vapor deposition J. Kühn (Technical University Dresden, Germany)
11:40-12:00	Constructing core-shell morphologies to discover the limits of sodium storage in carbon anodes S.-H. Wu (Bundesanstalt für Materialforschung und -prüfung, Germany)
12:00-12:20	Silicon oxycarbide composites SiOC/X (X = S, P, Sn and Sb) as promising anode materials for sodium-ion batteries G. Chen (TU Berlin, Germany)
12:20-12:40	Carbon/Titanium-based composite materials as negative electrodes for sodium-ion batteries Y. Zoizou (CEA-Liten Grenoble, France)
12:40-13:00	Highly reversible anode for LIB and NIB based on oxidized Sn-doped MAX phases G. Brugnetti (Ricerca sul Sistema Energetico, Italy)

Room: Hall 5	Session: Liquid electrolyte Na-ion batteries | Chair: J. Janek (Justus Liebig University Giessen, Germany)
14:00-14:20	Dry electrode processing of electrodes and recent advancements in multi-layer pouch cell development for sodium ion batteries T. Boenke (Fraunhofer Institute for Materials and Beam Technology IWS, Germany)

14:20-14:40	Effect of transition metal substitution in layered iron chalcogenides on the reversibility of intercalation processes of Na-Lewis base solvates T. Chabło (Warsaw University of Technology, Poland)
14:40-15:00	Humidity sensitivity and redrying recovery of commercial sodium-ion cathode material $NaNi_{1}/_{3}Fe_{1}/_{3}Mn_{1}/_{3}O_{2}$ D. Stepien (Humboldt-Universität zu Berlin, Germany)
15:00-15:20	Potassium substitution in layered Na-oxide cathodes for enhanced electrochemical performance D. Mikhailova (Leibniz Institute for Solid State and Materials Research, IFW Dresden, Germany)
15:20-15:40	Links between electrode properties and cell performance in commercial sodium-ion batteries L. Sander (Bundesanstalt für Materialforschung und -prüfung, Germany)

Room: Hall 5	Session: High-temperature sodium batteries | Chair: M. Schulz (Fraunhofer IKTS, Germany)
16:30-16:50	A novel metal-supported solid state electrolyte for next generation sodium metal chloride batteries D. Lima (LiNa Energy, United Kingdom)
16:50-17:10	**Tailored electrode architectures for enhanced specific** energy and cycling stability in high areal capacity sodium-zinc chloride batteries M. Heinz (Swiss Federal Laboratories of Materials Science and Technology, Switzerland)
17:10-17:30	Microstructural and compositional analysis of Ni–Cl_{2}/$NaAlCl_{4}$ cathodes in Na-ion batteries B. Uzakbaiuly (Fraunhofer IKTS, Germany)
17:30-17:50	Corrosion of Cu, Ni, Mo, stainless steel and Zn in $NaAlCl_{4}$ and $ZnCl_{2}$ N. Weber (Helmholtz-Zentrum Dresden–Rossendorf, Germany)
17:50-18:10	Multifunctional housings for sodium-type batteries J. Kerspe (TEB Dr. Kerspe GmbH, Germany)

Thursday, September 4, 2025

Room: Hall 5	Sodium solid state electrolytes | Chair: M. Finsterbusch (Forschungszentrum Jülich GmbH, Germany)
08:30-08:50	Tailoring grain-boundaries in nasicons to achieve superior ionic conductivity ans dendrite tolerance Q. Ma (Forschungszentrum Jülich GmbH Institute of Energy Materials and Devices, Germany)
08:50-09:10	Research on technologies to enhance the electrochemical properties of sodium-ion conductive NASICON **electrolytes and improve the efficiency of the manufac**turing process. J. Chun (Korea Institute of Ceramic Engineering & Technology, Korea)
09:10-09:30	The importance of the isovalent substitution for the study of Al-doping in NaSICONs G. Taveri (Centre for advance materials and applications, Slovakia)
09:30-09:50	Na-ion conducting silicates via the glass route for sodium solid-state batteries N. Schultz (Schott AG, Germany)
09:50-10:10	Current research on the most applied solid electrolyte: Na-beta"-alumina C. Dirksen (Fraunhofer IKTS, Germany)
10:10-10:30	Synthesis and testing of beta aluminate sodium electrolyte (BASE) for sodium ion battery development B. Mieller (Bundesanstalt für Materialforschung und -prüfung, Germany)

Room: Hall 5	Manufacturing of sodium solid state batteries | Chair: M. Heinz (Swiss Federal Laboratories of Materials Science and Technology, Switzerland)
11:00-11:20	Manufacture of Na-ion solid-state electrolytes for batteries C. Vania Domingos-Dlofo (Swansea University, United Kingdom)
11:20-11:40	Thin electrolyte layer of NASICON obtained by tape casting followed by spark plasma sintering for sodium all-solid-state battery S. Charrier (Université de Picardie Jules Verne, France)
11:40-12:00	**Aliovalent doping and flash sintering of NASICON-type** $Na_{3}Zr_{2}(SiO_{4})_{2}(PO_{4})$ for enhanced ionic conductivity L. M. Jesus (Federal University of São Carlos, Brazil)
12:00-12:20	Innovative cold sintering process of NaSICON composite solid electrolytes for sustainable solid-state sodium batteries S. Ferrer-Nicomedes (Universitat Jaume I, Spain)
12:20-12:40	Rapid screening of cathode materials through in-situ cathode fabrication in solid-state battery design Y. Guo (Forschungszentrum Jülich GmbH IMD-2, Germany)
12:40-13:00	Crosslinked polymer in NASICON porous ceramics: novel hybrid electrolytes for sodium solid-state batteries A. Varez (Universidad Carlos III de Madrid, Spain)
13:00-13:20	Investigation of the sintering and decomposition behavior of the NaSICON solid-electrolyte $Na_{3.4}Zr_{2.0}Si_{2.4}P_{0.6}O_{12.0}$ C. Hausner (Karlsruhe Institute of Technology, Germany)

Room: Hall 5	In-depth characterization and simulation | Chair: A. Varez (Universidad Carlos III de Madrid, Spain)
14:15-14:40	In-depth thermal analysis and thermal runaway modeling of sodium-ion batteries F. Graurock (IAV GmbH, Germany)
14:40-15:00	Understanding the dynamics of a thermal runaway event in sodium-ion battery cells via high-speed X-ray radiography N. Böttcher (Federal Institute for Materials Research and Testing, Germany)
15:00-15:20	Identifying degradation mechanisms from electrical stress and cyclic ageing in commercial sodium-ion cells P. Scharpman (Bundesanstalt für Materialforschung und -prüfung, Germany)
15:20-15:40	Operando NMR and complementary techniques for investigating sodium-ion battery materials: insights into sodiation, co-intercalation, and gas evolution A. Freytag (Humboldt Universität zu Berlin, Germany)
15:40-16:00	Characterization of overdischarged-related long-term degradation in commercial sodium-ion cells R. Leonhardt (Bundesanstalt für Materialforschung und -prüfung, Germany)

Room: Hall 5	Sodium metal electrodes | Chair: Mihails Kusnezoff (Fraunhofer IKTS, Germany)
16:30-16:50	Sodium metal deposition as a main aging mechanism in commercially available 18650-type sodium-ion battery cells K. Bischof (Zentrum für Sonnenenergie- und Wasserstoff-Forschung, Germany)
16:50-17:10	Sodium ion battery with thin NASICON ceramic separator and Na metal anode K. Wätzig (Fraunhofer IKTS, Germany)
17:10-17:30	Paste-like alkali-metal anodes in contact with solid electrolytes G. Graeber (HU Berlin, Germany)

17:30-17:50	Perspectives and challenges of sodium metal electrodes in ceramic sodium solid-state batteries A. Lowack (Fraunhofer IKTS / TU Dresden, Germany)
17:50	Closing remarks

S18) KCerS-ECerS Joint Symposium

Tuesday, September 2, 2025

Room: Hall 6	Session chairs: C. Sunyong Lee (KCerS) and T. Graule (ECerS)
8:30-8:45	Opening remarks C. Sunyong Lee (KCerS) and T. Graule (ECerS)
8:45-9:00	Introduction to Korean Ceramic Society H. Hwang (President of KCerS and Professor at Inha University, South Korea)
9:00-9:30	(K, Na)NbO_3-Based Ceramics for Multilayer Ceramic Capacitor Applications M. Kim (Korea Advanced Institute of Science and Technology (KAIST), South Korea)
9:30-9:45	Plastic deformation of cubic-boron nitride under shock wave impact A. Qadir (TU Bergakademie Freiberg, Germany)
9:45-10:00	Nickel nanoparticle-engineered interfaces enhance hydrogen oxidation in ceria electrodes J. Hong (Korea Institute of Science & Technology (KIST), South Korea)
10:00-10:15	Microwave-driven Vapor Diffusion: Advancing Low-Temperature Fabrication for Protonic Ceramic Electrochemical Cells D. Kim (Korea Advanced Institute of Science and Technology (KAIST), South Korea)
10:15-10:30	Enhancing the Performance of Direct Ammonia SOFCs with Advanced Catalysts D. J. Park (Korea Institute of Ceramic Engineering and Technology, South Korea)

Room: Hall 6	Session chairs: C. Sunyong Lee (KCerS) and T. Graule (ECerS)
11:00-11:30	International R&D innovation through Korea-Fraunhofer collaboration hub for science and technology (K-FAST) Y. Kim (Fraunhofer IAP, Germany)
11:30-12:00	Design of Ceramic Coatings against Molten Chloride Corrosion S. Kim (Hanyang University, South Korea)
12:00-12:15	Defect engineering in amorphous silica to develop sustainable and cost-effective catalysts for CO_2 methanation R. Shukla (Swiss Federal Laboratories for Materials Science and Technology (Empa), Switzerland)
12:15-12:30	Study of dry-deposited Cu-doped ZnO based NO_x gas sensor operable at room temperature S. Choi (Hanyang University, South Korea)
12:30-12:45	Versatile 3D Heterostructured $Ti_3C_2T_x$ - $H_2Ti_3O_7$ Electrocatalysts: A Multi-Functional Separator for High-Performance Lithium-Sulfur Batteries D. Lee (Korea University, South Korea)
12:45-13:00	Pore-minimizing shaping techniques for SiC-based high-solid-loading colloidal processing: Centrifugal casting and enhanced mechanical properties M.-S. Park (Korea Institute of Materials Science, South Korea)

K-FAST – Korea-Germany Research Synergy through GITCC Program and Program by KEIT

Monday, September 1, 2025

Room: Hall 6	
11:00-11:10	Welcome address (Prof. Härtling (Fraunhofer IKTS), congratulatory remarks (MOTIE/KIAT)
11:10-11:40	Mechanical battery recycling – all challenges resolved? U. Peuker (TU Bergakademie Freiberg / Institute MVTAT, Germany)
11:40-11:55	Status over Activities of K-FAST T.-Y. Han (Fraunhofer IKTS, Germany)
11:55-12:15	Development of Steel-Type Stainless Pouch for Lithium-Ion Batteries for Excellent Fire Safety, High Durability, and Robustness E. Kucukpinar (Fraunhofer IVV, Germany)
12:15-13:00	Networking opportunity

Room: Hall 6	Session: Showcase of projects selected under the 2024 GITCC program | Chair: Dr. Songhak Yoon (IWKS)
14:15-14:35	Digitalization of dry battery electrode (DBE) production for smart battery foundries business H. Heuer (Fraunhofer IKTS, Germany)
14:35-14:55	Laser Technologies for Manufacturing of Integrated Aluminum Gigacasting Parts for Future Mobility M. Stump (Fraunhofer IPT, Germany)
14:55-15:15	Future Production Systems: agile, smart, resilient H. Rentzsch (Fraunhofer IWU, Germany)
15:15-15:35	Development of an ultra-thin CFRP back plate for foldable displays M. Wilhelm (Fraunhofer ICT, Germany)
15:35-15:55	Cooling decarbonization: Development of new materials and coating processes for transparent films with near-infrared reflectance A. Görne (Fraunhofer IKTS, Germany)

Room: Hall 6	Session: Introduction of projects emerging from KEIT-led ceramic research programs | Chair: Prof. Thomas Härtling (Fraunhofer IKTS, Germany)
16:30-16:45	Development of ceramic membrane, components and process technologies for high purity hydrogen production above 99.99 % I.-H. Song (KIMS, South Korea)
16:45-17:00	Solid Oxide Cell Stack and System Development M. Kusnezoff (Fraunhofer IKTS, Germany)
17:00-17:15	Development of Electrolyte-Supported K-SOEC Cells (LSGM-based) @ KICET and Collaborative Electrochemical Evaluation & Diagnostics with IKTS: Progress and Outlook T. H. Shin (KICET, South Korea)
17:15-17:30	Strategy for the development of large-area ceramic membrane production as an enabler of a sustainable economy H. Richter (Fraunhofer IKTS, Germany)
17:30-17:40	R&D support program for ceramic industry and international collaboration by KEIT K.-H. Lee (KEIT, South Korea)
17:50-18:00	Summary of discussions and closing remarks

Student Speech Contest

Monday, September 1, 2025

Room: Hall 5	
11:00-11:20	Freeze-casting of polysiloxane-derived ceramics for CO_2 utilization K. Rauchenwald (TU Wien, Austria)
11:20-11:40	Oxidative Hydrothermal Treatment: A Sustainable Wet Oxidation Process for Recovery of Hydroxyapatite from Bovine Bones D. Coibion (University of Liège, Belgium)
11:40-12:00	Exploring electrical transport phenomena in sodium niobate-phosphate glasses and glass-ceramics S. Marijan (Ruder Boskovic Institute, Croatia)
12:00-12:20	Development and characterization of nanoparticle-in-fused glass rods prepared via the micro-pulling-down method H. Kindl (University of Chemistry and Technology Prague, Czechia)
12:20-12:40	Scaling Up Proton-Conducting Ceramic Cells: Demonstrated Performance in Large-Area Architectures H. Bohn (Technical University of Denmark, Denmark)
12:40-13:00	Towards Economical Post-Processing of Ceramic Vat Photopolymerization Prints N. Nurmi (Tampere University, Finland)

Room: Hall 5	
14:15-14:35	Fused Filament Fabrication of Silicon Carbide mirrors for space applications M. Gauthé (Safran REOSC, France)
14:35-14:55	**MAX phase composites with adjustable coefficient of** thermal expansion for precision glass moulding L. Gertlowski (RWTH Aachen University, Germany)
14:55-15:15	Dispersants and their effect on the mechanical properties of bulk hydroxyapatite parts A. Davison (TU Dublin, Ireland)
15:15-15:35	MOFs functionalization of 3D printed mullite architectures: hierarchically porous systems for CO_2 capture A. Bertero (Politecnico di Torino, Italy)
15:35-15:55	Effect of gallium content on stability and sinterability of amorphous calcium phosphate R. Vasiljevs (Riga Technical University, Latvia)

Room: Hall 5	
16:30-16:50	Stoichiometric control of functional properties in $(K,Na)NbO_3$-based bioceramics C. Guzzo (Norwegian University of Science and Technology (NTNU), Norway)
16:50-17:10	Dense Cr_3AlB_4 polycrystals fabricated via pressure-assisted reactive sintering J. Slominski (AGH University of Krakow, Poland)
17:10-17:30	High-entropy spinel oxides: insights into synthesis, tuneable properties, and applications E. Nidzovic (Vinca Institute of Nuclear Sciences, Serbia)
17:30-17:50	Novel joining approaches for (Hf-Zr-Nb-Ta-Ti)C high entropy carbides N. Hosseini (Institute of Inorganic Chemistry, Slovak Academy of Sciences, Slovakia)

Tuesday, September 2, 2025

Room: Hall 5	
8:30-8:50	**In situ Graphitisation of Cellulose Nanofibers in** ceramic matrix composites during rapid pressureless sintering N. Bhootpur (Jožef Stefan Institute, Slovenia)
8:50-9:10	Tailoring nanotopography and antibacterial properties **via fluoride incorporation into calcium phosphate** C. I. Arca García (Universitat Politècnica de Catalunya (UPC), Spain)
9:10-9:30	Highly complex ceramic cores for investment casting applications made possible by additive manufacturing A. Rosa (University of applied sciences and arts of southern Switzerland (SUPSI), Switzerland)
9:30-9:50	**Manufacturing the next generation of fibre reinforced** ceramic materials J. Guiking (University of Technology Eindhoven, The Netherlands)
9:50-10:10	Impact of Pt based Ceramic Catalyst Supports on Propane Dehydrogenation: Catalyst Upscaling and Performance Evaluation I. Su Okten Acar (Eskişehir Technical University, Turkey)
10:10-10:30	Production of Ceramic Matrix Composites for Multi-functional Applications B. Steadman (The University of Birmingham, UK)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Poster presentations

The poster session will take place in the exhibition hall at the poster area along with the industrial exhibition and during all breaks. Posters will be hung from Monday, September 1 until Thursday, September 4, 15:00.

Poster No.	Title	Presenter
S1-1	Microstructure and properties of alumina obtained by ultrafast high-temperature (UHS) and conventional sintering	A. Arun (University of Trento, Italy)
S1-2	Advanced Approaches in Molecular Engineering for the Synthesis of High Entropy Oxides	Z. Aytuna (Universität zu Köln, Germany)
S1-3	Multiphased Al_2O_3-YAG fiber: influence of seeding material and thermal treatment	S. Bernard (CNRS, France)
S1-4	Effect of Na doping and substrates type on structure and properties of $La_{1-x}Na_xMnO_3$ thin films	J. Bobic (University of Belgrade, Serbia)
S1-5	Effects of Al_2O_3 and MgO precursors on the development of 3D printed cordierite lattice structures by hybrid direct ink writing of silicone emulsions	V. Diamanti (University of Padova, Italy)
S1-6	Study on Structural and Microstructural Evolution during Liquid Phase Flash Sintering of 3 mol% Yttria Stabilized Zirconia	A. Eqbal (University of Trento, Italy)
S1-7	In-situ formation of magnetic nanoparticles in polymer-derived ceramics	T. Felsberger (TU Wien, Austia)
S1-8	Multi-edged PCD cutting tools for machining technical ceramics	A. Fielen (ZECHA Hartmetall-Werkzeugfabrikation GmbH, Germany)
S1-9	BioKon: Power-To-Methane - SiC sparger for aeration	H. Heymer (Fraunhofer IKTS, Germany)
S1-10	Transformation of polymer to SiOC glass in inert and reactive atmosphere	L. Karacasulu (University of Trento, Italy)
S1-11	Processing of paper-derived alumina-mullite ceramics	I. Klösel (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany)
S1-12	Ceramic Injection Molding using Cellulose Nanofiber	S. Kobayashi (Tokyo Metropolitan University, Japan)
S1-13	Development of roll-to-roll coating approach for silica-based epoxy molding compound film	C.-W. Lee (Korea Institute of Machinery & Materials / University of Science & Technology, South Korea)
S1-14	Characterization of SiC layer formed via polycarbosilane-derived coating for use as an interlayer between UHTC and carbon composite	H. M. Lim (JEONBUK national university, South Korea)
S1-15	Development of a porous support structure for a solar-based catalytic membrane reactor for syngas production	F. Luthardt (Morgan Advanced Materials Haldenwanger GmbH)
S1-16	Reduction of surface defects by sol-gel coating of ltcc multilayer	N. Nessimian (TU Ilmenau, Germany)
S1-17	Mechanochemically assisted quasi-solvent-free synthesis of functional iron oxide nanoparticles via homogeneous precipitation using urea hydrolysis	T. Onizuka (Osaka Metropolitan University, Japan)
S1-18	Anodization of Tapered Alumina Pores for Development of Anti-Reflective Surfaces	P. Pawlik (SmartMembranes GmbH, Germany)
S1-19	Rare-earth-doped barium cerate as high-temperature water vapor sensors	A. Radojkovic (University of Belgrade, Serbia)
S1-20	A study of advanced laser-assisted machining for high-quality shaping of ceramics and brittle materials	D.-H. Seo (Korea Institute of Machinery & Materials, South Korea)
S1-21	Shaping single-phase ceramics and ceramic matrix composites (CMCs) via 3D printing: from pastes to sintered elements	B. Seredynska (Warsaw University of Technology, Poland)
S1-22	Chemical Vapor Deposition Under the Influence of a Magnetic Field	M. Steiner (University of Cologne, Germany)
S1-23	Development and Characterization of Porous Polymeric Molding Materials for High-Pressure Casting of Ceramic Sanitarywares	C. A. Terzioglu (SEREL SERAMIK, Turkey)
S1-24	Investigation of doped lanthanum manganite thin films	M. Vijatovic Petrovic (University of Belgrade, Serbia)
S1-25	Investigation on thermodynamic equilibrium in RE-CMAS systems: implications of rare earth ions on crystallization behavior	G. Zhang (Liaoning Academy of Materials, China)
S1-26	Preparation of Eu^{2+}-doped alkaline-earth metal phosphates in air atmosphere	A. Zarkov (Vilnius University, Lithuania)
S2-1	LLZO materials obtained at low temperature by solid-state reaction by non-conventional sintering process	A. Bonilla-Molina (Universitat Politècnica de València, Spain)

S2-2	**Activation energy for densification of $CaMnO_3$** ceramics via microwave sintering at 2.45 GHz	L. Da Hora (Federal University of Itajuba, Brazil)
S2-3	Thermoelectric properties of bismuth-doped calcium cobaltite ceramics produced by cold sintering process	V. M. Gelfuso (Universidade Federal de Itajubá, Brazil)
S2-4	The effect of oxide additives on microstructural evolution and phase transition in gas pressure sintering of silicon nitride	M. Jeong (Gyongsang national university, South Korea)
S2-5	Static recrystallization of spark plasma sintered cubic zirconia ceramics	S. Molina Molina (University of Seville, Spain)
S2-6	Cold Sintering of High Field Varistors	S. Momjian (The Pennsylvania State University, USA)
S2-7	Synthesis and crystallization behavior of barium titanate in amorphous titania gel via **acid-base chemical densification process at near room temperature**	R. Nakayama (National Institute of Advanced Industrial Science and Technology (AIST), Japan)
S2-8	**A densification study of $LaMnO_3$** perovskites sintered via microwave processing at 2.45 GHz	J. Rosa (Federal University of Itajubá, Brazil)
S2-9	Structural studies of Cr_3AlB_4 reactive sintering	J. Slominski (AGH University of Krakow, Poland)
S2-10	Low-temperature synthesis of phosphate Eulytites via a $BaHPO_4$–$Bi(OH)_3$ System	N. Yaba (Nihon University, Japan)
S2-11	Development of Laser Annealing Process for Interface Formation Between SiC Power Semiconductor Substrate and Electrode	S.-M. Jeong (KICET, South Korea)
S3-1	Additive Manufacturing of Thermally Conductive AlN Ceramic Components for Industrial Application	M. Afshar (Sheffild Hallam University, UK)
S3-2	Kinetic Insights into Aluminum-to-Aluminum Oxide Transformation Phenomena in Hybrid Laser Powder Bed Fusion and Reaction Bonded Ceramics	Z. Ahmad (California Institute of Technology, USA)
S3-3	Development of room temperature reactive binder jetting applied to calcium phosphate compounds in the field of bone repair	B. Belleville (CIRIMAT (Toulouse INP-ENSIACET), France)
S3-4	**Influence of Nb_2O_5**, MnO_2 and TiO_2 on the Fabrication and Properties of Alumina Ceramics Produced via Additive Manufacturing	A. P. da Luz (Federal University of Sao Carlos (UFSCar), Brazil)
S3-5	Hydroxyapatite-Based Interpenetrating Phase Composites: Additive Manufacturing and Hybrid Scaffold Reinforcement	L. Drotárová (CEITEC BUT, Czechia)
S3-6	**Development of preceramic polymer-filled filament for additive manufacturing of SiC-**based ceramic	A. Ivekovi? (Jožef Stefan Institute, Slovenia)
S3-7	**Additive Manufacturing of Molecular-Level-Engineered SiCN Ceramic Modified with Carbon Nanofibers/Transition Metal Carbides towards Next-Generation Structural** Electromagnetic Metamaterials	X. Liu (University of Padova, Italy)
S3-8	Direct Ink Writing of barium titanate-based piezoelectric ceramics for acoustic applications	N. Mezdar (Thales / INSA Lyon, France)
S3-9	AMSEL: Scalable Manufacturing of Sodium Beta Alumina Composite Electrolytes for Solid-State Batteries	S. Farzaneh (Loughborough University, UK)
S3-10	3D printing of mullite complex architectures and their functionalization for CO_2 capture	P. Palmero (Politecnico di Torino, Italy)
S3-11	Towards Sustainable Ceramic Manufacturing: 2-Minute Sintering in LCM with Ultra-High Temperature Processing	A. Pozzebon (Universidade Federal de Santa Maria, Brazil)
S3-12	Enhanced cross-linking strategies to improve structural integrity of polymer-derived ceramics for extrusion-based AM	M. Shah (TU Wien, Austria)
S3-13	Controling porosity of Hydroxyapatite-based 3D Printed Scaffolds for Spinal Fusion through the Addition of Cellulose Fibers	E. Siska Viragova (CEITEC, Czechia)
S3-14	Additively manufactured metal-ceramic-hydrogel systems for enhanced osseointegration: Integrating Eu/Ag co-Doped bioglass in orthopedic implant design	A. Trifan (National University of Science and Technology POLITEHNICA Bucharest, Romania)
S3-15	Tribological investigation of 3D printed SiC for mechanical seal applications	C. Tschirpke (EagleBurgmann Germany GmbH & Co. KG, Germany)
S3-16	Novel material for additive manufacturing of ceramic-PBAT biocomposites	P. Veteska (Slovak University of Technology, Slovakia)
S3-17	Extrusion-based additive manufacturing of soft magnetic components	T. Wille (Ernst-Abbe-Hochschule Jena, Germany)
S3-18	**DLP printed zirconia are densified in minutes by radiation assisted sintering**	W. Zhao (The University of Hong Kong, Hong Kong SAR China)
S4-1	Preparation and properties of dense Si_2N_2O ceramics sintered with Al_2O_3, Y_2O_3, Sm_2O_3 or Yb_2O_3 additives	S. Beaudet Savignat (CEA Le Ripault, France)
S4-2	Effect of compression pressure and ball milling ratio towards the synthesis of $K_{0.5}Na_{0.5}NbO_3$ ceramics	A. Bonilla-Molina (Universitat Politècnica de València, Spain)
S4-3	Stability and Properties of M_2AlC Phases with Compositionally Complex M-layers	M. Dujovic (Texas A&M University, USA)
S4-4	Predicting wear resistance of graphene-added Si3N4 using machine learning	H. Fatima (The Women University, Multan, Pakistan)
S4-5	**SiC bonded Diamond composites produced by reactive infiltration with silicides**	M. Herrmann (Fraunhofer IKTS, Germany)
S4-6	The use of the heterocoagulation phenomenon in ceramic particles suspensions for preparation of advanced materials	O. Jurecka (AGH University of Krakow, Poland)

S4-7	Mechanical properties of high-density silicon carbide ceramics with addition of rare-earth oxide additives	J. H. Kong (Agency for Defense Development, South Korea)
S4-8	Thermal Cycling Resistance of $Yb_2Si_2O_7$ Environmental Barrier Coating Material with Ti_2AlC MAX Healing Agent	K. S. Lee (Kookmin University, South Korea)
S4-9	Thermal stability and mechanical strength of adhesive joint in ballistic shields	L. Letek (AGH University of Krakow, Poland)
S4-10	Characterization of superhard cubic boron nitride ceramic composites	L. Maier (Fraunhofer IKTS, Germany)
S4-11	Novel reaction bonded B_4C-SiC-diamond composites – properties and microstructure correlations	B. Matthey (Fraunhofer IKTS, Germany)
S4-12	Boron containing silicon carbide bonded diamond composites	J. A. Quintana Freire (Fraunhofer IKTS, Germany)
S4-13	**The influence of sintering additives on thermo-chemical properties of hot-pressed** ZrB_2-HfB_2	Z. Pedzich (Polish Ceramic Society, Poland)
S4-14	Joining techniques for advanced ceramics and composites	J. Alexander (University of Birmingham, UK)
S5-1	Preparation, pore structure and thermal properties of spinel-based refractory ceramics	A. Bak (AGH University of Krakow, Poland)
S5-2	Exploring the Low-Temperature Pressureless Sintering of B_4C with Si	A. Fernández Ortiz (Universidad de Extremadura, Spain)
S5-3	Degradation mechanism of corundum-mullite rollers in a ceramic clay tiles industry	A. Fontanari (University of Padova, Italy)
S5-4	Laser-Assisted SEM Preparation of Oxide Scales on Hardmetals and Coatings	K. Gnauck (Fraunhofer IKTS, Germany)
S5-5	Epoxide/Flame Retardant Binder for Odor Reduction of MgO-C Refractories	M. Kim (Changwon National University, South Korea)
S5-6	Ablative and microstructural characterization of ZrC coating layer using spray-dried ZrC powders via vacuum plasma spraying method	H. S. Kim (Jeonbuk National University, South Korea)
S5-7	Thermal conductivity of ceramics and refractories from the alumina-silica system for thermal energy storage (TES) – modeling and measurement	L. Kotrbova (University of Chemistry and Technology Prague, Czechia)
S5-8	Novel Al_2O_{3-C} refractories with enhanced thermo-mechanical properties by the addi**tion of Lanthanum Strontium Manganite (LSM) fine powder**	P. Malczyk (TU Bergakademie Freiberg, Germany)
S5-9	A comparative study of VPS-coated ZrC layers on SiC interlayers prepared by different CVR and CVD method	A-Y. Moon (Jeonbuk National University, South Korea)
S5-10	**Degradation behavior of oxide fiber reinforced oxynitride and complex oxides**	D. Sakata (Tokyo University of Science, Japan)
S5-11	Tundish Linings Performance: A Predictive Strategy for Lifetime and Energy Optimization	A. Salerno (Vesuvius - Université de Limoges, France)
S5-12	Material design for refractory compositionally complex ceramic matrix composites used for wide temperature range in oxidizing atmosphere	A. Tada (Tokyo University of Science, Japan)
S5-13	Cobalt reduced high entropy binder for hardmetals	M. von Spalden (Fraunhofer IKTS, Germany)
S6-1	Synthesis and morphology control of siderite	T. Amano (Nihon University, Japan)
S6-2	Alkali Activation Effects on Fractionated Fly Ash Properties in Clay-Cement Sealing Suspensions	J. Delihowski (Akademia Górniczo-Hutnicza im. Stanis?awa Staszica w Krakowie, Poland)
S6-3	Evaluation of Bacterial-Based Cement Retarder Additives for Sustainable Construction Applications	M. Hong (Korea Institute of Ceramic Engineering and Technology / Hanyang University, South Korea)
S6-4	Precipitated calcium carbonate (PCC) from oyster shell waste using carboxylic acids and its characterization	J. H. Lee (Korea institute of ceramic engineering and technology, South Korea)
S6-5	Ceramic Glazes by Recycling Waste	H. Ovcacikova (VSB - Technical University of Ostrava, Czechia)
S6-6	Evaluation of calcium dissolution structure in highly concentrated glycerol solutions	T. Sasaki (Kobe Steel, Ltd., Japan)
S6-7	Morphological control of calcium carbonate particles in highly-concentrated glycerol solution	A. Suzuki (Nihon University, Japan)
S6-8	Morphological Control of Spherical Hollow Calcium Carbonate Particles by Spray-Drying Calcium Bicarbonate Solution from Steelmaking Slag	T. Toyama (Nihon University, Japan)
S7-1	A fractal analysis of the structure formation process of a hierarchical nanoporous layer glass	T. Fujima (Tokyo City University, Japan)
S7-2	Evaluation of Temporal Changes in the Glass Network Structure and Element Leaching Behavior of Hierarchical Nanoporous Layer Glass Using Positron Annihilation Spectroscopy	I. Funayama (Tokyo City University, Japan)
S7-3	Enhancing borosilicate glass vials through chemical strengthening	J. Jung (Korea Institute of Ceramic Engineering and Technology, South Korea)
S7-4	Study on CuO and Na_2CO_3 Doping for Controlling the Thermal and Optical Properties of Fiber-Type Sealants	S. Kim (Korea Photonics Technology Institute, South Korea)
S7-5	Evaluation of Elemental Distribution during Hierarchical Nanoporous Layer Glass Formation	S. Maeda (Tokyo City University, Japan)
S7-6	Enhancement of Plasma Resistance Using Y-Al Based Sol-Gel Coating	S. Oh (Sungkyunkwan University, South Korea)
S7-7	The effect of the addition of Na_2O, K_2O, Li_2O on the structure of glass-ceramic materials from the SiO_2-Al_2O_3-Ca-R_2**O system modified by the variable molar ratio of** SiO_2/Al_2O_3	K. Pasiut (AGH University of Science and Technology, Poland)
S7-8	Ultrafast Crystallization of Magnesium Aluminum Silicate Glass-Ceramics	I. Reis Lavagnini (Federal University of São Carlos, Brazil)

S7-9	Effect of ZnO and B_2O_3 on the structural and thermal properties of Bi_2O_3-SiO_2 solder glasses	S. H. Woo (Korea Institute of Ceramic Engineering / Sungkyunkwan University, South Korea)
S7-10	Comparison of Thermoelastic Properties of Polycrystalline Strontium Titanium Silicate Sr?TiSi?O? Synthesized via the Reactive Sintering Method and Glass Ceramic	O. Zwein (UMONS, Belgium)
S8-1	ZnO-CeO_2 Nanocomposites: Enhanced Photocatalytic and Antifungal Properties for Sustainable Industrial and Biomedical Applications	A.-A. Alivisatou (National Technical University of Athens, Greece)
S8-2	Improved long-term solar absorptance of ceramic solar absorber particles by spinel coatings	G. Alkan (DLR, Germany)
S8-3	Mn-Doped Lead-Free KNNLT Piezoceramics for Multilayer Actuator Application	M. W. Alkanj (Ernst-Abbe-Hochschule Jena, Germany)
S8-4	An innovative approach to highly sensitive and selective gas sensing	Z. Brankovic (University of Belgrade, Serbia)
S8-5	The effect of acceptor dopants on the surface exchange and the surface space-charge potential of $BaTiO_3$	G. Brannys (RWTH Aachen, Germany)
S8-6	The Glatt Pow(d)er Synthesis - Manufactoring active materials for hydrogen production and solid oxide fuel cells and solid oxide fuel cells	J. Buchheim (Glatt Ingenieurtechnik GmbH, Germany)
S8-7	**3D-printed composites with aligned 1D lead-free piezoelectric ceramic fillers for soft** self-powered tactile sensors for soft grippers	S. Butenko (EMPA/EPFL, Switzerland)
S8-8	Encapsulated PICMA® Actuators and their Applications	F. Dolke (PI Ceramic GmbH, Germany)
S8-9	**Influence of lanthanides environment on the electric properties of tantalates and** niobiates perovskites $Ln_{0.33}BO_3$ (with Ln = La, Ce, Pr, Nd or Gd and B = Ta or Nb)	T. Grivois (Le Mans Université, France)
S8-10	Development of Piezoelectric ceramic based focused ultrasound transducer application with printed circuit board (PCB) sensor assembly	J. S. Han (South Korea)
S8-11	The effects of Yb_2O_3 additions on the crystal structure, grain growth behavior, and dielectric properties of the $BaTiO_3$ system	S.-Y. Hwang (Gyeongsang National University, South Korea)
S8-12	Tuneable photochromism in $Ca_3MgSi_2O_8$-$Sr_3MgSi_2O_8$:Eu^{2+} solid solutions	G. Krieke (Vilnius University, Lithuania)
S8-13	**Investigation properties of zirconia doped ceria thin films prepared by spray pyrolysis** method	M. Mehdizade (Gdansk University of Technology, Poland)
S8-14	**Porous BCZT ceramics for energy harvesting and water microfiltration**	E. Mercadelli (CNR-ISSMC, Italy)
S8-15	Development of $NaNbO_3$-Based Quasi-Linear Dielectrics via Defect Chemistry	S. Nakano (USA)
S8-16	Particle interactions in $SrFe_{12}O_{19}$/$NiFe_2O_4$ magnetic composites	A. Quesada Michelena (Institute of Ceramics and Glass (CSIC), Spain)
S8-17	Piezoelectric characterization of quenched $Na_{½}Bi_{½}TiO_3$–$BaTiO_3$ ceramics	E. Ringgaard (CTS Denmark A/S, Denmark)
S8-18	Structure, Ferroelectric, and Energy storage properties of Gd-doped BZT ceramics	F. M. Ruiz (University of the Philippines Cebu, Philippines)
S8-19	Electrocaloric Effect of Zr-doped Barium Titanate Ceramics	F. M. Ruiz (University of the Philippines Cebu, Philippines)
S8-20	Exploring Gas Sensing Properties of SnO_2/MXene heterostructure: Unveiling Performance Synergies	S. Savic Ruzic (Biosense Institute, Serbia)
S8-21	Hybrid nanostructures fabricated by atomic layer deposition for enhanced photocatalysis	N. Thonakkara James (Karlsruhe Institute of Technology, Germany)
S8-22	**Lead-free positive temperature coefficient of resistance (PTCR) ceramics with modified Curie temperature and improved electrical properties**	T. Weismann (MAHLE International GmbH, Germany)
S8-23	Thermally and mechanically stable superhydrophobic glass coatings containing nanoparticles	B. Witulski (Universität zu Köln, Germany)
S8-24	**Shear thickening fluids as smart ceramic composites for energy absorbing systems**	R. Zurowski (Smart Fluid SA, Poland)
S9-1	Synthesis of silver decorated titanium dioxide for environmental applications	A.-A. Alivisatou (National Technical University of Athens, Greece)
S9-2	Strategic Selection of Radiation-Tolerant Thermoelectric Materials for Spacecraft Power Systems	M. R. Azhar (Edith Cowan University, Australia)
S9-3	Effects of In-situ HfB_2 Segregated Network Structure Formed by the Addition of HfO_2 on the Thermoelectric Properties of B_4C	S. Turan (Eskisehir Technical University, Turkey)
S9-4	Hydrothermal Synthesis of High Aspect Ratio Piezoelectric $BaTiO_3$ Nanowires for Nanogenerator Development and Applications	S. Dadashov (Eskisehir Technical University, Turkey)
S9-5	Development of Hybrid Nanogenerators Using BaTiO? Nanowire-Embedded Polyvinyl Chloride Films	S. Dadashov (Eskisehir Technical University, Turkey)
S9-6	Structural, microstructural, and electrical characterization of impregnated FeCrAl metal support for the application of intermediate temperature - solid oxide fuel cell (IT-SOFC)	S. Dattamandal (University of Littoral Côte d'Opale, France)
S9-7	Additive Manufacturing of Geopolymer-Hydrated Salt Composites for Thermochemical Heat Storage	H. Elsayed (University of Padova, Italy)
S9-8	Synthesis and Characterization of Bixbyite HEO as Potential Anode in Li-ion Batteries	A. Eqbal (University of Trento, Italy)
S9-9	Effect of processing atmospheres on the calcination, sintering and thermoelectric properties of $CaMnO_3$ ceramics synthesized by solid state reaction	L. Freire (Federal University of Itajubá, Brazil)

S9-10	Silicon Fleece Anodes as Components of Lithium-Ion Batteries	M. Fritsch (Fraunhofer IKTS, Germany)
S9-11	Composition, structure and microstructure correlations of lithium zirconates and their water lithium extraction properties	M. Gamba (Karlsruher Institut für Technologie, Germany)
S9-12	**Influence of the slurry composition on the microstructural and mechanical properties** of $Li_7La_3Zr_2O_{12}$ tapes	J. Gross (Forschungszentrum Jülich GmbH, Germany)
S9-13	Magnetic Field Controlled Thermal Skeleton of Composite Phase Change Materials for **Efficient Thermal Management of Li-Ion Batteries**	H. Gu (Southern University of Science and Technology, China)
S9-14	Study of the role of plasticizer and co-plasticizer in the tape casting process for an anode support production in SOFC applications	C. Guillet (University of Limoges, France)
S9-15	High Energy Density Batteries Enabled by Thin Ceramic coated Separators with Heterogeneous Water-Based Binder	M. Jang (Korea Institute Ceramic Engineering and Technology, South Korea)
S9-16	Thermoelectric performance enhancement of textured ceramic composite derived from co-electrospun sodium cobaltite and calcium cobaltite nanoribbons	K. Kebel (Leibniz University Hannover, Germany)
S9-17	Reproducible Synthesis of Fe_2O_3 Photoanodes for Photoelectrochemical Water Splitting via a Photodiode-Based Heat Treatment Process	T. W. Kim (Korea Institute of Energy Research, South Korea)
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S9-19	Separation and Pumping of Hydrogen by Protonic Ceramic Electrochemical Reactor	S. Kobayashi (Central Research Institute of Electric Power Industry, Japan)
S9-20	Enhancement of thermoelectric performances of $CaMnO_3$ through multiple doping in A- and B-sites	M. A. Madre (CSIC-Universidad de Zaragoza, Spain)
S9-21	**Effect of Fe content on properties of Fe-modified Mn_2CuO_4** spinel oxide coatings as a potential protective coating for metallic interconnects	M. Mehdizade (Gdansk University of Technology, Poland)
S9-22	Binder-free Fe-N-C-O Bifunctional Electrocatalyst in Nickel foam for Aqueous Zinc-Air Batteries	J. Mosa (Instituto de Cerámica y Vidrio (CSIC), Spain)
S9-23	Structural and electrochemical characterization of highly acceptor-doped ceria and zirconia	P. Mowe (Forschungszentrum Jülich GmbH, Germany)
S9-24	SEM, EDS and image analysis study of the microstructure and phase composition of silica refractories	V. Necina (University of Chemistry and Technology, Czechia)
S9-25	Enhancing the Performance of Lithium-Ion Capacitors Using Functionalized Carbon **Nanofiber Layers to Stabilize Pure Silicon Electrodes**	M. Oh (Korea Institute of Ceramic Engineering and Technology, South Korea)
S9-26	**Influence of cermet interlayer between a ceramic hydrogen electrode and metallic** current collector on the electrochemical performance of solid oxide electrolysis cell	S. Paydar (Tartu university, Estonia)
S9-27	**Influence of structural and microstructural evolution on the dielectric properties of** CCTO ceramics produced in different atmospheres	D. Thomazini (Federal University of Itajubá, Brazil)
S9-28	Determination of thermodynamic parameters for growth of thermoelectric (Ca,La) MnO_3 single crystals by Bridgman-Stockbarger method	J. Rosa (Federal University of Itajubá, Brazil)
S9-29	CuMg-based Layered Double Hydroxides catalytic systems for photoelectrocatalytic CO_2 conversion	A. Sangiorgi (CNR-ISSMC, Italy)
S9-30	High entropy of rare-earth aluminium garnet for an environmental and thermal barrier of hydrogen oxy-combustion chamber	E. Sauzeau (University of Limoges, France)
S9-31	Improvement in hydrogen pumping performance of protonic ceramic electrochemical reactors for ammonia cracking systems	H. Shimada (National Institute of Advanced Industrial Science and Technology (AIST), Japan)
S9-32	Enhancing the Performance of Direct Ammonia SOFCs with Advanced Catalysts	S. Shin (Korea Institute of Ceramic Engineering and Technology, South Korea)
S9-33	Effects of spark plasma sintering and post-annealing conditions on $LiNi_{0.5}Mn_{1.5}O_4$ properties engineering	R. Shukla (Empa, Switzerland)
S9-34	Electrical conductivity in La^{3+} and/or Nb^{5+} doped $CaMnO_3$ ceramics	D. Thomazini (UNIFEI, Brazil)
S9-35	High-Entropy Perovskite Oxides with Tunable B-site Chemistry for Thermoelectric Applications	H. Ünsal (Slovak Academy of Sciences, Slovakia)
S9-36	Alternative low-temperature hot-pressing method for the manufacture of rigid hybrid LATP-based ceramic electrolytes	A. Varez (UNIVERSIDAD CARLOS III DE MADRID, Spain)
S9-37	Enhancing the Thermoelectric Performance of $SrTiO_3$-Based Materials via Microstructural and Chemical Modifications	M. Vieira (Universidade de Aveiro, Portugal)
S9-38	Enhanced Bulk and Interfacial Conductivity in All-Solid-State Lithium Metal Batteries via Garnet Surface Phosphorylation	L. Yang (Southern University of Science and Technology, China)
S9-39	Effect of ZnO sintering aid on the protonic defect concentration and conductivity of $BaCe_{0.1}Zr_{0.75}Y_{0.15}O_{3-d}$	J. H. Yu (Korea Institute of Energy Research, South Korea)
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S10-2	**Effect of protein-containing simulated body fluid on the in vitro bioactivity of 45S5** bioactive glass	M. Arango Ospina (University of Erlangen Nuremberg, Germany)

S10-3	**Development and Evaluation of a Novel Fluoride-Releasing Resin-Modified Glass** Ionomer for Enhanced Caries Prevention	H. S. Lee (Korea Institute of Ceramic Engineering and Technology (KICET), South Korea)
S10-4	Hydrothermal Aging Behavior and Mechanical Performance Evolution of Novel Zirconia Ceramics Exhibiting Optimized Toughness and Strength	T. Ma (Chinese Academy of Sciences, China)
S10-5	Improvement properties of biodegradable Mg scaffolds by addition of MgO bio ceramic particles: In-vitro study	M. Mehdizade (Gdansk University of Technology, Poland)
S10-6	Enhancing mechanical properties of biosilicate/carbon glass-ceramic bone scaffolds by engineering and processing of silicone-based blends	B. Nikendey Holubova (Technical University of Liberec, Czechia)
S10-7	**Microwave sintering of zirconia-toughened alumina – Influence of the materials'** composition and sintering cell	C. Petit (University of Lyon, France)
S10-8	Effect of gallium content on stability and sinterability of amorphous calcium phosphate	R. Vasiljevs (Riga Technical University, Latvia)
S10-9	Mechanical advancements in hydroxyapatite and nano-substituted hydroxyapatite for maxillofacial bone tissue engineering: a review	E. Zafarrazzaghnia (Technological University Dublin, Ireland)
S10-10	Gallium-doped hydroxyapatite and its properties	L. Stipniece (Riga Technical University, Latvia)
S10-11	Fabrication of polycaprolactone-methacrylate-based composite scaffolds for bone tissue engineering	P. Evdokimov (Lomonosov Moscow State University, Russia)
S10-12	High entropy bioceramics based on mixed-cationic silicogermanophosphates with glaserite structure	P. Evdokimov (Lomonosov Moscow State University, Russia)
S11-1	Microstructural and Chemical Investigation of Geopolymer Materials for Acid Resistance Evaluation	T. Ali (INAM Forchheim, Germany)
S11-2	Advanced spatial distribution analysis of doped calcium aluminates and their hydrates	E. Bartonickova (Brno University of Technology, Czechia)
S11-3	Preparation and properties of a new hydraulic binder prepared from calcined clay, anhydrite II and lime	K. Betáková (UCT Prague, Czechia)
S11-4	**Synthesis of cordierite - geopolymer composites: Influence of mixing and curing** conditions on the properties of the geopolymer	F. Casarrubios (University of Mons, Belgium)
S11-5	Characterization of tubular halloysite from Biga peninsula (NW Türkiye) and determination of tube diameters and lengths by XRD analysis: a comparison between Scherrer method and SEM-TEM imaging	S. C. Genç (Kaleseramik Research and Development Center, Turkey
S11-6	**Research and development of metal silicate materials for cooking oil refining**	J. K. Kang (Giant Chemical Co.,Ltd., South Korea)
S11-7	**Influence of Hydrothermal Synthesis Parameters on the Properties of Layered Double** Hydroxides	G. Klydziute (Vilnius University, Lithuania)
S11-8	Preparation of Epsilon-Iron Oxide from Potassic Glass Using Traditional Japanese Ceramic Technologies	Y. Kusano (Okayama University of Science, Japan)
S11-9	Decarbonizing the Ceramic Industry: An LCA Perspective on CCS Technologies	V. Nikonova (University of Campania "Luigi Vanvitelli", Italy)
S11-10	Geopolymer composites for green building applications	E. Papa (National Research Council, Italy)
S11-11	Optimisation and Comparison of Granules Prepared by Dry and Wet Method by Powder Rheometer	U. Taskiran (Kaleseramik Research and Development Center, Turkey)
S11-12	Investigation of the Suitability of Matt and Transparent Frits for Application in Ceramic Ink-jet Inks	B. Yazirli (Kaleseramik Research and Development Center, Turkey)
S12-1	Potential of Contact Free Air-Coupled Ultrasonic Testing on Ceramic Materials	A. Bodi (SONOTEC GmbH, Germany)
S12-2	Possibilities of ion beam preparation as a basis for the visualization of ceramic stuctures	S. Höhn (Fraunhofer IKTS, Germany)
S12-3	**Determination and quantification of the homogeneity of ceramic microstructures**	J. A. Quintana Freire (Fraunhofer IKTS, Germany)
S12-4	Determination of the Amorphous Phase Content in Silica Refractories by X-ray Diffraction	P. Simonova (University of Chemistry and Technology, Czechia)
S12-5	In-situ high-temperature nanoindentation of ultra-thin structural ceramics and ceramic matrix composites	F. Wich (University of Bayreuth, Germany)
S13-1	Simulation of relevant Processes during operation of Ceramic MIEC Membranes for Oxygen Production	T. Hünefeld (Fraunhofer IKTS, Germany)
S13-2	atomic structure of calcium-aluminate glasses: a combined experimental and computational study	B. Javanpour (Tampere University, Finland)
S14-1	High-Precision 3D Printing of Ceramic Membranes: Advancements with Zirconia and NPJ Technology	N. Gofman (Ben - Gurion University, Israel)
S14-2	Development of Compatible Catalysts and Membranes for Innovative and Integrated Catalytic Membrane Reactors – I-KaMeRa	C. Hamel (Otto von Guericke University Magdeburg, Germany)
S14-3	Developing an Oxygen Production Method Using OSM-Pellets and Steam Circulation	K. Khajryan (TU Bergakademie Freiberg, Germany)
S14-4	Synthesis of ultra-thin Pd-membranes and Pd-alloys	M. Özen (Fraunhofer IKTS, Germany)
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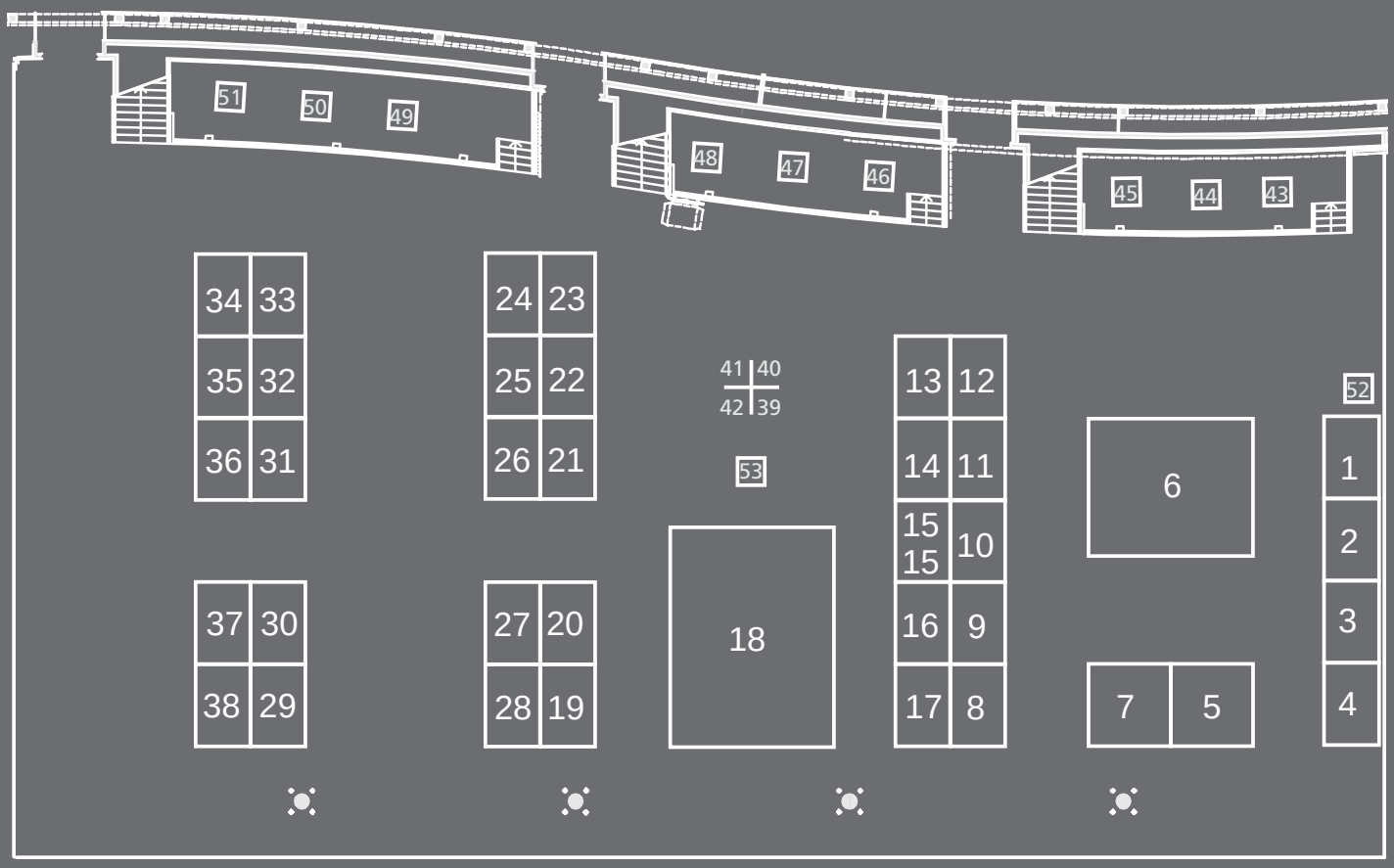

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O C I V I S E R S H Y B R I D P O R U S
I T T I U R K U L P G K E E Q S P S U N
T R E T M T F F Z Q N J T Z G N T I Z O
A I S C M S O L U T I O N U N A E L T I
L C O A T I N G I X P K I Y I R V I R S
U P D O V D O F P B A G S N L T B C E U
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