



**ICCG**

**JUNE 24-26  
2024**

# **INTERNATIONAL CONFERENCE ON COATINGS ON GLASS AND PLASTICS**

**Advanced coatings for large-area  
and high-volume products**

Organized by:  
International Organizing  
Committee of ICCG,  
Fraunhofer FEP &  
Vincentz Network



**Dr. Jörg Pütz**  
Chairman IOC ICCG



**Dr. Koichi Suzuki**  
Secretary IOC ICCG



**Dr. Jörg Neidhardt**  
Local Chairman ICCG  
2024



The International Conference on Coatings on Glass and Plastics – ICCG is a leading global conference dedicated to the science and technology of advanced coatings for large-area and high-volume applications.

For more than 25 years now, ICCG has been bringing together people from academia, research institutions, material and equipment suppliers, coating manufacturers, and industrial end users to discuss latest developments and future trends in coating technology and surface engineering. **A forum where science and industry meet!**

After the pandemic break, ICCG will be back in the beautiful city of Dresden, Germany, with its rich cultural tradition and outstanding technology clusters for semiconductor manufacturing and surface engineering. ICCG 2024 will be hosted in cooperation with Fraunhofer FEP, a long-standing partner of ICCG.

This year's conference will be focusing on **"Coatings and Surface Technology in a Transforming World"** with a broad range of scientific, technical, and application-oriented presentations and dedicated sessions on sustainability and digital transformation. The technical exhibition will be a showcase for innovation and will offer abundant networking opportunities. Prior to the conference, tutorials will provide deeper insights into technological trends for beginners and experts alike.

We look forward to welcoming you to ICCG 2024 in Dresden!

## SUNDAY, June 23

16:00 – 18:00 Registration Counter open

18:00 – 20:00 Welcome Reception  
*Meeting Point, MESSE Dresden* 


## MONDAY, June 24

7:30 Registration Counter opens

8:30 – 8:45 Opening & Welcome Address

8:45 – 12:45 Introduction I-II

I: Market Insights


Coffee Break 

II: Technology Perspectives

12:45 – 14:15 Lunch Break 

14:15 – 18:20 Introduction III & Session 1

III: Sustainability & Energy Efficiency

Coffee Break 

1: Advanced Vacuum Processes

8:00 – 20:00 Exhibition


18:30 – 20:00 Poster Session & After Work  
*Meeting Point, MESSE Dresden*

## TUESDAY, June 25

8:00 Registration Counter opens

8:30 – 12:30 Sessions 2 & 3

2: Atmospheric & Hybrid Processes


Coffee Break 

3: Materials, Film Formation, Simulation, Process Control

12:30 – 14:00 Lunch Break 

14:00 – 18:00 Sessions 4 & 5

4: Digitally Supported Coating Technology

Coffee Break 

5: Processing & Handling of Thin Glass

8:00 – 18:00 Exhibition

18:30 – 22:00 Networking Dinner & Award Ceremonies 


*(Hans Pulker Award & Poster Awards)  
Ball- und Brauhaus Watzke, Dresden*

## WEDNESDAY, June 26

8:00 Registration Counter opens

8:30 – 12:25 Sessions 6 & 7

6: Transportation & Architectural

Coffee Break 

7: Optics, Sensors & Electronics

12:25 – 13:30 Lunch Break 

13:30 – 15:15 Session 8

8: Energy Conversion & Storage

8:00 – 15:30 Exhibition

15:30 – 18:00 Lab Tours

15:30 Bus shuttles from Main Foyer  
16:00 – 18:00 Tours including transfer back to city center

### MAIN LOCATION:

**MESSE DRESDEN**

Hall 3 East,  
Via Mobile 3  
& Meeting Point

### DATES:

**Sunday,  
June 23, 2024**

Welcome  
Reception

**Monday–Wednesday,  
June 24–26, 2024**

Conference: Hall 3 East  
Exhibition: Via Mobile 3  
& Meeting Point

MONDAY, June 24

Location:  
Messe Dresden, Hall 3 East



7:30 Registration Counter opens  
8:30 – 8:45 Opening & Welcome Address

**Introductory Session I:  
Market insight**

*Chairs: Jorma Vitkala, Sener Oktik*

8:45 – 9:25 **Trends in Large Area Coating for Glazing Applications**  
**Keynote**  
*Dr. Paul C. Mogensen, France, Saint-Gobain Glass France, Glass R+D*

9:25 – 10:05 **When Digital Meets Glass,  
New Worlds Open Up!**  
**Keynote**  
*Michael Robinson, Italy, Robinson Design*

10:05 – 10:35 Coffee Break 

**Introductory Session II:  
Technology Perspectives**

*Chairs: Koichi Suzuki, Michael Robinson*

10:35 – 11:15 **Flat Glass Sector and Value-Added Coatings Update**  
**Keynote**  
*Prof.Dr. Şener Oktik, Maltepe University, Türkiye*

11:15 – 12:05 **Global Architectural Glass Trends**  
**Keynote**  
*Jorma Vitkala, Finland  
Vitkala Association / Former Chairman of GPD*

12:05 – 12:45 **Advancements in Optical Interference Filters  
for Optical Sensing Applications**  
**Keynote**  
*Dr. Georg Ockenfuss, USA, Viavi Solutions*

12:45 – 14:15 **Lunch Break** 

**Introductory Session III:  
Sustainability & Energy Efficiency**

*Chairs: Bernd Szyszka, Günter Bräuer*

14:15 – 14:55 **The Catlab Project: Ultra Thin-Film Based Catalysis  
for Green Hydrogen and Fuels**  
**Keynote**  
*Prof. Dr. Rutger Schlatmann, Germany, Helmholtz-Zentrum Berlin*

14:55 – 15:35 **Photovoltaics: understanding the 70 year story of con-  
tinuous improvement**  
**Keynote**  
*Dr. Christof Erban, Germany, Sunovation*

15:35 – 16:15 **Coating Technologies for Energy Conversion and  
Storage: A Perspective on the Past and Future**  
**Keynote**  
*Prof. Dr. Elizabeth von Hauff, Germany, Fraunhofer FEP*

16:15 – 16:45 Coffee Break 

**Session 1: Advanced Vacuum Processes**

*Chairs: Volker Sittering, Tetsuhide Shimizu*

16:45 – 17:15 **Recent Developments in Ion Beam Sputtering**  
**Keynote**  
*Dr. Carsten Bundesmann, Germany  
Leibniz Institute of Surface Engineering (IOM), Germany*

17:15 – 17:40 **Scalable Deposition of Thermochromic VO<sub>2</sub>-based  
Coatings for Energy-saving Smart Windows**  
**Invited**  
*Prof. Jaroslav Vlček, Czech Republic, University of West Bohemia*

17:40 – 18:00 **Large Area Antipathogenic Surfaces based on Sput-  
tered TiO<sub>2</sub> Thin Films and Inline Flash Lamp Annealing**  
**Keynote**  
*Dr. Michael Hoffmann, Germany, Fraunhofer FEP*

18:00 – 18:20 **Better 'Understanding of the Vacuum'  
to Improve Film Quality and Process Control**  
**Keynote**  
*Dermot Monaghan, United Kingdom, Genco Ltd.*

18:30 – 20:00 **Poster Session & After Work Reception**



**MONDAY, June 24**

**18:30 – 20:00**

**Poster Session &  
After work reception**

Location:  
Meeting Point,  
Messe Dresden

Our scientific poster session serves as a dynamic platform for knowledge exchange, networking, collaboration, and professional development, contributing to the advancement of research and innovation in the global business community of coatings on glass and plastics.

Enjoy fruitful conversations with your peers and aspiring colleagues while relaxing with some snacks and drinks.

**Poster 1**

*Dr. Shoji Kaneko  
Japan  
SPD Laboratory*

**Intermittent Spray Pyrolysis Deposition for Thin-Film Makings Including FTO on Glass Substrate**

**Poster 2**

*Parisa Naghadian  
Moghaddam, Slovakia  
FunGlass  
Alexander Dubčeka  
University of Trenčín*

**Synthesis of polyborosilazane to fabricate glass-ceramic coating with high thermal stability**

**Poster 3**

*Dr. Philipp Dürrenfeld  
Germany  
Advanced Energy Industries*

**Low-frequency pulsed-DC sputtering of titanium dioxide thin films**

**Poster 4**

*Yasin Bayram  
Türkiye  
SISECAM Science Technology  
and Design Center*

**Multilayered Transparent Thin Film Coatings for Enhanced Antibacterial Effect**

**Poster 5**

*Michael Saeger  
Switzerland  
X-Rite Pantone*

**Enhancing Color Control in Coil Coating Production: The Significance of Inline Color Measurement**

**Poster 6**

*r. Patrick Mccarthy  
United Kingdom  
Gencoa Ltd*

**The effects of non-metal doping on the properties of DLC coatings produced using magnetron sputtering**

**Poster 7**

*Dr. Marlous Hofmans  
Netherlands  
OMT Solutions BV*

**Intercomparison of normal emissivity measurements on coated float glass**

**Poster 8**

*Dr. Steffen Günther  
Germany  
Fraunhofer FEP*

**Abrasion resistant coatings on flexible substrates using vacuum and non-vacuum-based technologies**

**Poster 9**

*Günter Mark,  
Germany  
Melec*

**Stable hybrid HiPIMS/RF sputtering process on a single magnetron for arc-free deposition of compact oxide films**

**Poster 10**

*Thomas Bretz  
Germany  
Intrinex*

**“Coala”: A versatile platform for single- and multilayer COated Layer Analysis**

**Poster 11**

*Dr. Chintankumar Patel  
Germany  
BASF SE*

**Curtailing Formaldehyde in Water-borne Organic Coatings for Glass**

**Poster 12**

*Lars Rebohle  
Germany  
HZDR, Germany*

**Inkjet printing of functional thin films activated by ms-range flash lamp annealing**

**Poster 13**

*Fangfang Huo,  
TU Berlin,  
Germany*

**Preferred orientation and epitaxial growth thin film by hollow cathode gas flow sputtering technology**

**Poster 14**

*Nivin Alktash,  
TU Berlin,  
Germany*

**Synthesis of TiO<sub>2</sub>: Films using the Hollow Cathode Gas Flow Sputtering Technology for Photocatalysis**

TUESDAY, June 25

Location:  
Messe Dresden, Hall 3 East

**8:00 – 18:00**  
**Exhibition**  
More info on the exhibitors online

8:00 Registration Counter opens

**Session 2: Atmospheric & Hybrid Processes**  
Chairs: Jörg Pütz, Christian Rabe

8:30 – 9:00 **Keynote**  
**Decoration of Architectural Glass Using Inkjet Printing**  
Dr. Dieter Holzinger, Austria  
TIGER Coatings GmbH & Co.KG

9:00 – 9:25 **Invited**  
**Nanoparticle-based Solar Control Films**  
Niall Killilea, Germany, Amperial Technologies GmbH

9:25 – 9:45 **Advancements of Electrochromic Films for Energy-Efficient Glass Facades** (FLEX-G 4.0 Project)  
Kira Grefkes, Germany, Coatema Coating Machinery GmbH

9:45 – 10:05 **Directly Sprayable Anti-reflection Coatings for Deposition on Hot Glass Substrates**  
Burak Okan, Türkiye, Şişecam Science Technology and Design Center

10:05 – 10:45 Coffee Break

**Session 3: Materials, Film Formation, Simulation, Process Control**  
Chairs: Holger Pröhl, Shijie Wang

10:35 – 11:05 **Keynote**  
**From Optical Optimization by Genetic Algorithm to Multiscale Thin Film Deposition Modelling: Application to Low-E Glass and Head-up Display**  
Prof. Stéphane Lucas, Belgium  
University of Namur, Innovative Coating Solutions (ICS)

11:05 – 11:30 **Invited**  
**Advanced Optical In-line Monitoring: Hyperspectral Imaging and Beyond**  
Dr. Jonas Golde, Germany  
Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS

11:30 – 11:50 **Plasma Diagnostics for Enhanced Coating Processes**  
Dr. Chanel Linnane, Impedans, Ireland

11:50 – 12:10 **Thin Film Analysis by Variable Angle Spectroscopy in the Infrared**  
Peter Van Nijnatten, The Netherlands, OMT Solutions BV

12:10 – 12:30 **State of the Art Optical Thin Film Analyses for Industrial Applications**  
René Feder, Germany, Fraunhofer IMWS

12:30 – 14:00 **Lunch Break**

**Session 4: Digitally Supported Coating Technology**  
Chairs: Marcus Frank, Ric Shimshock

14:00 – 14:30 **Keynote**  
**Digital Transformation in Thin Film Deposition**  
Dr. Holger Gerdes, Germany  
Fraunhofer Inst. for Surface Engineering a. Thin Films IST

14:30 – 14:55 **Invited**  
**Optical Coatings Computer-aided Production**  
Dr. Michael Trubetskov, Germany  
Max Planck Institute of Quantum Optics/OTF Studio GmbH

14:55 – 15:15 **Advancing Glass Coating Quality Through In-Line Color Control**  
Michael Saeger, Switzerland, X-Rite Pantone

15:15 – 15:35 **Digital Solutions for Efficient and Sustainable Large Area Coating**  
Anja Kalesse, Germany, Von Ardenne GmbH

15:35 – 16:05 Coffee Break

**Session 5: Processing & Handling of Thin Glass**  
Chairs: Jörg Neidhardt, Eveline Rudigier-Voigt

16:05 – 16:35 **Keynote**  
**Highly Flexible Displays: Challenges & Opportunities**  
Prof. Dr. Karlheinz Blankenbach, Germany, Pforzheim University

16:35 – 17:00 **Invited**  
**Damage Mechanisms in Glass**  
Prof. Dr. Edda Rädlein, Germany, TU Illmenau

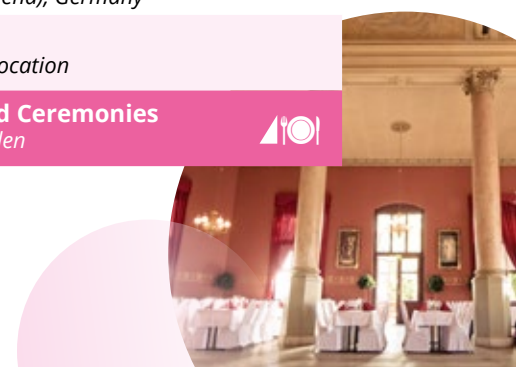
17:00 – 17:25 **Invited**  
**Glass Panel based Packaging and Applications in High Performance Computing and 5G Telecommunications**  
Dr. Martin Letz, Germany, Schott AG

17:25 – 17:45 **Mechanical Characterization for Reliable Handling and Functionalization of Ultrathin Flexible Glass**  
Wiebke Langgemach, Germany, Fraunhofer FEP

17:45 – 18:05 **Laser Polishing – A Way of Influencing Glass Surfaces**  
Thomas Schmidt, Germany, Günter Köhler Institute for Joining Technology and Materials Testing (ifw Jena), Germany

**18:10**  
**Bus Shuttle**  
from MESSE DRESDEN to Dinner Location

**18:30 – 22:00**  
**Networking Dinner & Award Ceremonies**  
Ball- und Brauhaus Watzke, Dresden



WEDNESDAY, June 26

Location:  
Messe Dresden, Hall 3 East

8:00 – 15:30  
**Exhibition**  
More info on the exhibitors online

8:00 Registration Counter opens

**Session 6: Transportation & Architectural**  
Chairs: Wilmert DeBosscher, Dr. Anelija Wäckerlin

8:30 – 9:00 **Keynote**  
**Physical Interpretation of Role of Optical Constants in Thermal Insulation and Heat Shielding Coating**  
Dr. Odaka Hidefumi, Singapore, AGC Asia Pacific Pte Ltd.

9:00 – 9:30 **Invited**  
**Context is Everything: How Visual Environments and Lighting Influence Glass Appearance and Bird Deterrent Efficacy**  
Alexander Sobolev, USA  
Guardian Industries Science and Technology Center (STC)

9:30 – 9:55 **Invited**  
**How Automotive Industry is challenging Coating Technologies for Display Cover Glasses**  
Dr. Matthias Schiller, Germany, FLABEG Automotive Germany GmbH

9:55 – 10:15 **Scale up of Vanadium Dioxide-Based Thermochromic Coating Deposition for Large Area**  
Dr. Stephan Ulrich, Germany, Fraunhofer IST

10:15 – 10:35 **Thermochromic Smart Window for Optimized Solar Heat Management: From Lab to Pilot-Scale Production**  
Dr Daniel Mann, The Netherlands, TNO | Brightlands Materials Center

10:30 – 11:05 Coffee Break

**Session 7: Optics, Sensors & Electronics**  
Chairs: Georg Ockenfuss, Manuela Junghänel

11:05 – 11:40 **Keynote**  
**Refractive Index Modification of Glass Surfaces for Datacom, Sensing and Quantum Packaging**  
Julian Schwietering, Germany, Fraunhofer IZM

11:40 – 12:05 **Invited**  
**Enhancing Augmented Reality: Flexible Production of Slanted Surface Relief Gratings (SRG) with Ion Beam Technology**  
Dr. Mandy Göring, Germany, scia Systems GmbH

12:05 – 12:25 **Sputtered Optical Coatings for Sensor Applications in Adaptive Automotive Headlights**  
Dr. Kerstin Täschner, Germany, Fraunhofer FEP

12:25 – 13:30 **Lunch Break**

**Session 8: Energy Conversion & Storage**  
Chairs: Volker Geyer, Harmen Rooms

13:30 – 14:00 **Keynote**  
**Organic and Perovskite Solar Cells – Is the Next Generation of PV Produced by Solution Coating?**  
Prof. Dr. Christoph J. Brabec, Germany  
Friedrich-Alexander-Universität, Erlangen-Nuremberg

14:00 – 14:25 **Invited**  
**R2R Methods for Solid-state Battery Manufacturing**  
D.Sc. (Tech.) Marja Vilkmán, Finland  
VTT Technical Research Centre of Finland Ltd

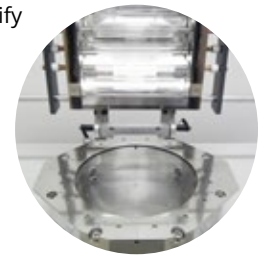
14:25 – 14:50 **Invited**  
**Organic Solar Cells Made in Vacuum: From Lab Cells to Large Scale Roll-to-Roll Production**  
Dr. Karsten Walzer, Germany, Heliatek

14:50 – 15:15 **Invited**  
**Bridging the Gap: Scalable Research in Photovoltaics from Lab to Industry**  
Dr. César Omar Ramírez Quiroz, Denmark, FOM Technologies

**Closing remarks**  
15:20 – 18:00 **Lab tours in Dresden**

**Lab tours:**  
**Tour 1: Institutes and Labs of Fraunhofer FEP**  
Fraunhofer FEP, Dresden, focuses on innovative solutions for surface modification & organic electronics. Core competencies: electron beam, roll-to-roll tech, precision coating. Offers R&D, pilot manufacturing for surface treatment, sensors, optical filters. 6 business units based on materials & synergies.

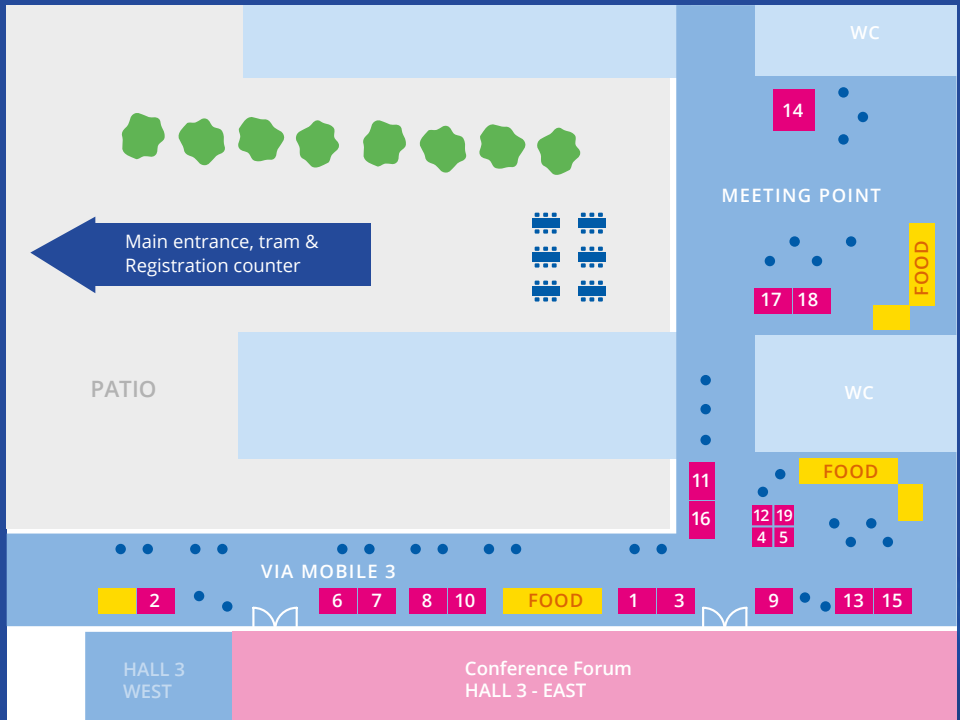
**Tour 2: Institutes and Labs of Helmholtz-Zentrum Dresden Rossendorf**  
The lab tour presents the experimental possibilities of the Innovation Lab blitzlab and the Helmholtz-Zentrum Dresden Rossendorf to modify and process materials for various thin film applications. blitzlab guides through the lab and shows flash lamp annealing tools in operation including a roll-to-roll tool that combines inkjet print with flash lamp annealing.  
Info: [www.hzdr.de/en](http://www.hzdr.de/en)



Bus shuttles to the companies and return to city center with arrival at 18:00 hrs will be provided.



## Floor plan:



### Exhibitors:

- |                                   |                              |
|-----------------------------------|------------------------------|
| 1 AGC Plasma Technology Solutions | 10 LSA                       |
| 2 Agilent Technologies            | 11 Melec                     |
| 3 ZEISS Spectroscopy              | 12 NAGY Instruments          |
| 4 CCR                             | 13 OMT Solutions             |
| 5 Coatema Coatings                | 14 Robeko & Plasus           |
| 6 Fraunhofer FEP                  | 15 Sentech                   |
| 7 Gencoa                          | 16 Soleras Advanced Coatings |
| 8 GfE Fremat                      | 17 Suragus                   |
| 9 Konica Minolta                  | 18 Von Ardenne               |
|                                   | 19 Ampres                    |

### ICCG e.V.:

**President: Prof. Dr. Bernd Szyszka**  
Technical University Berlin, Germany

**Vice-President: Dr. Koichi Suzuki**  
SurFtech Transnational Co., Ltd., Japan

**Treasurer: Dr. Jörg Pütz**  
Carl Zeiss Vision, Germany

### Organizer Contacts:

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