



ICR[®] International
Colloquium on
Refractories

SCIENTIFIC CONFERENCE AND TRADE FAIR

17-18 Sept 2025

Aachen, Germany

” THE AI REVOLUTION

YOUR GUIDE

SCIENTIFIC CONFERENCE
TRADE FAIR
NETWORKING EVENING

OPENING Ulf Frohneberg
KEYNOTE Dr. Christoph Völker
GUSTAV EIRICH AWARD
WOMEN@REFRACTORIES
CERAMICS –
CREATE YOUR FUTURE
POSTER SLAM & AWARD

CMP

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HOST

Deutsche Feuerfest-Industrie e.V. (DFFI)
German Refractories Association

ORGANISATIONAL OFFICE

European Centre for Refractories gGmbH (ECREF)
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DEAR VISITORS OF ICR,

DEAR FRIENDS OF THE REFRACTORY INDUSTRY,

This guide provides you with an overview of everything that is being offered at the International Colloquium on Refractories on 17 and 18 September 2025. You will also find an overview of the scientific talks here (page 10/11).

The detailed schedule of the scientific talks – with speaker, title, room and time – is available online.
Please scan the QR code below for the detailed scientific programme or visit www.ecref.eu/icr.

We also point out that by registering and accepting the terms and conditions of ICR 2025, you have agreed that we may take photos and recording film in order to use them for communication in the media afterwards.

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SCIENTIFIC
PROGRAMME



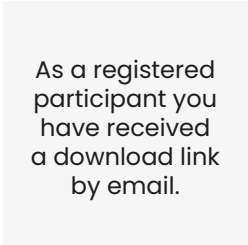
LIST OF ATTENDEES



ICR APP



WIFI



PROCEEDINGS

WELCOME

17 SEPTEMBER 2025 – 10:00 AM

ULF FROHNEBERG

GROWING CHALLENGES

Dear refractory family.

As every year in September, the refractories family will gather again to network, exchange ideas, and develop further at Europe's largest platform for the refractories industry. As every year, I am pleased to welcome the community on behalf of the German Refractories Association DFFI. As every year, I am addressing the current challenges facing our industry.

We must recognize that all these challenges are increasing. In addition to the challenges that have existed for years, such as the transformation of industry, rising energy costs and the task of attracting young talents, we are now facing further challenges that we must overcome. The geopolitical situation has been anything but calmed over the past year. On the contrary: the global political situation is more unstable and unpredictable than ever before.

And as if that were not enough, a new challenge is threatening the competitiveness of European refractory producers: Tariffs. We are currently facing the threat of tariffs on both the export of our finished goods and the purchase of crucial raw materials. We can no longer rely on national governments and the European Parliament to make decisions that are in the best interests of the industry. That is why we, as the refractory family, must come together, address our interests, and become more visible. We must move closer to politics, or more specifically, to politicians, in order to raise awareness of what threatens our competitiveness and thus our existence.

The refractory family is coming together. The growing popularity of events like this one is proof of that. But also, the German Refractory Association is experiencing increasing support. More than 70 companies, producers, and associated companies of the industry are now members of the DFFI association, and the number is steadily growing every year. Let us stand together for our mission: to maintain the competitiveness of the European refractory industry in the future.

I look forward to meeting friends and partners and to an inspiring exchange at the colloquium.

Glückauf.



Ulf Frohneberg
President of the German Refractories Association

A handwritten signature in blue ink, appearing to read 'U. Frohneberg', written in a cursive style.

Ulf Frohneberg
President of the German Refractories Association



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WELCOME

DR. CHRISTIAN DANNERT

Dear Friends in the Refractory and Process Industries,

We are thrilled to welcome you to the International Colloquium on Refractories (ICR) 2025. This year's conference theme, „The AI Revolution: Transforming the Refractory Industry“, underscores the pivotal role that Artificial Intelligence (AI) is playing in shaping our future.

The integration of AI is no longer an option but a necessity for industries to remain competitive and innovative. For the refractory sector, AI offers unprecedented opportunities to enhance material properties, optimize production processes, and drive operational efficiencies. These advancements not only benefit our industry but also contribute to broader societal goals, such as sustainability and resource management.

However, the path to AI implementation is fraught with challenges, particularly for small and medium-sized enterprises (SMEs). Limited resources, expertise, and the rapid pace of technological change can make it difficult for SMEs to keep up. Yet, these challenges also present opportunities for collaboration and knowledge sharing.

At ICR 2025, we aim to address these hurdles head-on. The event will bring together academics, researchers, and industry experts to share insights, case studies, and practical solutions. We need to explore how AI can be effectively integrated into refractory processes, discuss strategies to overcome implementation barriers, and foster a collaborative environment where SMEs can learn from larger organizations and vice versa. Together, we can navigate the complexities of the AI revolution and ensure that the refractory industry not only adapts but thrives in this new era.

Welcome to ICR 2025.



Dr. rer. nat. Dipl.-Ing. Christian Dannert



Dr. Christian Dannert
Head of ICR

An aerial photograph of a large industrial complex, likely a steel mill, with several tall smokestacks emitting white smoke. The facility is situated behind a dense forest of green and yellow trees. The image is framed by a large, stylized white letter 'S' on a blue background.

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KEYNOTE

17 SEPTEMBER 2025 – 10:00 AM

DR. CHRISTOPH VÖLKER

THE AI REVOLUTION

AI as a Game Changer for Process Industries

Artificial intelligence in traditional production processes develops rapidly. Dr. Völker will explain how artificial intelligence is transforming the process industry through practical applications. Using practical examples, he will examine how machine learning approaches are addressing fundamental challenges: managing raw material variability, optimizing complex multi-parameter processes, and accelerating material development cycles.

ICR participants will gain insights into where AI is delivering concrete added value today, common mistakes to avoid, and practical approaches to integrating intelligent systems into existing R&D and production processes. The keynote combines technical insights with actionable guidelines and offers a well-founded perspective on how companies can use AI tools to increase performance and innovation.

Dr. Christoph Völker brings a unique combination of engineering precision and AI innovation to industrial transformation. After completing his doctorate in AI applications in engineering and conducting research at universities in India and the USA, he was a visiting professor at TU Berlin, where he led international research teams in groundbreaking AI applications for sustainable materials science. As Head of Sustainable Solutions at iteratec GmbH, Dr. Völker focuses on translating cutting-edge AI research into practical solutions for the process industry. The 600 experts at iteratec GmbH develop customized solutions, from digital twins for production optimization to AI-accelerated materials development platforms.



Dr. Christoph Völker
Head of Sustainable Solutions at iteratec GmbH

SCHEDULE WEDNESDAY 17 SEPTEMBER 2025

	EUROPE HALL	BRUSSELS HALL	FOYERS
10:00 AM	<div><div>Opening ceremony</div><div>Welcome address by Ulf Frohneberg Keynote by Dr. Christoph Völker</div><div>Gustav Eirich Award</div><div>OPEN TO ALL TICKETS</div></div>		
12:00 PM	LUNCH BREAK 12:00 PM–1:00 PM		
1:00 PM	<div><div>Refractory Engineering – General</div></div>	<div><div>Refractory Applications – Iron and Steel</div></div>	
3:00 PM	COFFEE BREAK 3:00–3:20 PM		
3:20 PM	<div><div>Sustainability of Refractories I</div></div>	<div><div>Women@Refractories</div><div>„How can women make an impact without bowing to old expectations?“</div><div>OPEN TO ALL TICKETS</div></div>	
5:00 PM	NETWORKING EVENING 5:00–11:00 PM		
11:00 PM	<div><div>IN THE TRADE FAIR</div><div>OPEN TO ALL TICKETS</div></div>		

	EUROPE HALL	BRUSSELS HALL	FOYERS
9:00 AM	Refractory Engineering – Bonding systems I	Refractory Applications	Workshop: CERAMICS–CREATE YOUR FUTURE OPEN TO ALL TICKETS
10:40 AM			
COFFEE BREAK 10:40–11:00 AM			
11:00 AM	Refractory Engineering – Bonding systems II	Testing and standardisation	Poster slam OPEN TO ALL TICKETS
1:00 PM	Poster award OPEN TO ALL TICKETS		
LUNCH BREAK 1:00 PM–1:40 PM			
1:40 PM	Sustainability of Refractories II	Refractory Applications – Hydrogen	
3:40 PM			

DETAILED SCIENTIFIC PROGRAMME

17 SEPTEMBER 2025 AND 18 SEPTEMBER 2025:

www.ecref.eu/icr



**SCIENTIFIC
PROGRAMME**

As a registered participant you have received a download link by email.

PROCEEDINGS

HIGHLIGHTS OPEN TO ALL TICKETS

EUROPE HALL

Welcome Address

OPENING CEREMONY

17 September 2025 – 10:00 AM

Welcome address from Ulf Frohneberg,
President of the German Refractories Association



Keynote

„The AI Revolution“

OPENING CEREMONY

17 September 2025 – 10:00 AM

Keynote from Dr. Christoph Völker, Head of
Sustainable Solutions at iteratec GmbH:
„AI as a Game Changer for Process Industries:
Examples from R&D and Practice“



Gustav Eirich Award

OPENING CEREMONY

17 September 2025 – 11:00 AM

The Gustav Eirich Award is presented for the three best dissertations (Ph.D. theses) or equivalent work in the field of refractories that have been completed no longer than two years ago.

Followed by the opening of the trade fair at 12:00 PM

On Wednesday after the scientific programme, the evening reception with a special touch is the focus. It takes place between the booths in the trade fair and offers excellent food and delicious drinks. This will guarantee a lasting impression.

You will all be able to exchange knowledge and experience, to meet your friends and to make new contacts and cultivate your network.

Networking Evening

17 September 2025 - 5:00 PM

IN THE TRADE FAIR

Food & Drinks

Women@Refractories

17 September 2025 - 3:20 PM

BRUSSELS HALL

How can women exert influence without bending? This question lies at the heart of the Women@Refractories networking event at ICR 2025. The afternoon will begin with a talk by leadership expert Vera Strauch, followed by a panel discussion featuring female experts and a male ally. The event will also present the results of the Voices of Refractories survey, offering opportunities for interactive networking to generate ideas, increase visibility and foster lasting connections.

Ceramics – Create your future

18 September 2025 - 9:30 AM

BRUSSELS FOYER

How can we attract Generation Z, and even future generations like Generation Alpha, to the refractory industry? Which formats, topics and channels engage young people today? This interactive workshop at ICR 2025 invites young talent, doctoral students and professionals to explore these questions together. All ideas are welcome, whether it's a quiz app, social media campaign, or fresh presentation format. This think tank encourages open dialogue and innovation.

Poster Slam & Award

18 September 2025 - 11:00 AM

BRUSSELS FOYER

Submitted posters are mounted on pinboards in the poster area in front of Brussels Hall and can be viewed all day. The poster session enables registered authors to make their work known to all ICR participants. In addition to the presentation on the poster wall, registered authors can win a competition with a short presentation of the main technical features of their work in three minutes – as a SLAM.

The AWARD is sponsored by **STEULER** and **Göller Verlag**.

ICR
International Colloquium on Refractories
17. - 18. 09. 2025
Eurogress Aachen

**BRÜSSEL - HALL
BRÜSSELSAAL**

**EUROPA - HALL
EUROPASAAL**

POSTER SHOW
~~~~~  
POSTER SLAM

## Getränke

Info

### Main Entrance

Lift / Aufzug

Rollup

 Beverage

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| 19a |
| 19b |
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**Medien Partner**

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**17** **16a**

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13

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| <b>27</b> | <b>26</b> | <b>25</b> |

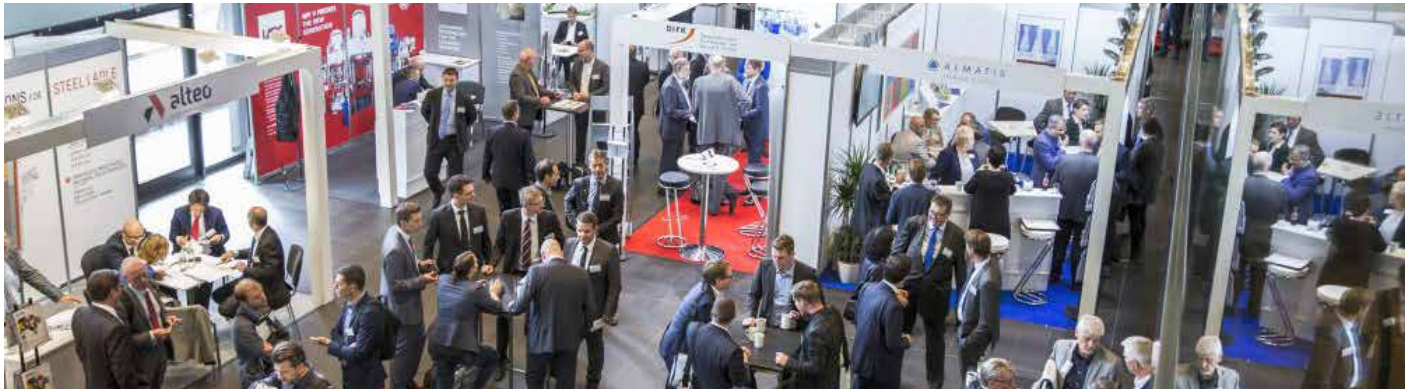
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12



# EXHIBITORS TRADE FAIR



20 Beijing Allied Rongda Engineering Material Co.,Ltd  
 08 Bernd Münstermann GmbH & Co. KG  
 27 Calucem d.o.o  
 11 Carl Spaeter GmbH  
 04 Chemische Fabrik Budenheim KG  
 22 CMP Tianjin Co., Ltd  
 02 CREMER ERZKONTOR GmbH  
 28 DFFI DIFK ECREF FGF  
 19a DISAB-Tella AB  
 05 Elkem  
 13 ESK-SIC GmbH  
 36 GrindoSonic  
 12 Hindalco Industries Limited  
 17 IMCE NV  
 34a IZOREF GmbH  
 31 Koblenz University of Applied Sciences  
 01 Kymera International  
 07 LAEIS GmbH  
 09 Lucideon  
 26 Marketing Mittelrhein Strategieberatungs GmbH  
 19 Maschinenfabrik Gustav Eirich GmbH & Co KG

21 Nabaltec AG  
 35 Orient Ceratech Limited  
 16a PENNEKAMP Middle East  
 03 Purmetall GmbH & Co. KG  
 16 Rain Carbon Germany GmbH  
 15 Refmin China Co., Limited  
 19b Refra-System Kft  
 34 Reimbold & Strick - TORRECID Group  
 33a Romco Aluminates Pvt LTD  
 30 RWTH Aachen University  
 06 Specialty Steel Corporation SA  
 18 STEULER-KCH GmbH  
 25 Thyme CHEM-MIN GmbH  
 33 Trasteel International SA  
 32 TU Bergakademie Freiberg  
 14 Union Corporation  
 29 Universität Koblenz  
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 24 Wassmer Spezialmaschinen GmbH  
 23 Zibo Huao New Material Co.,Ltd

# For first hand information on refractories



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ONLINE SESSION WITH JESSICA FERNANDEZ

Fire Talks „The Power to Decide Who You Want to Be“

12 October 2025



Seminar „Pressing technology in manufacturing“

10–11 November 2025



ONLINE SESSION WITH TOBIAS STEFFEN

Fire Talks “How to Be a Male Ally”

9 December 2026



NETWORKING EVENT AT MESSE MÜNCHEN, HALL A4

“Ceramitec Women’s Forum: Equal Futures – Together in Leadership”

24 March 2026



Feuerfest-Innovationstage 2026

12–13 May 2026



Seminar „FEUERFEST – Schlüsseltechnologie und ihre Anwendungen“

23–25 June 2026



International Colloquium on Refractories ICR®

16–17 September 2026

## POSTERS

High-temperature corrosion resistance of porous lightweight insulating refractories in hydrogen and water vapor atmosphere

JAN FELIX BLECK

Innovative Hydrogen-Fueled Furnace for a Green Future in the Ceramics and Refractories Industry

KAROLINA DUDEK

Reducing odour nuisance during heating of the torpedo ladle at Tata Steel in IJmuiden.

FRIDA HAMEKA

Additive manufacturing of real refractory castables using contour-crafting – challenges and opportunities

FLORIAN HOLLEYN

Use of hydrogen for ladle preheating in electric steel plants by means of efficient and flexible oxyfuel combustion systems

MEHRDAD JAVADI

Experimental setup to analyze the interactions between distinct organic additives and magnesia (MgO)

NICOLE MORITZ

XRT investigation of the thermal-induced porosity development of silicon resin bonded dense refractory bricks

ANITA RAZAVI

Thermo-mechanical Characterization of Commercial MgO-C Refractory Bricks Based on Recyclate

ALEXANDER SCHRAMM

Trajectory Mixing: A method for reducing water consumption and mixing times for refractory castables? First promising results!

THEKLA STEIN





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# TICKET VALIDITY

|                                                                             | Full ticket | Networking ticket |
|-----------------------------------------------------------------------------|-------------|-------------------|
| Entry to ICR® trade fair<br>(17 September and 18 September 2025)            | ✓           | ✓                 |
| Entry to ICR® scientific conference<br>(17 September and 18 September 2025) | ✓           | ✗                 |
| Lunches<br>(17 September and 18 September 2025)                             | ✓           | ✓                 |
| Women@Refractories seminar and networking event<br>(17 September 2025)      | ✓           | ✓                 |
| Networking evening<br>(17 September 2025)                                   | ✓           | ✓                 |
| Ceramics – Create your future (workshop)<br>(18 September 2025)             | ✓           | ✓                 |
| Poster session and poster award<br>(18 September 2025)                      | ✓           | ✓                 |

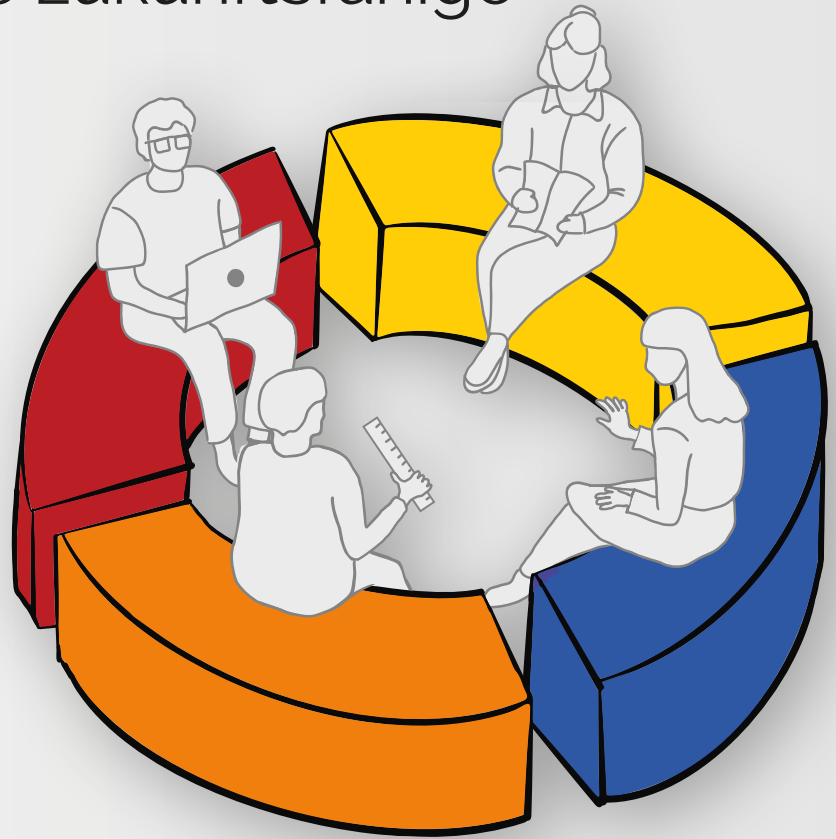
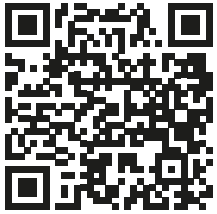
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## IMPRINT

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