



**Adapt to new Challenges, take
advantage of new opportunities**

COPPER ALLOYS 2026

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Subject to change

Scientific conference on copper materials

kupfer_ **RI**
SE **SWERIM**

Invitation

Copper Alloys 2026: International arena for scientific and technical development – forum for copper alloys industries, universities and research institutions.

Copper Alloys continues to act as the most important international arena for presenting and discussing newest research findings related to copper materials. Engineers from academia and industry actively contribute to increased knowledge and exchanges related to metallurgical processes, further development in control of mechanisms to steer and improve alloys' properties as well as new innovative materials. In addition, stringent legislation and, increasingly, geopolitical developments against the backdrop of increased protectionism all over the world, directly impact the entire copper value chains, leading to both threats and new opportunities. To address these constantly changing conditions, scientists and industries are required to have new copper-based material available as alternative to commonly used Cu-alloys. The emerging of interesting and still insufficiently understood alloys materials properties as well as new application ranges automatically follow this development.

Aiming at presenting a comprehensive overview of this quick evolving field, this year's conference will in addition to the traditional technical and engineering focus even include keynote lectures giving a deeper view into challenges related to raw materials sourcing and supply security as well as the state of the art of materials legislation. Especially the latter did and does co-steer, at least in Europe, a broad variety of product specific legal settings. Along the example of the most important, often recognized as forerunner, the European Drinking Water Directive will have a special focus this year, ending up in an own drinking water materials & application session. Other sessions of the conference will be covering specific demands of further application groups, taking into consideration the whole spectrum of legislation, engineering challenges in material development & process improvement as well as production-, use- & recycling technologies.

Copper Alloys 2026 will, once again, help, copper alloys producers and users, universities, and research institutions, to get new insights and to increase network.

Welcome to Düsseldorf!

General Information

Location

The conference will take place
September, 29th to 30th, 2026
at the Clayton Hotel,
Immermannstraße 41,
40210 Düsseldorf, Germany

Language

The conference language
will be English.

For more information see

www.copperalloys.eu

Scientific Committee

Christian Blecking, Kupferverband e.V., Germany
Wilhelm Erning, BAM, Germany
Ralf Feser, Fachhochschule Südwestfalen, Germany
Joacim Hagström, SWERIM, Sweden
Jens Jürgensen, Euro-Labor GmbH, representing Bochum University, Germany
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Inger Odnevall, KTH Royal Institute of Technology, Sweden
Lorenzo Omodei, Trafflerie Carlo Gnutti, Italy, representing CEN
Kevin Ogle, ParisTech Chemistry, France
Paolo Piccardo, Genova University, Italy
Olivier Rod, SWERIM, Sweden
Roberto Spotorno, Genova University, Italy
Ladji Tikana, Kupferverband e.V., Germany

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Olivier Rod, Swerim, Sweden

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	Room 1	Room 2
10:00	Registration	
10:30	Opening, Welcome	
10:40	New European System for Materials in Contact with Drinking Water Dr. Thomas Rapp, Fachgebiet II 3.4 – Trinkwasserverteilung, Umweltbundesamt Bad Elster	
11:20	Challenges und solutions with lead reduction – perspective of an assembled product manufacturer Stefanie Facklam, WILO SE	
12:00	Lunch	
	Material understanding & alloy development Wilhelm Erning	Copper alloys for energy applications Olivier Rod
13:00	Microstructure and castability of lead-free brass modified by REM J. Hagström ¹ , P.-E. Persson ² , M. Nordin ³ , T. Mangs ³ ¹ Swerim AB, ² Nordic Brass Gusum AB, ³ FM Mattsson	Influence of hydrogen-charging to copper-based materials for gas installation C. Blecking ¹ , J. Jürgensen ² , T. Marte ² , K. Ockenfeld ¹ , L. Tikana ¹ , M. Pohl ² ¹ Kupferverband e.V., ² Ruhr-Universität Bochum
13:25	Oscillating tribometer investigations of the lead-rich and lead-free VDM Aeterna® alloys M. Sakaliyska ¹ , S. Reimus ¹ , R. Leisner ² , M. Weber ² , V. Bräutigam ³ , F. Seuß ³ ¹ VDM Metals International GmbH, ² IST Fraunhofer, ³ Diehl Brass Solutions	Sophisticated copper materials for a greener future B. Reetz, A. Frehn, W. Budweiser Materion Brush GmbH
13:50	Innovative lead-free machinable nickel silver alloy for use in the key industry K. Lefor Sundwiger Messingwerk	A retrospective study and a designed experiment of the influence of phosphorous content and microstructure on copper strength and creep strength and ductility J. Sarnet The Swedish Nuclear Fuel and Waste Management Company
14:15	Impact of Zr alloying on the tribological properties of Cu-Co-Be precipitation-hardened copper alloys V. Karakurt Saglam Metal	Experimental estimations of diffusion rates of phosphorus in creep tested oxygen-free phosphorus doped copper (Cu-OFP) S. Kylström ¹ , H. C. M. Andersson-Östling ¹ , C. Lilja ² , E. Bergendal ² ¹ Swerim AB, ² Svensk Kärnbränslehantering AB
14:40	Coffee Break	



Room 1

Material understanding & alloy development

Lorenzo Omodei

15:10 **Determination of the influence of composition and thermal history on the corrosion properties of brass alloys using computational thermodynamics**

L. Francesca, M. Ottander, J. Hagström, Z. He, Olivier Rod | Swerim AB

15:35 **Optimizing Copper Alloys for Electrical and Electronic Applications Using Machine Learning**

A. Ksibi, M. Hubert | Le bronze Alloys

16:00 **Analytical strength assessment for components made of copper materials**

M. Hupka¹, R. Rennert², M. Giuri¹, M. Wächter¹, A. Esderts¹ | ¹Clausthal University of Technology, Institute for Plant Engineering and Fatigue Analysis, ²Hochschule für Technik und Wirtschaft Dresden (HTWD)

16:25 **Colours and segregation of tin-bronzes, from the origins to the future**

P. Piccardo, C. Criaco, C. Lupi, M. Pedemonte | METAL research group, Dept. of Chemistry and Industrial Chemistry, University of Genoa

16:50

Room 2

Additive manufacturing: progress in process and products treatment

Christian Blecking

Comparative life cycle assessment of copper alloys produced by electron beam wire and laser wire DED additive manufacturing

N. Michael¹, B. Neumann¹, M. Biegler¹, M. Rethmeier^{3,1,2} | ¹Fraunhofer Institute of Production Systems and Design Technology (IPK), ²Federal Institute of Materials Research and Testing (BAM), ³Institute for Machine Tools and Factory Management (IWF), TU Berlin

Microstructure engineering of ultra-pure copper using electron beam powder bed fusion additive manufacturing

U. Ljungblad¹, A. Balachandramurthi¹, P. Tarafder², A. Wiberg², H. N. Najafabadi², K. Wennersten², J. Moverare² | ¹Freemelt AB, ²Linköping University

Influence of mechanical post treatment on additively manufactured CuCrZr

I. Nzenwata¹, S. Heikebrügge¹, S. Fliegner², J. Schubnell², C. Krämer³, S. Dietrich³ | ¹cunova GmbH, ²Fraunhofer Institute for Mechanics of Materials (IWM), ³Karlsruhe Institute of Technology (KIT)

Additive manufacturing of pure copper by PBF-LB with a 445 nm blue laser

A. Langebeck, T. Siemonsen, A. Krämer | BIAS GmbH

On feasibility of wire-arc directed energy deposition of high-performance copper alloys

K. Bharadwaj, F. Pixner | LKR Light Metals Technologies, AIT Austrian Institute of Technology (Austria)

18:00 **Beginning of the evening program**

Guided city walk to the dinner venue

19:00 **Dinner & Networking**

THE EIGHT
Rathausufer 8
40213 Düsseldorf



Room 1

Production & manufacturing

Dr. Jens Jürgensen

- 09:00 **Pushing forming limits: enabling new geometries for hollow stator conductors**
K. Sommer, J. Schönfeld, A. Beel | cunova GmbH
- 09:25 **Influences of ECAE routes on filament-strengthening in Cu-Ag composites**
R. Niu, R.G.Goddard, K. Han | National High Magnetic Field Laboratory, Florida State University
- 09:50 **The virtual twin of the forming process chain for copper products**
H.-W. Raedt | prosimalys GmbH

10:15 Coffee Break

- 10:45 **Data-driven process modeling and optimization using machine learning methods and semantic technologies: a case study of the hot rolling of copper materials**
M. Weber, L. Morand, A. Butz, D. Helm, K. Kumaraswamy, Y. Nahshon, G. Gräf, J. Riedle, K. Gubaev | Fraunhofer-Institut für Werkstoffmechanik IWM
- 11:10 **High-speed-friction stir welding of copper alloys**
S. Fortmüller, P. Jaritz, L. Oppeneiger, J. F. dos Santos, T. Weinberger | Stirtec GmbH
- 11:35 **Blue diode lasers for smooth and robust processing of copper and its alloys**
M. Schlett, L.-M. Schäfer-Heine, D. Huhn, A. Arndt | Laserline GmbH

12:00 Lunch

Room 2

Sustainability – raw material sourcing & life cycle tools

Dr. Ladji Tikana

- Anthropogenic mining-deposits as opportunities for new value chains**
K. Hillrichs | Metalogie GmbH
- A review of thermo-chemical and thermo-mechanical interactions of refractories in pyrometallurgical copper production**
D. Shukla, S. Campbell, M. Lambert | Allied Mineral Products, Research & Technology Department, Columbus, Ohio (USA)
- Copper recovery from pickling solutions on site with simultaneous acid treatment**
D. Shukla, S. Campbell, M. Lambert | Allied Mineral Products, Research & Technology Department, Columbus, Ohio (USA)

- The engineer design combination of high-performance copper alloys and the risk of downcycling when mixed**
P. Wallat | DfACE Strategy Systems

- KupferDigital and KupferDigital2: material data space to increase efficiency and sustainability in the copper life cycle**
M. Eisenbart¹, S. Brehm², S. Chint³, L.-P. Meyer⁴, K. Junhanns⁴ | ¹fem Research Institute, ²Wieland Electric GmbH, ³MCS Data Labs GmbH, ⁴Institut für angewandte Informatik (InfAI)

- Practical aspects of materials knowledge management for copper alloys**
M. Diekmann¹, T. Marwitz¹, M. Poudat¹, C. Blecking² | ¹Matplus GmbH, ²Kupferverband e.V.



Room 1

Corrosion & surface properties

Prof. Paolo Piccardo

13:00 **Exploring new approaches to dezincification testing for lead-free brass alloys**

C. Obitz, X. Wang, A. Wörnheim | RISE Research Institutes of Sweden

13:25 **Non-invasive electrochemical diagnostics of corrosion in copper-based cultural heritage alloys**

R. Spotorno, F. Boragina, M. Pedemonte, P. Piccardo | Università degli Studi di Genova

13:50 **Influence of water quality and temperature on brass alloy corrosion: an AESEC study**

C. Obitz, K. Törne, X. Wang | RISE Research Institutes of Sweden

14:15 **Surface modification of copper-based alloys for antibacterial applications**

A. S. Ahmed^{1,2}, D. W. Mueller^{1,3}, J. F. Pierson², F. Muecklich¹ | ¹Functional Materials, Saarland University, ²Université de Lorraine (CNRS), ³SurFunction GmbH

14:45 **Closing**

Room 2

Electrification

Dr. Joacim Hagström

Influence of the material production route on the machinability of lead-free copper-zinc alloys CW509L and CW510L in the production of electrical plug connectors

K. Brans¹, M. Meurer¹, T. Bergs^{1,2} | ¹Manufacturing Technology Institute (MTI) at RWTH Aachen University, ²Fraunhofer Institute for Production Technology IPT

Replacing leaded brass with lead-free alloys in the manufacturing of electrical circular connectors: effects on machining and crimping

M. Mauler¹, M. Meurer¹, T. Bergs^{1,2} | ¹Manufacturing Technology Institute (MTI) at RWTH Aachen University, ²Fraunhofer Institute for Production Technology IPT

Comparison of copper-matrix conductors under high mechanical stress

K. Han | National High Magnetic Field Laboratory, Florida State University, USA

Quality prediction of copper foil to tab connections – strategies & methods

J. Heine¹, E. Helfers¹, F. W. Müller², A. Schiebahn¹, Uu Reisinger¹ | ¹RWTH Aachen University, Welding and Joining Institute, ²FEF Forschungs- und Entwicklungsgesellschaft Fügetechnik GmbH