



## INTERNATIONAL WROUGHT COPPER COUNCIL

### IWCC TECHNICAL SEMINAR OSAKA 2023

#### MELTING, REFINING & CASTING

#### PAPERS LIST AS AT 20 FEBRUARY 2023

#### Session 1: Introduction: The Copper Industry in Japan

1. Overview of the Copper Industry in Japan  
**Speaker:** Hiroshi Kuwayama, Japan Copper & Brass Association (JCBA)

#### Session 2: Melting

2. Decarbonization of wire rod plants using innovative and energy efficient melting solutions  
**Speaker:** Markus Ecker, SMS Group
3. Various applications for copper melting and casting by CO<sub>2</sub> neutral induction furnaces  
**Speaker:** Sebastian Esser, INDUGA GmbH & Co. KG
4. A synergistic approach for the flue gas treatment of a copper shaft melting furnace  
**Speaker:** Nikolaos Marinakis, ElvalHalcor S.A.

#### Session 3: Digitalisation and Computation

5. Designing of flux composition in the copper alloy melting process using neural network and thermodynamic computation  
**Speaker:** Itaru Hasegawa, YKK Corporation
6. Digital twin casting technology - digitalisation in foundry and industrial IoT  
**Speaker:** Toshimitsu Okane, Professor of Institute of Technologists

#### Session 4: Scrap, Refining and the Circular Economy

7. Global challenges in copper recycling: insights from material flow analysis, developments in technology and industry issues  
**Speaker:** Luis Tercero Espinoza, Fraunhofer ISI
8. Scrap refining: Latest technological developments  
**Speaker:** Dimitri Cordublas, Continuus-Properzi S.p.A
9. An industry-led Lead-Free Brass Initiative and Roadmap  
**Speaker:** Mark Loveitt, International Wrought Copper Council (IWCC)

## Session 5: Casting

10. Fundamentals of UPCASTs energy saving strategy  
**Speaker:** Juan-Carlos Bodington, Upcast Oy
11. Sustainable semi-finished copper production - on the way to decarbonisation using continuous strip casting-rolling technology  
**Speaker:** Hendrik Busch, KME Mansfeld
12. Energy consumption of different types of casting furnaces in daily operation and other influences of energy consumption during horizontal continuous casting  
**Speaker:** Christian Wertli, Alfred Wertli AG
13. Latest innovations in copper casting technologies  
**Speaker:** Carsten Bretz, SMS Group
14. Microstructure analysis on unidirectional solidification of copper alloys  
**Speaker:** Yuki Muto, JX Nippon Mining & Metals Corporation
15. Recent developments in continuous casting of copper alloys  
**Speaker:** Brian Frame, Rautomead Ltd

## Session 6: Measurement Technology and Consumables

16. Graphite grades suitable for the copper industry and their availability  
**Speaker:** Tomoo Tokuno, Toyo Tanso
17. Measurement and control of the height of molten copper and copper alloys  
**Speaker:** Stefan Theobald, Wieland-Werke AG
18. Development of measuring thermal resistance from solidified shell to mold in VCC or SCR process.  
**Speaker:** Hirokazu Yoshida, Furukawa Electric Co., Ltd.
19. Automatic sorting technology in the copper recycling industry based on X-Ray Fluorescence (XRF)  
**Speaker:** Thomas Diesenreiter, REDWAVE, A division of BT-Wolfgang Binder GmbH
20. Real time analysis of copper alloys using handheld X-Ray fluorescence spectrometry  
**Speaker:** Takamichi Nakayma, Thermo-Fisher Scientific K.K.

20 February 2023