

Session Program

13-17 Sept 2021

**EUROPEAN CONGRESS AND EXHIBITION ON
ADVANCED MATERIALS AND PROCESSES -
EUROMAT 2021**

***C6_Solidification, casting and advanced
metallurgical processing***

Virtual

Thursday 16 September

16:40

C6_Solidification, casting and advanced metallurgical processing: C6_1_Solid-fluid interactions

Session | **Location:** Room 7

16:40–17:20

Convection during alloy solidification: The great unknown in predicting the microstructure (Keynote)

Speaker

Andreas Ludwig

17:20–17:40

The effect of solid/liquid interface velocity, temperature gradient and the melt flow induced by RMF on the micro- and the mesostructure of unidirectional solidified Al-7wt%Si-1wt%Fe alloy

Speaker

Dr András Roósz

17:40–18:00

Effect of forced melt flow on the micro- and mesostructure of Al-12.6Si eutectic alloy

Speaker

Mr Kassab Alomari

18:00–18:20

Segregation Channel Dynamics in Directionally Solidifying Ga-In Alloy with and without a Magnetic Field

Speaker

Dr Andrew Kao

18:20

Friday 17 September

09:50

C6_Solidification, casting and advanced metallurgical processing: C6_2_In situ imaging and analyses

Session | Location: Room 7

09:50–10:10

In situ quantification of degenerate graphite nodule formation during the solidification of ductile cast iron

Speaker

Tito Andriollo

10:10–10:30

The evolution of compacted graphite during cyclic solidification of ductile cast iron

Speaker

Dr Niels Tiedje

10:30–10:50

Microstructural characterization and solidification modeling of Al-based alloys in thin samples

Speaker

Dr Maike Becker

10:50–11:10

Nucleation and Crystal Growth in Undercooled Intermetallic Alloys with CrB-Structure

Speaker

Mr Till Niersbach

11:10

11:50

C6_Solidification, casting and advanced metallurgical processing: C6_3_Light alloys (Al, Mg)

Session | Location: Room 7

11:50–12:10

Bubble-solid interactions in Al-alloys during solidification and melting

Speaker

Mr Thomas Werner

12:10–12:30

Effect of grain refinement and solidification rate on the microstructure of unidirectionally solidified Al-20%Cu alloy

Speaker

Mr Alaaldeen Abdallah

12:30–12:50

New technology to produce structural steels with 1 GPa strength potential

Speaker

Andrii Kostryzhev

12:50

14:40

C6_Solidification, casting and advanced metallurgical processing: C6_4_Toward sustainability in metal processing

Session | **Location:** Room 7

14:40–15:00

Pilot scale experiments of Flue gas recirculation for the Silicon process

Speaker

Mr Vegar Andersen

15:00–15:20

Investigation of the hydrogen solubility in liquid copper for usage as reducing agent in secondary copper production

Speaker

Mr Lars Felkl

15:20–15:40

Heat treatment and solid-state processing, two steps to upcycle aluminium swarfs

Speaker

Mrs Jetmira Uka

15:40–16:00

Interaction of Fe- and Mn-containing, secondary Al-Si alloys with carbon-bonded Al₂O₃ for Fe removal

Speaker

Dr Hanka Becker

16:00–16:20

Progress towards a digital twin for gas atomisation

Speaker

Dr Christopher Hulme-Smith

16:20

16:40

C6_Solidification, casting and advanced metallurgical processing: C6_5_Metal & MMC processing innovation

Session | **Location:** Room 7

16:40–17:00

Development of HPDC reinforced aluminium metal matrix nanocomposites (MMNCs)

Speaker

Guangyu Liu

17:00–17:20

Optimization of molding sand properties to manufacture innovative new grade ductile iron castings using the Full Mold technology

Speaker

Prof. Jan Jezierski

17:20–17:40

Design of a novel twin-channel hot-runner system for thixomolding

Speaker

Mr Alexander Platzer

17:40–18:00

Simulation of slag-matte/metal equilibria for complex and low-grade raw materials.

18:00

Speaker
Pekka Taskinen