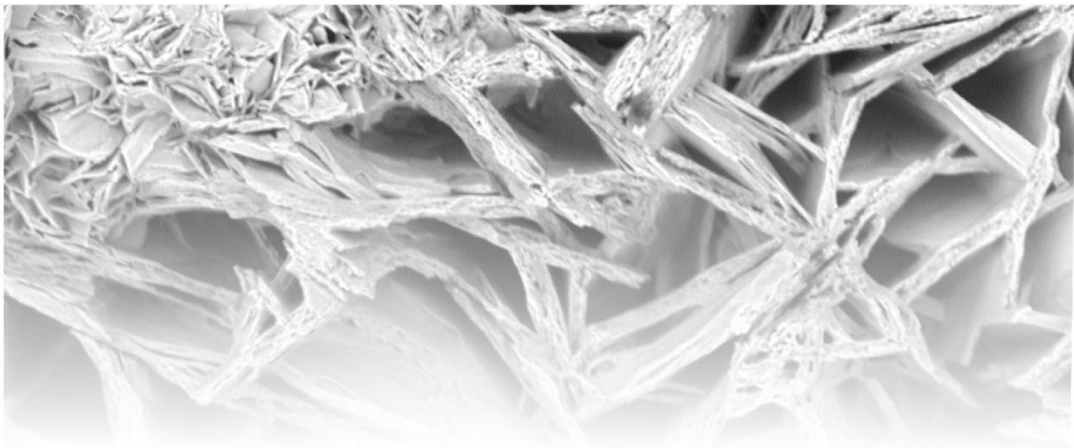




SOLIDIFICATION & CRYSTALLIZATION OF METALS

66. International
Scientific Conference
21-23.09.2026

Conference programme



TARGI KIELCE

Credit: Targi Kielce

POLISH ACADEMY OF SCIENCES

KATOWICE

PAN

POLAND

FOUNDRY ENGINEERING COMMITTEE
COMMITTEE OF MATERIALS ENGINEERING
AND METALLURGY

66th
International Scientific Conference

**Solidification and Crystallization
of Metals 2026**

P R O G R A M M E

Kielce
21 - 23. 09. 2026

Organizers:

Association of Alumni of the Silesian University of Technology „Koło Odlewników”
with the scientific and organizational support of
Department of Foundry Engineering, Faculty of Mechanical Engineering, Silesian University of Technology

Scientific Patronage:

Foundry Engineering Committee PAS Katowice
Committee of Materials Engineering and Metallurgy of PAS

Honorary Patronage:

Prof. dr hab. inż. Marek Pawelczyk – HM Rector of the Silesian University of Technology
Prof. dr hab. inż. Adam Grajcar – Chairman of the Discipline Council of Materials Engineering
Dr hab. inż. Marcin Adamiak prof. PŚ – Dean of the Faculty of Mechanical Engineering

Organizing Committee:

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dr inż. Agnieszka DULSKA
dr inż. Marcin KONDRACKI
dr inż. Natalia PRZYSZŁAK
dr inż. Jacek SUCHOŃ

Conference Secretariat Address:

DEPARTMENT OF FOUNDRY ENGINEERING
ul. Towarowa 7, 44-100 GLIWICE
tel. +48 32 338-55-17; tel./fax +48 32 338-55-18
e-mail: kikm@polsl.pl

General Programme of 66th International Scientific Conference „Solidification and Crystallization of Metals 2026”

21.09.2026 (Monday) “Hotel Uroczysko Spa & Business”***in Cedzyna near Kielce**

11 ⁰⁰ –	Conference Registration
12 ⁰⁰ – 14 ⁰⁰	Lunch
14 ⁰⁰	Opening Ceremony
14 ³⁰ – 16 ⁰⁰	Opening Plenary Lecture
16 ⁰⁰ – 16 ³⁰	Coffee Break
16 ³⁰ – 18 ⁰⁰	Plenary Session
19 ⁰⁰ – 24 ⁰⁰	Banquet (dress code: semi-formal)

22.09.2026 (Tuesday) “Hotel Uroczysko Spa & Business”***in Cedzyna near Kielce**

8 ⁰⁰ – 9 ⁰⁰	Breakfast
9 ⁰⁰ – 10 ³⁰	Lecture Session
10 ³⁰ – 11 ⁰⁰	Coffee Break
11 ⁰⁰ – 12 ³⁰	Lecture Session
12 ³⁰	Lunch
13 ³⁰	Trip to the Kielce Trade Fair 26th International Fair of Technologies for Foundry METAL, HEAT TREATMENT, and NonFerra.
14 ⁰⁰ – 16 ⁰⁰	Free time in METAL Fair 2026
16 ⁰⁰ – 18 ⁰⁰	Foundry Committee Meeting
19 ⁰⁰	Banquet in Congress Center of Kielce Fair (dress code: semi-formal)
22 ⁰⁰	Return to hotel

23.09.2026 (Wednesday) “Hotel Uroczysko Spa & Business”***in Cedzyna near Kielce**

8 ⁰⁰ – 9 ⁰⁰	Breakfast
9 ³⁰ – 11 ³⁰	Lecture Session
9 ³⁰ – 11 ³⁰	Poster Session
11 ³⁰	Closing Ceremony
12 ⁰⁰	Lunch

Detailed Conference Programme

21.09.2026 (Monday)

14⁰⁰ Opening Ceremony

14³⁰ – 16⁰⁰

OPENING PLENARY LECTURE

John Campbell: The Bifilm Concept - Revolutions for Casting Technology and Metallurgical Science.

16⁰⁰ – 16³⁰ COFFEE BREAK

16³⁰ – 18⁰⁰

PLENARY SESSION

Chairman:

prof. Rafal Dańko
prof. Jan Jezierski

- 16³⁰ Derya Dispınar, Domen Šeruga, Andrej Škrlec, Marko Nagode, Jernej Klemenc:** Simulation of bifilm defects in aluminium alloys using the finite element method to evaluate mechanical properties.
- 16⁵⁰ Zsolt Veres, Éva Kócsák:** Quantitative Characterization of Irregular Al–Si Eutectic Microstructures Using Image-Based Descriptors.
- 17¹⁰ André Bergmann Kremer, Gotthard Wolf, Michal Szucki, Andreas Keßler:** Verification of the suitability of secondary aluminium for decorative castings.
- 17³⁰ Discussion**

19⁰⁰ – 24⁰⁰ BANQUET

22.09.2026 (Tuesday)

9⁰⁰ – 10³⁰

LECTURE SESSION

Chairman:

prof. Michał Szucki
prof. Tomasz Wróbel

9⁰⁰ **Rong Li, Wentao Zhang, Wen Zhang, Tingbo Zhe, Lixia Wang, Quan Wu, Zhiping Xie, Feng Yang:** Corrosion Performance Research of Simulation and Experimental for Aircraft Motor Shafts (30CrMnSiA) under High Humidity and High Salinity. (online)

9¹⁵ **Jerzy Zych:** Functional surface layers of medium- and large-sized cast iron castings produced using in situ technology.

9³⁰ **Dariusz Kopyciński:** Shaping the Structure and Functional Properties of Chromium Cast Iron

9⁴⁵ **Tomasz Koziel:** Mechanism of B2 phase crystallization in Cu-Zr-Al bulk metallic glass matrix composites.

10⁰⁰ **Rafał Dańko, Daniel Gruszka, Angelika Kmita, Mateusz Skrzyński, Marcin Górny, Jan Marosz:** The influence of mould-making technology using furfuryl resin-bonded moulding sands on the microstructure of high-grade cast iron castings — a comparison of the traditional method and Binder Jetting

10¹⁵ Discussion

10³⁰ – 11⁰⁰ COFFEE BREAK

11⁰⁰ – 12³⁰

LECTURE SESSION

Chairman:

prof. Jerzy Zych
prof. Jan Szajnar

11⁰⁰ **Paweł Kurtyka, Ewa Olejnik, Natalia Rylko, Włodimir Mituszew:** Quantitative Multiscale Characterization of Reinforcement Distribution Anisotropy in Cast Composites with Aluminum and A3XX-Series Aluminum Alloy Matrices.

11¹⁵ **Paweł Popielarski, Adrian Kęcik, Jakub Hajkowski:** Porosity and Mechanical Properties of Rheocast Gearbox Housings Compared to HPDC.

11³⁰ **Jarosław Piątkowski:** The influence of chromium on the microstructure of low-pressure castings from the EN AC-42000 alloy obtained with increased scrap content.

11⁴⁵ **Grzegorz Tęcza:** Effect of tempering temperature on the volume fraction and hardness of retained austenite in cast GX70CrMnSiNiMo2 alloyed tool steel.

12⁰⁰ **Andriy Burbelko, Tomasz Wiktor, Artur Zaczęński, Maciej Królikowski:** Dilatometric evaluation of ausferritic transformation kinetics using Avrami diagram.

12¹⁵ Discussion

12³⁰ **Lunch**

TRIP TO THE KIELCE TRADE FAIR

13³⁰ Departure by bus from the hotel

14⁰⁰ – 16⁰⁰ – visit the exhibitions of 26th International Fair of Technologies for Foundry METAL, HEAT TREATMENT, and NonFerra

16⁰⁰ – 18⁰⁰ – "**Lambda**" hall - Meeting of the Foundry Commission of the Polish Academy of Sciences, combined with the announcement of the results of the Prof. Waław Sakwa Competition for the Best Diploma Thesis in Foundry Engineering, followed by presentations by the winners receiving special awards from FOSECO and PGO S.A.

19⁰⁰ – 22⁰⁰ – Banquet at the Trade Fair Congress Centre

23.09.2026 (Wednesday)

9³⁰ – 11³⁰ LECTURE SESSION

Chairman:

prof. Krzysztof Naplocha
prof. Mirosław Cholewa

- 9³⁰ **Derya Dispinar, Hayati Sahin:** Estimating toughness limit of cast aluminum alloys with Reduced Pressure Test.
- 9⁴⁵ **Natalia Matonis, Jerzy Zych:** Effect of acidity (pH) of fresh and reclaimed sands on the curing rate of furan moulding sands monitored by ultrasonic technique
- 10⁰⁰ **Andrzej Kochański, Marcin Perzyk, Hanna Sadłowska, Jacek Kozłowski:** Small-data-driven models in manufacturing. Application to a sustainable aluminum secondary smelting process.
- 10¹⁵ **Jan Mocek, Jerzy Zych:** The Problem of Veining Defects in the Mass Production of Cast Iron Castings – A New Testing Method, Formation Mechanism, and Causes.
- 10³⁰ **Bartosz Tokarski, Andrzej Studnicki, Jan Jezierski, Marcin Janczak:** Effect of Alloying Additions on the Wear Resistance of High-Chromium Cast Iron.
- 10⁴⁵ **Ewa Olejnik, Daniel Piróg, Katarzyna Biegun, Łukasz Szymański, Michał Pieszczyk, Wojciech Maziarz, Robert Chulist, Paweł Kurtyka:** Formation of Local WC Composite Reinforcements in Fe–C-Based Alloy Castings Using In Situ Synthesis.
- 11⁰⁰ **Tomasz Wiktor, Andriy Burbelko, Marcin Górny, Jan Marosz:** Analysis of upper and lower ausferrite growth kinetics based on dilatometric measurements.

11¹⁵ Discussion

9³⁰ – 11³⁰ POSTER SESSION

Chairman: **prof. Marcin Stawarz, dr Natalia Przyszlak**

1. **Piotr Mikołajczak:** The influence of convection on the microstructure of AlSiMg alloys during slow solidification.
2. **Magdalena Radoń, Aneta Bartkowska, Paweł Popielarski, Bogdan Kupiec, Paweł Szymański, Michał Szymański, Marek Mróz:** Effect of laser remelting on the abrasive wear resistance of WC coatings in a ball-on-disc test.
3. **Łukasz Jamrozowicz:** The role of the protective coating thickness in the process of moisture migration from the protective coating into the sand mould surface layer
4. **Jadwiga Kamińska, Krzysztof Sanocki, Robert Żuczek, Michał Angrecki:** Structural and Material Optimization of Cast Components for Solid-Fuel Heating Devices.
5. **Andrzej Zyska:** Evaluation of the Effectiveness of Selected Modifiers for EN GJL-200 Gray Cast Iron for Thin-Wall Castings.
6. **Łukasz Bernat, A. Kroma, M. Gutu, I. Malcoci, Ł. Ruta:** From FEA to Foundry: Optimization and Production of an Integrated Spindle Mount for CNC Milling Machines.
7. **Joanna Kulasa, Anna Brudny, Beata Cwolek, Witold Malec, Marcin Maleta, Waldemar Marek, Andrzej Filipowicz, Krzysztof Stolorz:** Development of a technology for manufacturing products from ecological silicon brass including material recycling.

8. **Joann Kulasa, Anna Brudny, Beata Cwolek, Barbara Juszczyk, Piotr Kramarczyk, Łukasz Krzeziński:** 3D Binder Jetting printing technology to produce elements with the required functional properties
9. **Marcin Maleta, Anna Brudny, Beata Cwolek, Joanna Hrabia-Wiśniowski, Joanna Kulasa:** Effect of rapid cooling and ultrasonic treatment on the functional properties of casted SnSb11Cu6 bearing alloy.
10. **Anna Brudny, Joanna Kulasa, Marcin Maleta, Beata Cwolek, Piotr Kramarczyk:** Effect of Alloying Additions on the Properties of Aluminium Bronzes Cast into Molds Manufactured Using 3D Binder Jetting Technology.
11. **Joanna Koleczyk-Tylka:** Analysis of the knockout performance of ceramic moulds for patterns with different geometries in investment casting.
12. **Wojciech Wyrwa, Jakub Grzęda, Krzysztof Napłocha:** Mechanical and corrosion properties of Al₂O₃ fiber reinforced aluminum alloy matrix composites.
13. **Anna Janina Dolata, Maciej Dyzia:** Ex-situ A356/SiCp cast composites – production method, microstructure, properties.
14. **Grzegorz Radzioch, Dariusz Bartocha, Marcin Kondracki:** Low-pressure casting technology for sanitary fitting components made from next-generation brass alloys.
15. **Krzysztof Janerka, Jan Jezierski, Kacper Rosanowski, Maciej Siedlak:** Porosity of carbon materials used in foundry practice for the carburization of molten cast iron.
16. **Natalia Przyszlak, Tomasz Wróbel, Agnieszka Dulka, Czesław Baron, Marcin Stawarz:** Effect of casting conditions on high-chromium steel working layer properties in layered castings.
17. **Garbacz-Klempka A., Wardas-Lasoń M., Marlicka K., Fijolek A., Piękoś M., Tabaszewski W., Jarinkovič M., Pribulova A., Futas P.:** Non-destructive testing and reverse engineering techniques for the characterization of medieval bell-casting technology.
18. **Michał Jędrychowski, Mariusz Łucarz:** Optimization of Tool Geometry as an Element of Sustainable Development in Manufacturing Processes.

11³⁰

CLOSING CEREMONY

12⁰⁰ Lunch

Additional Information

- *Presentation slides and posters should be prepared in English.*
- *The recommended language of presentation is English, Polish is also possible.*
- *Maximum poster dimensions: width 645 mm, height 1000 mm.*