

FOUNDRY REVIEW

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- SUMMARIES -



ANDREW TURNER – 20 YEARS WITH THE WORLD FOUNDRY ORGANIZATION (WFO)

Andrew Turner is a metallurgist with a long (over 20 years) experience in industry. He was a manager and an owner of large iron foundries in Great Britain. During last 16 years he was the General Secretary of the World Foundry Organization (WFO) and remains active and engaged in industry problems all over the world by his advisory and institutional functions.

KATARZYNA LISZKA

A STRONG POSITION OF THE POLISH FOUNDRY DURING THE 74th WORLD FOUNDRY CONGRESS

The paper presents the summary of the 74th World Foundry Congress, which took place on October 2022 in Busan, Korea. The Korean Foundry Society was the organizer of the 74th WFC.

508 participants from 32 countries took part in the Congress, out of which 454 participants were present personally and only 54 on-line. During the Congress the Polish foundry strongly accented its participation. Poland was at the 4-th place on account of the number of representatives. All together Poland was represented by 19 persons.

During the Congress 235 presentations, from 28 countries and regions, were shown (6 plenary presentations, 59 presentations by invited scientists, 115 verbal presentations and 61 poster presentations).

The participation of the Polish scientists in the Congress was significant. 14 presentations, including 4 posters, constituted the

4th position for Poland just after Korea (107), Japan (31) and China (18).

DR DORU MICHAEL STEFANESCU CUDWORTH PROFESSOR OF ENGINEERING, THE UNIVERSITY OF ALABAMA, TUSCALOOSA AL.

Dr Doru Stefanescu, the main professor of the Ohio State University, honored in the year 2006 by the Chapter of American Foundry Society (AFS) in the Ohio Central for his contribution and effort for the revitalization of the metal casting laboratory in the Ohio State University, where he lectures since 2005.

D. Stefanescu returned from his retirement, after 36 years of working in various places, to manage the Faculty in OSU. He contributed, among others, to modernizing and restructuring of the laboratory. Dr. D. Stefanescu was the supervisor of several Master of Science theses and Philosophy Doctor theses. He is an author of scientific and technological publications, including several keynote addresses and invited papers, books and chapters in books, papers in reviewed journals, reviewed conference materials as well as other conference materials, technical papers and patents.

NATALIA SOBCZAK

10th INTERNATIONAL CONFERENCE ON HIGH TEMPERATURE CAPILLARITY (HTC)

In a similar fashion as previous HTC conferences, the HTC 2022 was focused on experimental, theoretical and functional aspects of science of materials themselves at high temperatures in a liquid state, related to surfaces and phase boundaries, to wetting and capillarity as well as in processing of materials and operations at increased temperatures.

The HTC 2022 constituted the forum of exchanging knowledge, experiences and ideas concerning the most recent achievements and trends within the field of liquid metals engineering and in processes supported by liquid metals. The HTC 2022 was also promoting the cooperation between the academic environment, research institutes and industry.

DOROTA WILK-KOŁODZIEJCZYK, MARCIN MAŁYSZA, KRZYSZTOF JAŚKOWIEC, KAMIL WRÓBEL, DARIUSZ JACH

DIGITAL TWIN

The definition of digital twin (DT) is related to digital replicas of physical objects, processes and systems. This is the connection of the physical object and its digital reproduction in the most systematic and credible way. In order to create such tool not only the technical data, contained in the specification, are needed but also complex behavior models allowing to perform simulations and to expect the results of the performed processes are necessary. Some examples of solutions, which can be the bases of creating such digital twin, are presented in the paper. The second example is especially valuable, since this is the example of the already implemented solution the continuation of which can lead to the development of such twin.

DAMIAN BAŃKOWSKI

COMPUTER TOMOGRAPHY IN THE FOUNDRY INDUSTRY

The computer tomography constitutes radiographic 3D tests of materials, products and devices with using the X-ray radiation. This is one of the non-destructive tests, allowing the total volumetric verification. Modern radiation detectors of high resolutions allow for a very detailed analysis of the scanned objects.

RATIONAL SOLUTION OF THE PREPARATION OF COATING

The problem of “automatic preparation of protective coating” is considered – since some years – as the necessary medium of the coating quality assurance. In foundries performing castings for the automotive industry various solutions of known suppliers are available. However, in case of smaller and medium foundries the investment costs are often not proportional to the benefits, which means that properties of refractory coatings are still monitored by employees and manually adjusted to the needed viscosity according to the requirements.