1. **Dibrov I., Behtgold E.** Delegation of Russian foundry specialists at “FOND-EX” exhibition and enterprises of the Czech Republic and Germany.

The trip of the Russian foundrymen delegation to specialized exhibition «FOND-EX» in Czech Republic was informative due to the visit of the exhibition, modern plants of the Czech Republic and Germany, and participation in the seminar, organized by «Huttenes-Albertus». Russian foundrymen delegation had many business meetings and got important scientific and industrial contacts. According to the author`s opinion, the publication contains the most useful information about the trip.

Key words: Russian association of foundrymen, «UralchemplastuttenesAlbertus”, exhibition «Fond-EX» (Czech Republic, Brno).

2. **Chesnokov A., Karpinskiy A., Kulakov B., Dubrovin V.** Modeling of casting processes blades of titanium-aluminum intermetallic alloy.

The article considers the processes of centrifugal casting of turbine blades of intermetallic titaniumaluminum alloys. For simulation the filling and solidification of the turbine blade used software package ProCast. Is constructed rational feeding gate system, which provides the required quality of turbine blades.

Key words: intermetallic, titanium alloy, centrifugal casting, computer simulation, gating system, turbine blade, gas turbine engine.

3. **Deev V., Dhindaw B., Ponomareva K., Nikitina A., Yudin A.** Effect of thermo-speed on quality melt processing thin wall castings of aluminum alloys.

The influence of the thermal velocity of the melt treatment on the quality of thin-walled castings of aluminum alloys produced by gas models. It is shown that the use of thermo-speed processing on sustainable modes contributes to obtaining the required quality of castings, with the possibility to use an increased amount of recycled materials in smelting.

Key words: thermo-speed melt treatment, resource, quality, thin-walled castings, aluminum alloys, mechanical properties, lost foam casting.

4. **Feoktistov A., Protopopov E., Bedarev S., Modzelevskaja**. Charging material of cupola heat is replaced coke on coal.

This paper deals with the process of heating cast iron in cupola, when the coke is replaced on anthracite or lean coals. In the result of force analysis, acting on coke and coal fuel packing, have been defined optimal sizes of charge pieces and other technological characteristics, which provides stable melting conditions.

Keywords: cupola, coke, anthracite, lean coals, post charge, angle of internal friction.

5. **Molodyh L.** Insulation profitable parts of ingots.

The article deals with the problems of defects in the production of steel ingots: classification of defects and their causes. Methods for elimination of defects are explored, their advantages and disadvantages. Effectiveness of application is formulated; the characteristics of heat-insulating and exothermic inserts by “Fibrous refractories are shown.

Key words: defects of steel ingots, warming the hot-top ingot, exothermic and insulating inserts.

6. **Kalyuzhny P.** Intensification methods of casting cooling in vacuumized Mould

A review of existent intensification methods of casting cooling in vacuumized moulds with granular material is presented. A new method of casting cooling in fluidized bed of refractory moulding material is proposed. Implementation examples of this method at casting production by V-process and Lost-Foam casting process are given.

Key words: vacuumized mould, casting cooling speed, coolant, fluidized bed, V-process, Lost-Foam casting.

7. **Chernov V., Safonova E. Chernov V., Safonova E**. Study of life time of refractory suspensions based on ETC- 40.

The article provides recommendations, based on studies, for the increase of refractory suspensions life time. It recommended to use ashes of State District Power Plants as filler under specified conditions of the article.

Key words: life time, refractory suspension, investment casting.

8. **Voronin Yu.** The automated system on recognition of defects of castings and their elimination.

Use of the new automated system on providing factory founders and students of universities with visual and logical system of improvement of quality of castings is considered. The system is provided with conditions of fast response to inquiries of researchers on recognition of kinds of foundry defects, stages of their formation and ways of elimination.

Key words: the automated system, defects of castings, visual and logical pproach, recognition of images, decrease in marriage of castings.

9. **Fadeev A., Bazhenov V., Matveev S.** Titanium Aluminide Alloys Melting in Al2O3 crucible, is coated by Y2O3.

The melting process of gamma titanium aluminide alloy with composition Ti-44.4%Al-2.8%Nb-0.9%Mo (at. pct.) in yttria coated corundum crucible was investigated. The composition of the non-metallic inclusions, observed in the alloy microstructure, was determined by energy-dispersive X-ray analysis. Complex inclusions consist of aluminium and yttrium oxides were observed in the alloy. They are mainly located on the boundaries of the dendritic cells and have size from 1 to 5 microns. It was observed the inclusions of Ti5Si3 phase are also located on the boundaries of the dendritic cells. The results indicated that melting of titanium aluminide alloys in corundum crucible coated by yttria does not cause significant melt contamination unlike the melting in corundum and zirconia based crucibles.

Key words: Gamma Titanium Aluminide, Oxide Crucibles, Titanium Alloys Melting, Vacuum Melting.

10. **Kulakhmetov A., Kuznetsov A., Ivanov S., Slobodyanyuk G., Panov A., Pimnev D.** Experience in application of refining and modifying materials BSK- 2-US and R20 at cast iron foundry industry of OJSC “AVTOVAZ”.

Application of new pre-modifying treatment of cast iron by materials BSK-2-US and R20, based on barium and strontium carbonates, during one year at mass production of OJSC “AVTOVAZ” signals about efficiency of this method. Treatment of cast iron melt provided necessary uniformity and prevents negative “heredity” of charge materials. The increase of the pearlite component in the microstructure and improvement of SSG allows to reduce the quantities of alloying materials and modifiers. Constant application of BSK-2-US and R20 decreases the quantity of furnace slag, thereby increasing the resistance of the lining.

Key words: new pre-modifying treatment, negative “heredity”, furnace slag, resistance of the lining.

Implementation of scientific and technological ac hievements in the industry
The report of the General Director of LLC “Unirep-Service” **A. Isaev.**