



## OLEG BORISOVICH SOKOLOV

(DEDICATED TO 75-th BIRTHDAY)

In August this year Oleg Borisovich Sokolov – associate member of the International Thermoelectric Academy, candidate of science in engineering, thermoelectric materials production director of Closed Joint-Stock Company “Specialized Design and Technological Bureau “Nord” celebrated his 75-th jubilee.

The main lines of scientific research and practical development include production of thermoelectric materials by hot extrusion method. Hot extrusion assemblies have been developed, each of them permitting to obtain within one extrusion process at least 5 kg of thermoelectric material in the form of a rod of diameter 30 mm. Vertical zone melting assemblies with rotation have been created, each of them permitting to obtain in automatic mode 18 kg of thermoelectric material in the form of ingots of diameter 30 mm. Thermoelectric materials have been developed that meet the requirements of the European RoHS directives. It has been suggested that all compounds of halogen with metals currently used for doping thermoelectric materials should be substituted by the organic halogen compounds: iodoform ( $CHI_3$ ), hexachlorobenzene ( $C_6Cl_6$ ), hexachloroethane ( $C_2Cl_6$ ), hexabrombenzene ( $C_6Br_6$ ), dibromobenzene ( $C_6H_4Br_2$ ).

Oleg Borisovich Sokolov is the coauthor of 10 scientific publications:

- Research on plastic deformation at hot extrusion of  $n-Bi_2(Te, Se)_3$  and  $p-(Bi, Sb)_2Te_3$  semiconductor solid solutions.
- Peculiarities of the structure and thermoelectric properties of  $Bi_{0.88}Sb_{0.12}$  samples.
- Some regularities of diffusion in  $Bi_2Te_3-Sb_2Te_3$  plastically deformed by hot extrusion method.
- “Packing” texture of brittle materials.
- Physical-mechanical properties of metal-ceramic thermoelectric materials based on  $Si_{0.77}Ge_{0.23}$  and 74%  $Sb_2Te_3$  – 26%  $Bi_2Te_3$  alloys.
- Thermopile for a domestic refrigerator.
- Energy and resource characteristics of high-voltage low-temperature thermopiles.
- Study of  $\delta$ -phase equilibrium state with tellurium in  $Sb-Bi-Te$  system.
- Extruded materials for thermoelectric coolers.
- Extruded thermoelectric materials based on solid solutions of  $Bi_2Te_3-Bi_2Se_3$  system.

O.B. Sokolov has attended many international conferences and delivered comprehensive reports to ten of them.

International Thermoelectric Academy, Institute of Thermoelectricity NAS AND MESYS OF Ukraine, editorial board of “Journal of Thermoelectricity” congratulate dear Oleg Borisovich Sokolov with 75<sup>th</sup> jubilee, wish sound health, happiness, inexhaustible energy and creative work progress.