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THE IX INTERNATIONAL SCIENTIFIC AND PRACTICAL CONFERENCE "NOVEL POLYMERIC COMPOSITE MATERIALS"

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The regular IX International Scientific and Practical Conference "Novel polymeric composite materials", organized with the support of the Russian Foundation for Basic Researches, took place at the Kh.M. Berbekov Kabardino-Balkarian State University (KBSU), Nalchik, Russia on 11-18 September 2013.

About 100 scientists, representing universities, academic and industrial scientific-research institutes and industrial enterprises of Russia and other countries, contributed to the conference.

The conference program included 6 plenary and more than 50 oral reports. All the presentations reflected the results of researches in the area of synthesis of polymers and development of the new composite materials as well as the arising applied aspects. Many of the investigations were carried out with the involvements of the scientists from Mexico, Italy, China, Vietnam and Uzbekistan.

The honored worker of science of Russian Federation, doctor of chemical sciences, professor of the Kabardino-Balkarian State University A. Mikitaev headed the organization committee of the conference. The Board included the rector of the Kabardino-Balkarian State University, Prof. B. Karamurzov; the academician of the Russian Academy of Sciences, the director of the N.N. Semenov Institute of Chemical Physics (ICP) A. Berlin; the senior researcher of the Federal State Unitary Enterprise "All-Russian Scientific Research Institute of Aviation Materials" (VIAM) of the State Research Center of the Russian Federation A. Beider; the head of the laboratory of the chemical resistance of polymers of the N.M. Emanuel Institute of Biochemical Physics (IBCP) D.Sc., Prof. G. Zaikov; the head of the department of polymer technology of the Tashkent Chemical-Technical Institute D.Sc., Prof. A. Dzhalilov; the head of the laboratory of heterochain polymers of the A.N. Nesmeyanov Institute of Organoelement Compounds (INEOS) D.Sc., Prof. V. Vasnev, the head of the department of chemical technology of plastics of the D.I.

Mendeleev University of Chemical Technology of Russia (MUCTR) D.Sc., Prof. V. Kireev; corresponding member of the Russian Academy of Sciences, the President of the Ivanovo State University of Chemistry and Technology (ISUCT) D.Sc. O. Koifman; the head of the N.A. Plate Polymer Modification Laboratory of the A.V. Topchiev Institute of Petrochemical Synthesis (TIPS) D.Sc. Y. Kudryavtsev; the head of the experimental physics department of the Dagestan State Pedagogic University (DSPU) D.Sc., Prof. G. Magomedov; deputy director of the joint-stock company "Elastomeric Materials And Items Scientific Research Institute" D.Sc. Y. Morozov; D.Sc., Prof. of the Russian Academy of Sciences from the A.N. Nesmeyanov Institute of Organoelement Compounds L. Nikitin; professor of the Consiglio nazionale delle ricerche (Pisa, Italy) Elpidio Tombari; professor of the Mexican National University M. Tlenkopachev; PHD student, a research assistant of the National Research Council (Italy, Pisa) O. Lednev; rector of the Federal State Budget Research Organization of Higher Education „North Caucasus Institute of Mining and Metallurgy (State Technological University)", D.Sc., Prof. N. Shubin; the head of the "Strength of materials" Department of the Rostov State Construction University, D.Sc. B. Yaziev; and the scientific secretary of the conference, D.Sc. S. Khashirova.

The section meetings were devoted to the following questions: Section 1: Polymer composites and multilayer structures (the heads of the section: Prof. M. Ligidov and Prof. L. Nikitin). Section 2: New polymer materials: synthesis and properties (the heads of the section: Prof. U. Malkanduev and Prof. A. Jalilov). Section 3: Methods of synthesis and technological principles of the modification and reprocessing of polymer composites (the heads of the section: Prof. A. Mikitaev and Prof. V. Kernitski). Section 4: The theoretical modeling of the structure and properties of polymers and polymer compounds (the heads of the section Prof. Y. Kudryavtsev and PhD I. Dolbin).

Prof A. Mikitaev presented the plenary report about the state and perspectives of the world producing of polymer compounds. He outlined the priority directions of the polymer science and marked that the progress first of all is associated with the creation of new polymer compounds.

The report of Prof. L. Nikitin (INEOS, Moscow) was devoted to the supercritical carbon dioxide soluble macro disperse polytetrafluoroethylene.

The report of Prof. Y. Kudryavtsev (TIPS, Moscow) concerned the statistic multiblock-copolymers (MBC) which possess the expressed ability to self-organization due to the block structure of macromolecules.

The member of the national research council (Pisa, Italy) O. Lednev reported about the possibilities of the con-colorimetric researching of polymer composites with high fire resistance. He marked that the usage of this method for the estimation of fire resistant polymers is enough informative and necessary for the development of fire resistant polymer materials in accordance with international standards.

New hybrid nanocomposites based on polyelectrolites were presented in the report of Prof. M. Tlenkopachev (Mexican National University).

The speech of V. Kernitski (VNIISV, Moscow) "Polyethylene terephthalate – the continuous development of technology, diversification of the application areas and new trends" was devoted to the analysis of the modern state, basic tendencies and perspectives of the production development of one of the most pure and ecologic polymer – polyethylene terephthalate.

Round table under the command of Prof. V. Kernitski and Prof. A. Mikitaev was devoted to polyethylene terephthalate and composites based on it.

The main content of the presented reports detailed and developed during the serious and multilateral

discussions. The discussions showed that the researches in the polymer composites field are recurrently on the rise, laboratories of the institutions of the higher learning and scientific centers are provided by the scientific staff and the modern equipment.

The conference took place under the sign of the unity of the fundamental and applied science in the polymer composite materials field. The lately increased scientific level of the research on all the discussed issues and the deepening cooperation between the scientists who develop basic research and technologists were revealed. A number of scientific developments presented at the conference, brought to the commercial introduction. However, little attention is paid to create more polymer nanocomposites and nanosized fillers for polymers. The expansion of the production and the range of polymers in Russia, the bringing of the development related to the obtaining of polymeric nanocomposites and nanofillers, especially organoclays to industrial production are necessary.

The collection of materials and reports (234 pages, 57 papers) was published by the beginning of the conference, which allowed the participants to check out the full range of the presented scientific information and to discuss the most interesting results of the research in the polymer composites field.

The open exchange of information, discussion of these and other reports, the conclusion of preliminary agreements on joint research in the field of polymer composites, will undoubtedly contribute to the further development of research in this priority area.

The most important directions of the work development in the polymer composites field and the need to their coordination were marked in the final materials. The pictures from the conference and reports are available on the site of the Scientific-education center of the KBSU "Polymers and Composites": www.nocpic.ru.