

PROFESSOR OLEH SUBERLYAK – 70<sup>TH</sup> ANNIVERSARY*Volodymyr Skorokhoda<sup>1</sup>, Volodymyr Levytskyi<sup>1</sup>*

Oleh Suberlyak is an Honored Man of Science of Ukraine, D.Sc. (Chemistry), Professor. He has been working at Lviv Polytechnic National University since 1970 and since 1991 has headed the Department of Chemical Technology of Plastics.

Prof. Oleh Suberlyak was born on January 2, 1947 in the village of Kobylovolyky (Ternopil region). In 1956 his family moved to Sokal (Lviv region). In 1965 he left the secondary school with a “golden” medal and the same year he entered the Chemical Engineering Department of Lviv Polytechnic Institute. After graduation with honors he was engaged to work at the Department of Chemical Technology of Plastics as an assistant and from that time until now he has been constantly working at this department. In 1983 he obtained PhD degree, in 1992 – D.Sc., in 1993 – Professor.

Professor O. Suberlyak is a known scientist in the field of polymers in Ukraine and abroad. His main scientific research is associated with the development of synthesis, processing of polymers and composites for special purposes. He created the scientific school “Theoretical and practical aspects of receiving, modifying, blending, processing functional (co)polymers, polymer hydrogels, composites and formation of pro-

ducts with special properties” which conducts the researches on the development of polymers and composites for biomedical purposes, environmental protection, production of electronic and metrological equipment.

Prof. O. Suberlyak together with his research team for the first time theoretically grounded and experimentally established a new mechanism for matrix complex-radical and ionic polymerization of hydroxy (alkylene)methacrylates in the presence of polyvinylpyrrolidone (PVP). They determined the activation role of the formed complex with the charge transfer (CCT) in polymerization kinetics, determining the structure, physico-chemical and mechanical properties of copolymers and hydrogels. Interpolymeric PVP complexes with thermoplastic polymers and oligomers were found to be formed and this fact was the ground for the production technologies of homogeneous advanced polymer blends of structural purposes. CCT initiating property was used for polymerization of vinyl monomers without additional initiators in cold and under UV irradiation with the possibility of implementing an ambulatory method of hyperelastic hydrogel products forming, for example double-forms in dentistry. The role of CCT in the integral polymerization method with a simultaneous recovery of some metals nanoparticles in the volume of formed hydrogel was defined. Complex-forming ability of PVP was used for the development of theoretical bases of obtaining polymer-silicate nanomaterials using a sol-gel method.

Under the supervision of Prof. O. Suberlyak the Department conducts fundamental researches, which are closely associated with specific practical tasks:

- the creation of functionally active hydrogel copolymers of biomedical purpose, particularly for ophthalmology, dentistry, surgery, *etc.*;
- studies of thermoplastic polymer blends and development of structural materials with predictable properties;
- the creation of conductive and magneto-sensitive hydrogel materials for multifunctional purposes;
- research of oligomeric compositions for adhesive, insulation and press materials with special properties;

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- creation of hydrogel, polyamide and composite membranes, as well as technology of their formation;
- development of technology for polymer granular and capsulated forms of drugs prolonged release;
- the study of polymer nanocomposites based on hydrogels, thermoplastics and thermosetting materials;
- development of technology for moisture- and air-penetrating synthetic fibers with antistatic properties;
- the study of osteoplastic filled porous composites for bone replacement;
- scientific basis of polymer modification in the processing.

Moreover, Prof. O. Suberlyak with his colleagues developed the synthesis of heterocyclic and heterochain polymers, as well as polymer-containing, effective, environmentally friendly fluids for solid treatment.

As a result of extensive researches the following products were developed: soft and ultrathin hydrogel contact lenses “Akrylan-LPI” and “Hlipoks”, polymer membranes for blood purification and biological skin replacement, encapsulation of drugs and medical bandages, polymer material “Elastohel” for prosthetics in dentistry, MXO polymer lubricating-cooling fluid for solids treatment, anticorrosive coatings and sealants, *etc.*

Prof. O. Suberlyak has published 530 scientific papers, 7 books and manuals, 5 monographs (3 of them in the languages of the European Union), received 65 patents (2 of them – in Poland). He participated in numerous international scientific conferences and symposiums. Under his supervision 16 PhD and 2 doctoral theses were defended.

Prof. O. Suberlyak carries out an active scientific international cooperation. Along with national scientific

projects he performed researches within the frames of international grants, including the 7<sup>th</sup> Framework Programme, Marie Curie Actions, PIRSES-GA-2010-269177 (2011–2015), cooperation with the Lublin University of Technology (Poland), Kosice University of Technology (Slovakia), Zwickau Technical University (Germany), as well as projects under the agreement between the governments of Ukraine and Poland on the cooperation in Science and Technology (2002–2003, 2006–2008) with Krakow Mining and Metallurgical Academy. As the Head of the Department Prof. O. Suberlyak cooperates with the industrial enterprises of Ukraine, foreign scientific and industrial organizations.

Professor O. Suberlyak is a member of the editorial boards of four domestic and two foreign scientific journals, reviewer of papers in specialized international journals: “Chemistry & Chemical Technology” (Ukraine), “Polymer Engineering & Science” (USA), “Journal of Polymer Engineering” (Germany), “Inżynieria Materiałowa”, “Polimery”, “Przetwórstwo Tworzyw” (all Poland). He is an Academician of Ukrainian Technical Academy, an expert of Higher Certification Commission of Ukraine, a member of the Scientific Board specialized in “Chemistry” and Specialized Board of Ukraine “Technology of polymeric and composite materials”. He was twice awarded by the diplomas of the Ministry of Education and Science of Ukraine, diplomas and certificates of Lviv Polytechnic University.

On January 2, 2017 Professor Oleg Suberlyak celebrated his 70<sup>th</sup> birthday and 47 years of labor activity in Lviv Polytechnic National University. Friends and colleagues sincerely congratulate him and wish good health and new scientific achievements.