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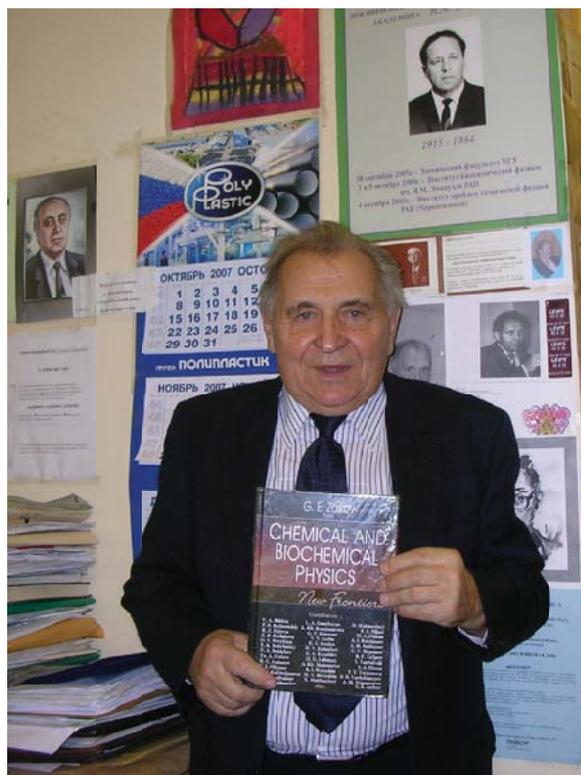
**PROFESSOR GENNADY EFREMOVICH ZAIKOV:
MORE THAN HALF A CENTURY IN SCIENCE**Herman F. Mark Polymer Research Institute, Polytechnic University
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January 7, 2010 we will celebrate the 75th birthday of Prof. G. E. Zaikov and more than 50 years of his scientific activity. Professor Zaikov was born in Omsk, Siberia (USSR), and graduated from the local primary, middle, and high schools. He also graduated from a musical professional school where he studied to play violin and pianoforte. However, his parents Efrem and Matrena decided that it might be better for their son to continue his education by following in footsteps of his mother – a chemistry teacher at the local High School and Omsk Medical Institute (his father was a mathematician and land-surveyor). Therefore, in 1952 Gennady moved to Moscow where he entered the Moscow State University (MSU), and graduated with a degree in chemistry in December 1957. His bachelor's degree dealt with the problem of separating Li6 and Li7 isotopes. After that he joined the Institute of Chemical Physics (ICP) in Moscow in February 1958. In 1996 this Institute was split into two parts: N. N. Semenov Institute of Chemical Physics (ICP) and N. M. Emanuel Institute of Biochemical Physics. At the present time Prof. G. E. Zaikov is working at the N. M. Emanuel Institute of Biochemical Physics (IBP). As you can see, G.E. Zaikov never changed his workplace.

Gennady Zaikov was originally invited to ICP by Professor Nikolai Markovich Emanuel. Under his guidance, G. E. Zaikov defended in 1963 his Ph.D. thesis entitled "Comparison of the Kinetics and Mechanism of Oxidation of the Organic Compounds in Gaseous and Liquid Phases". These results were foundation for industrial application. A plant floor in Moscow petrochemical plant (Kapotnya district) for production of 10000 tons/year acetic acid and 5000 tons/year methylethylketone by oxidation of n-butane in liquid phase in critical conditions was built. In 1968, he defended his Doctoral thesis entitled "The Role of Media in Radical-Chain Oxidation Reactions". In 1970 he became a full professor.

In 1966, Professor Zaikov started his involvement with polymer science. N. M. Emanuel charged him with the organization of work on the problems associated with aging and stabilization of polymers, and, later, with the combustion of polymeric materials. In the 1970s there were about 1000 scientists (about 50 research centers)



in the U.S.S.R. working on these problems including 200 scientists from ICP under Prof. Zaikov's leadership. The research was conducted on all aspects of these polymer problems thermal degradation, oxidation, ozonolysis, photodegradation, and radiation degradation, hydrolysis, biodegradation, mechanical degradation, pyrolysis, and flammability.

After "perestroika and degradation" of the U.S.S.R. in 1991, the new Russian government decreased the financial support of science significantly. Consequently, G. E. Zaikov has now only 15 coworkers in the N. M. Emanuel Institute under his leadership (as compared to 200 in 1970–1980s).

In September, 2007 Gennady Zaikov left his position of the head of laboratory and became the head of Polymer Division (PD) in IBP. PD included 3 laboratories (about 50 scientists).

G. E. Zaikov is an outstanding scientist with expertise in wide areas of chemistry: chemical and biological kinetics, chemistry and physics of polymers, history of chemistry, biochemistry. In addition to his position at the N. M. Emanuel Institute, he is a lecturer at the Moscow State Academy of Fine Chemical Technology and he is researcher at Volzhsk Branch of Volgograd State Technological University. G. E. Zaikov has written about 2500 original articles, 230 monographs (30 in Russian and 200 in English), and 270 chapters in 60 volumes. It is apparent from this work that he has made valuable contributions to the theory and practice of polymers—aging and development of new stabilizers for polymers, organization of their industrial production, life-time predictions for use and storage, and the mechanisms of oxidation, ozonolysis, hydrolysis, biodegradation, and decreasing of polymer flammability. New methods of polymer modification using the processes of degradation were introduced into practice by Zaikov. These methods allow the production of new polymeric materials with improved properties. Most recently, he is also very active in the field of semiconductors and electroconductive polymers, polymer blends, and polymer composites including nanocomposites.

G. E. Zaikov is a member of many editorial boards of journals published in Russia, Ukraine, Poland, Bulgaria, the U.S.A., and England.

He is member of Academy of Creation (San Diego, USA – Moscow, Russia), International Academy of Sciences (Munich, Germany), American Chemical Society, Plastic Engineering Society (USA) and Royal Chemical Society (UK).

In the former Soviet Union (after the death of Academician N. M. Emanuel), he headed the team dealing with the problem of polymer aging in the U.S.S.R. and the Eastern European countries in cooperation with the

Soviet Academy of Sciences. His present position is head of Division, member of directorium, and deputy of department of the N. M. Emanuel Institute of Biochemical Physics, Russian Academy of Sciences, Professor of Polymer Chemistry in the Moscow State Academy of Fine Chemical Technology, Professor of Polymer Chemistry in Volzhsk Branch of Volgograd State Technical University and field of interest Chemical Physics, Chemical Kinetics, Flammability, Degradation and Stabilization of Polymers, Diffusion, Polymer Materials, Kinetics in Biology, History of Chemistry, Jokes.

Now let me shortly touch upon personal life of G. E. Zaikov. Professor Zaikov has a sister, Zinaida E. Zaikova, 83 years old, who was also a teacher of mathematics at a high school, and is now retired. Two of his sisters, Klara and Inna died from starvation during the Stalin's collectivization period at the end of the 1920s. Professor's wife, Marina Izrailevna Artsis, is a member of the N. M. Emanuel Institute of Biochemical Physics and has a Ph.D. in Chemistry. His son, Vadim G. Zaikov is a Sr. Research Chemist of Avery Dennison Co (Ohio, USA). He has two Ph.D.s in Chemistry. The first one he received in the USSR, while the second one was degreed by the College of William and Mary (Williamsburg, VA) in the laboratory of Prof. William H. Starnes. His daughter, Julia, lives in Russia and works as an anesthesiologist. His granddaughter Alexandra, 19 years old, is a student and his grandson Denis, 10 years old, is a schoolboy, both live in the USA.

On his 75th birthday anniversary G. E. Zaikov is in the prime of his life. Although support for scientists and research is now at a low point in Russia, he is hopeful that for the sake of his country and its future the state of things will improve.

The practice of high-level science still exists in Russia and G. E. Zaikov has been and is a significant contributor thereto. We wish him a most happy birthday!