

Brei Volodymyr Viktorovych *To 60 anniversary of the birth*



Brei Volodymyr Viktorovych was born in Chernigiv region on October 28, 1953. In 1976 he graduated M.V. Lomonosov Moscow State University (Chemistry Faculty).

Post-graduate school held at the L.V. Pysarzhevskiy Institute of Physical Chemistry of National Academy of Sciences of Ukraine (NASU). In 1982 he has defense the thesis of Candidate of Chemical Sciences (PhD). During 1982–2003 V.V. Brei worked in Institute of Surface Chemistry of NASU, where he was promoted from Senior Researcher to Deputy Director of Institute. From 2002 V.V. Brei is Doctor of Sciences (Chemistry): Thesis “Acidity and reactivity of oxide systems based on the elements of III-IV groups”, from 2003 heads the Department of heterogeneous acid-base catalysis of Institute for Sorption and Problems of Endoecology (ISPE) of National Academy of Sciences of Ukraine. Today Volodymyr Viktorovych is a Deputy Director of Institute, Professor from 2005, and corresponding member of NASU from 2009.

V.V. Brei is well known scientist in our country and abroad, expert in the acid-base catalysis. He carried out a systematic study and found some consistent patterns of proceeding of a range of reactions catalyzed by solid acids, especially reactions of isopropylbenzene dealkylation as well as isomerization of linear paraffins, synthesized a number of catalytic systems of a wide range of acidity (from weak acidity to superacidity) based on zirconium dioxide. The high efficiency of the latter in the isomerization of n-paraffins, in the alkylation of isobutane with isobutanol, as well as in acylation and nitration of aromatic compounds has been shown.

V.V. Brei pays considerable attention to complicated theoretical and practical solid catalyst acidity problems. Owing to his efforts, the relationship between the reaction rate constants of dealkylation of alkylbenzenes as well as dehydration of alcohols and strength of acid centers are established. Besides, the strength of acid and basic centers of oxide systems at high temperatures has been determined what enabled to reveal the correlation of equilibrium and kinetic acidity for solid catalysts.

His researches V.V. Brei link closely with the possibility practical application of their results. Thus, he developed a number of catalytic processes, focused on renewable raw materials; he proposed processes of production of acetic acid from water-ethanol solutions and direct synthesis of high-octane gasoline component diethoxyethane from ethanol. All these processes have been successfully tested at pilot plants.

V.V. Brei is author of 250 scientific works including 12 patents. He was awarded the Lenin Komsomol Prize (1984) for work “Design and implementation of technology of intensive production of food beverages on the basis of a new material – colloid silica”. He is a member of the Editorial Boards of the journals “Theoretical and Experimental Chemistry” (Ukraine), “Chemistry, Physics and Technology of Surface” (Ukraine) and digest “Catalysis and Petrochemistry” (Ukraine). For a long time V.V. Brei was a member of the Specialized Scientific Council of the L.V. Pysarzhevskiy Institute of Physical Chemistry of NASU for defense of candidate and doctor theses, now is a member of Specialized Councils of O.O. Chuyko Institute of Surface Chemistry of NASU and Institute of Bioorganic Chemistry and Petrochemistry of NASU.

Headed by V.V. Brei Department of ISPE of NASU embraces many trained by him PhDs, graduate students and coworkers to the independent catalytic school.

Brei V.V. is an active participant of international conferences and symposia, winner of research grants.

Editorial board of digest “Catalysis and Petrochemistry”, colleagues and students, welcoming warmly Volodymyr Viktorovych, with the prominent date, are wishing to him good health, inspiration in all undertakings, new creative achievements and various fine.