

GUBIN
SERGEY PAVLOVICH
(TO 80 ANNIVERSARY OF BIRTH)

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On May 8, 2017 Sergey Pavlovich Gubin, Doctor of Chemical Sciences, Professor, Head of the Laboratory of Chemistry of Nanomaterials of N.S. Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Laureate of the State Prize of the USSR, Honored Scientist of Russia, Academician of the Russian Academy of natural Sciences, the known expert in the field of solid state chemistry, nanoscience and nanotechnology celebrated his 80th birthday.

S.P. Gubin was born in 1937 in Moscow in a family of engineers Gubin Pavel Fedorovich (after the Moscow Institute of Transportation Engineers - in the Subway) and Romashko Lyudmila Kondradovna (after Moscow Institute of Steel and Alloys – plant "Salute", Moscow), both hailing from the Vologda region. In school he fascinated by chemistry and since 7th grade (1951) each year participated in city Chemical Olympiads at the Chemical faculty of Moscow state University, always getting the first prizes. In 1954 he entered chemistry faculty of M.V. Lomonosov Moscow State University. In the same year began to specialize in the chair of organic chemistry, in laboratory of chemistry of organometallic

compounds under the guidance of academician Alexander Nikolaevich Nesmeyanov, at that time President of the Academy of Sciences of the USSR.

Diploma and postgraduate studies at the chemical faculty of MSU was completed in 1963 with a dissertation on competition of a scientific degree of candidate of chemical sciences "redox-potentials of substituted ferrocenes", performed under the guidance of academician of the USSR Academy of Sciences A.N. Nesmeyanov and doctor of chemical sciences E. G. Perevalova..

Since 1963, S.P. Gubin – fellow, Institute of Organoelement compounds (INEOS) Academy of Sciences of the USSR. Due his research on the chemistry of organometallic compounds and π -transition metal complexes S.P. Gubin acquired prominence in the native and world science. He conducted extensive studies of reactivity and electronic effects in π -complexes of transition metals; proposed and substantiated the hypothesis of the participation of the electrons of σ -skeleton of the organic ligands in the bond formation with transition metals in the π -complexes. S. P. Gubin established the basic laws of oxidation-reduction reactions of π -complexes of transition metals. In 1971, the scientific council INEOS, assigns to S. P. Gubin the degree of doctor of chemical Sciences (dissertation "Electronic effects and reactivity of π -complexes of transition metals", scientific consultant academician A.N. Nesmeyanov).

A lot of attention in this period of time S.P. Gubin was given to use of π -complexes of transition metals in electronics, nonferrous metallurgy, petrochemistry and oil refining. In 1976, S.P. Gubin in the composition of the team of authors was awarded the State Prize of the USSR for work in the application of organometallic compounds in electronics technics.

Since 1977, Sergei Pavlovich in Novosibirsk, Deputy Director of the Institute of inorganic chemistry of SB of Academy of Sciences. In 1978, S.P. Gubin accepts the offer academician G. K. Boreskov, agreed with the academician G.I. Marchuk, who was the Chairman of SB AS USSR, about the organization in the Krasnoyarsk branch of the USSR Academy of Sciences, chemical Institute. S.P. Gubin is the founder (1979) and the first Director of the Institute of chemistry and chemical technology, Siberian branch of the USSR Academy of Sciences in Krasnoyarsk. He carried out extensive work on the involvement into the newly created Institute of skilled research personnel and

equipping it with instruments and equipment, identifies the major scientific areas in which the Institute operates successfully up to the present time. In Krasnoyarsk under the direction of S.P. Gubin developed theoretical bases of complex processing of coals of the Kansk-Achinsk basin by the method of supercritical extraction by alcohols. In the subsequent, on this basis, developed the original technology for producing liquid fuel from these coals. Here S. P. Gubin first in our country began a systematic researches on the use of supercritical fluids as reagents, successfully developing at present time. In Krasnoyarsk started the first studies in the field of chemistry of clusters.

In 1980-1983 S. P. Gubin – the Director of the Institute of inorganic chemistry of SB of Academy of Sciences in Novosibirsk. Here S. P. Gubin continued systematic research in the field of chemistry of clusters. He have been developed research on key topics in this new scientific direction – the synthesis, the study of the reactivity and structure, to identify possible ways of implementation of clusters in materials science, catalysis, etc.; revealed peculiarities of coordination of ligands on multiple metal centres in the cluster.

Since 1983, Sergei Pavlovich in Moscow, in Kurnakov Institute of general and inorganic chemistry of the USSR Academy of Sciences. Work was delivered on a broad front: supercritical fluids, clusters, synthesis of nanoparticles, including magnetic. Are conducted researches on theoretical problems of chemistry of clusters and created the foundations of the classification of cluster compounds based on the topology of the metal skeleton. The overall results of this working are generalized in the monograph of S. P. Gubin, "Cluster Chemistry" (Moscow, Nauka Publ., 1987), which has no analogues neither in native nor in foreign literature; she played a outstanding role in the development of this field in our country.

On the basis of studies of the electrochemistry of the clusters and the distinguishing features of clusters as reservoirs of electrons, in collaboration with the staff of the Physical faculty of MSU and Institute of radio engineering and electronics of RAS created the world's first single-electron transistor on the clustered molecule, operating at room temperature.

S.P. Gubin has been a pioneer in the synthesis of magnetic nanomaterials; magnetic characteristics of the material consisting of isolated from each other in a nonmagnetic solid dielectric matrix magnetic nanoparticles (3-10 nm), were first described by he in the publication 1980. In future these works were successfully continued and led to the creation of a new class of nanomaterials based on metal-containing nanoparticles in dielectric matrices. In 2002, S. P. Gubin has created in Kurnakov IGIC RAS the first in our country the

laboratory of Chemistry of nanomaterials, that has been working successfully in this direction. In 2009 S.P. Gubin as the scientific head participates in the creation at the territory of scientific research Institute "Diamond", startup company, LLC "AkKoLab", where works are carried out on the use of nanotechnology in the creation of supercapacitors, Li-ion batteries, nanosensors, etc. In 2011 S. P. Gubin in collaboration with his graduate student S. V. Tkachev had published a small but very informative book "Graphene and kindred nanoforms of carbon", which came out already by 4th edition. Professionals, working with graphene, team up and create in 2011 on the basis of the Institute "Diamond" and OOO AkKoLab the monthly Moscow seminar "Graphene: a molecule and a 2D crystal", led by Professor S.P. Gubin., that soon developed into the all-Russian with international participation. Finally, in 2015 S. P. Gubin has organisational and successfully conducted the first in Russia all-Russian conference on graphene "Graphene - molecule and a 2D-crystal" in Novosibirsk at Nikolaev Institute of inorganic chemistry SB RAS.

S.P. Gubin is a Professor of the Department of chemistry and technology of nanosized and composite materials, Lomonosov Moscow Institute of fine chemical technology and as such pays much attention to upbringing young scientists. S.P. Gubin is a Professor of chair of solid state physics on faculty of physics, Lomonosov MSU.

S.P. Gubin – academician of the Russian Academy of natural Sciences in Department of Radioelectronics, Nanophysics and Information technologies problems. Under his leadership defended their dissertations 6 doctors and over 30 candidates of Sciences. He has published more than 550 articles in scientific journals, 5 books and about 40 patents. S. P. Gubin, member of the editorial boards of the journals "Inorganic materials", "Coordination chemistry", Deputy editor-in-chief of the journal "Radioelectronics. Nanosystems. Information technologies" (RENSIT).

Professor S.P. Gubin is widely known specialist in scientific circles; he is an honoured man of science of the Russian Federation, his students work in a number of research organizations and educational institutes.

Sergei Pavlovich has an inexhaustible scientific potential and creative activeness, which undiminished with the years. He is full of optimism and new creative ideas.

A talented scientist, organizer and leader of science, attentive and demanding teacher, a charming and sympathetic person, Sergey Pavlovich Gubin deserved respect and authority among the scientific community in Russia and abroad.

Friends, colleagues, and disciples sincerely congratulate Sergei Pavlovich Gubin on his glorious jubilee and wish him good health, luck and success in scientific and pedagogical activity.

The editorial office of RENSIT journal cordially joins these wishes.

Editorial board