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# Condensed Matter and Interphases (Kondensirovannyye sredy i mezhfaznyye granitsy)

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Short communications

## Anniversary of Professor Pavel Fedorov

On 16 April 2020, we celebrate the 70th anniversary of Professor Pavel Pavlovich Fedorov, DSc in Chemistry, chemical process engineer specialising in crystallography and crystal physics, the Head of the Department of Nanotechnologies at Prokhorov General Physics Institute of the Russian Academy of Sciences.

Pavel Fedorov's research is based on his deep knowledge of physicochemical analysis, he combines methodologies in inorganic chemistry, crystallography, and photonics. His scientific interests are focused on material science and involve the chemistry of inorganic fluorides, crystal growth, thermodynamics of heterogeneous equilibria, crystal chemistry, nanotechnologies, etc. He has developed new functional materials in the form of single crystals, glass, glass ceramics, ceramics (including laser ceramics), powders, nanomaterials, composites to be used as lasers, scintillants, luminophores, construction, optical, and acoustooptical materials, solid electrolytes, and materials for biomedical application. Pavel Fedorov keeps in mind scientific objectives and their possible applications and is also inclined to set and solve more general problems. Among his recent works are projects dedicated to the principles of the synthesis and evolution of nanoparticles assemblages, including proofs of non-classical mechanisms of crystal growth as a result of the coherent intergrowth of nanoparticles.

Pavel Fedorov is regularly involved in teaching, scientific, and organisational activities. He has supervised over 40 graduation papers, 9 PhD theses, and has consulted on 3 doctoral theses. He is well-known for his ability to create research teams, including informal teams. He is excellent at engaging young people in scientific work.

Pavel Fedorov is a laureate of the Prize of the USSR Academy of Sciences and the Academy of Sciences of the Czech Republic 1989. He has been awarded with a medal "850 Years of Moscow", a Guo Moruo medal of the Academy of Sciences of the People's Republic of China, and certificates of



the Federal service for intellectual property "Top 100 of the best inventions in Russia" for 2012 and 2013. Pavel Fedorov is a member of the Council of the International Organisation for Crystal Growth, research councils of the Russian Academy of Sciences in physical chemistry, condensed matter physics, and inorganic chemistry.

Pavel Fedorov is very committed to his research and studies in science. He has published over 900 papers (according to Web of Science, his Hirsh index is 38) and has made over 35 inventions.

Among his papers are the following monographs:

1. Popov P. A., Fedorov P. P. *Teploprovodnost ftoridnykh opticheskikh materialov* [Thermal conductivity of fluoride optical materials]. Bryansk: "Desyatochka" group; 2012. 210 p. ISBN 978-5-91877-093-1.

2. Bekker T. B., Fedorov P. P. *Fazoobrazovanie i rost kristallov v chetvertoi vzaimnoi sisteme Na, Ba, B // O, F* [Phase formation and crystal growth



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in a tetradic reciprocal system of Na, Ba, B // O, F]. Novosibirsk: Siberian Branch of the Russian Academy of Sciences Publ.; 2016. 217 p. ISBN 978-5-7692-1477-6.

3. Fedorov P. P. *Arkhaicheskoie myshlenie: vchera, segodnya, zavtra* [Archaic thinking: yesterday, today, tomorrow]. 3rd edition: modified and updated. Moscow: LENAND; 2017. 344 p.

4. Fedorov P. P. *Gde prokhorit granitsa mezhdu naukoi i lzhenaukoi? Kolichestvenny kriterii i priznaki lzhenauki*. [Where is the boundary between science and pseudo science? Qualitative criteria and indications of pseudo science]. Moscow: LENAND; 2019. 146 p. ISBN 978-5-9710-6505-0.

5. Fedorov P. P. *Etudy po fiziko-khimicheskomu analizu* [Exercises in physicochemical analysis] / Collected papers. Moscow: Nauka; 2019. 191 p. ISBN 978-5-02-040205-8.

The team of the Faculty of Chemistry have known Pavel Fedorov for a long time: he is the Head of the panel “Physicochemical analysis” at

the All-Russian Conference with International Participation “PHYSICAL AND CHEMICAL PROCESSES IN CONDENSED MATTER AND INTERPHASE BOUNDARIES” which is organised and held in Voronezh State University every three years. His plenary presentations have always been of a very high standard. They have opened the way to many interesting discussions and have attracted a lot of young scientists.

Pavel Fedorov is a member of the editorial board and a reviewer of the journal “Kondensirovannye sredy i mezhfaznye granitsy” (Condensed matter and interphases). He provides consultation and support aimed at promoting the journal in international citation databases. We would like to thank him for his thoughtfulness and his assistance in preparing each issue of the journal.

We would like to congratulate Professor Fedorov with his anniversary and wish him good health, every success in his scientific, organisational, and teaching activities for the honour of Russian science.

*The team of the Faculty of Chemistry and the editorial board of the journal “Condensed matters and interphase boundaries”*