

## In memory of Dmitrii Ivanovich Trubetskov

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Corresponding member of the Russian Academy of Sciences (RAS), honored science worker of the Russian Federation, laureate of the President's Prize in the field of education, honored citizen of Saratov, doctor of physico-mathematical sciences, professor, and head of the Department of Electronics, Oscillations, and Waves of Saratov State University (SSU) Dmitrii Ivanovich Trubetskov passed away at the age of 82 after a long illness.

Dmitrii Ivanovich was born on June 14, 1938 in the town of Saratov. He had a hard childhood. Dmitrii's parents, who found themselves in the combat area in 1941, were taken prisoners and then (as often happened at those times) were in addition repressed, therefore being separated from their son for a long time. Dmitrii was brought up in the family of his grandfather—Ivan Alekseevich Trubetskov—and grandmother, his mother's parents who, in fact, adopted the boy (Dmitrii had had the name Kopelyanskii till he became 16).

In 1955, Dmitrii graduated from Secondary School No. 19 for boys with a gold medal. The school was the best in Saratov, and Dmitrii was an excellent pupil throughout his school years. After that, he entered the Physical Faculty of SSU, following which Dmitrii Ivanovich's whole life was connected with this university. He graduated from SSU with distinctions in 1960 and that same year entered the post-graduate course headed by Professor Vladimir Nikolaevich Shevchik. In 1965, he defended his candidate and in 1978 his doctoral thesis. After 1961, he worked at the Department of Electronics (later named the Department of Electronics, Oscillations, and Waves) at SSU as an assistant, a senior university teacher, an associate professor, and then professor. From 1981 till his last days, he was head of this Department. In 1991, he was elected corresponding member of the RAS. From 1994 to 2003, Dmitrii Ivanovich Trubetskov was rector of Saratov State University. He was awarded the order Badge of Honor and the medal For the Development of Virgin Lands.

Dmitrii Ivanovich Trubetskov was a prominent scientist in the field of superhigh frequency electronics, radio physics, and nonlinear dynamics. He was the founder of the scientific school for the theoretical and experimental study of nonlinear and nonstationary phenomena, including dynamic chaos and structure formation in different self-oscillating distributed and single-site systems and in models of ecology, biology, medicine, and social sciences. A series of theoretical and experimental studies of physical processes in magnetron-type vacuum beam devices was implemented at Saratov University under the guidance of D I Trubetskov. Dmitrii Ivanovich paid considerable attention to the investigation of dynamic chaos phenomena in self-oscillating systems. Note-



Dmitrii Ivanovich Trubetskov  
(14.06.1938–12.08.2020)

worthy among the most brilliant fundamental results obtained by D I Trubetskov and his students in this area was the discovery of transient chaos in the “electron beam–backward electromagnetic wave” system and the first experimental observation of the phenomenon of generalized synchronization in a delayed-feedback ring oscillator based on a multicavity klystron. D I Trubetskov was the author of more than 300 scientific publications and 36 monographs and textbooks reissued several times in the Russian, English, and Spanish languages. He was also the author of books and papers on the history of nonlinear science.

For many years, D I Trubetskov guided scientific and pedagogical work, first at the Department of Electronics of the physical faculty and then at the Department of Electronics, Oscillations, and Waves of the faculty, the only one in Russia, of nonlinear processes founded by him at SSU. He also delivered a lecture course on the modern theory of oscillations and waves at the National Research Nuclear University Moscow Engineering Physics Institute (NRNU

MEPhI). He was one of the founders of the Lycée of Applied Sciences in Saratov, where a daring experiment was undertaken — an attempt to organize schooling on the principles of nonlinear dynamics.

D I Trubetskov was rector of SSU for nine years, a member of the directorate of the Russian Union of Rectors, vice chairman of the Council of Rectors of Privolzhsky Federal District, and chair of the Council of Rectors of Saratov region. Among the disciples of Dmitrii Ivanovich, there were 10 doctors and 38 candidates of sciences.

Dmitrii Ivanovich held the post of rector in the difficult 1990s. At that time, a rector had to ‘derive’ wages for the staff and bursaries for the students. Any financial support required great effort of the top management of the university. The university went on living, developing international relations, extending the sphere of scientific research, and forming new scientific and educational structures for the most part thanks to the rector. On the initiative of D I Trubetskov as rector of SSU, the Faculty of Computer Sciences, the Sociological and Philosophical Faculty, and the Department of Law, which was the basis of the Law Faculty, were established. A 10th university building was erected.

D I Trubetskov was one of the founders of the all-Russia scientific and technical journal *Izvestiya Vysshikh Uchebnykh Zavedenii* — *Prikladnaya Nelineinaya Dinamika* (Applied Nonlinear Dynamics) and till his last days was a deputy-editor-in-chief of this journal. D I Trubetskov was a member of the editorial board of the journal *Izvestiya Vysshikh Uchebnykh Zavedenii* — *Radiofizika* (Radio Physics) and a member of the scientific council of the RAS, Relativistic High Current Electronics and Charged Particle Beams. He organized and held regularly the International Schools on Super-high Frequency (SHF) Electronics and Radio Physics, the International CHAOS (Chaotic Self-Oscillations and Structure Formation) Schools, and the annual school, nonlinear days in Saratov for youth, for schoolchildren and students.

Dmitrii Ivanovich was a true friend of the journal *Uspekhi Fizicheskikh Nauk* (*UFN*) (*Physics-Uspekhi*). On the request of the editorial board, he repeatedly wrote encouraging but rigorous reviews of *UFN* papers and many times wrote papers for the journal himself. The last paper by D I Trubetskov (together with G M Vdovina), “Traveling wave tubes: a history of people and fates,” was published quite recently, in the May issue of this year (*Phys. Usp.* **63** 503 (2020); *Usp. Fiz. Nauk* **190** 543 (2020)).

For many years, Dmitrii Ivanovich collaborated actively and fruitfully with the University of Nizhny Novgorod and the Institute of Applied Physics (IAP) of the RAS. His remarkable lectures on the history of science delivered at Nizhny Novgorod schools on nonlinear waves were always an invariable success and were an integral part of them over the years. The schools were in fact a real discussion area on topical problems of vibrational wave theory and an efficient form of scientific youth education.

Dmitrii Ivanovich was one of the main organizers of discussions on the problems of higher schools, in particular, two-stage education and the position of radio physics and electronics in the system of physical specialties. Mostly owing to these discussions, at the behest of Nizhny Novgorod, Saratov, and Voronezh Universities, as well as Moscow State University, and with the support of the Division of General Physics and Astronomy of the RAS, radio physics was included on the basic higher education list.

Dmitrii Ivanovich was devoted to SSU, its staff and its students. For those working at the university, he was a friend, a teacher, and a person who loved the university with all his heart.

He was a brilliant speaker, knew very well and loved Russian poetry, and wrote poems. When giving talks, he cited his beloved poets as a weighty argument. D I Trubetskov was a prominent Russian scientist, lecturer, teacher, and educator.

He will remain in our memory as an example of the Russian intellectual, fretting over the fate of the country, Russian science, higher education, and his native university.

Good memories of Dmitrii Ivanovich Trubetskov will live gratefully in the hearts of everyone who was lucky to have met him.

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