

IN MEMORIAM

PROFESSOR ALEXANDRU FRANSUA



Alexandru Fransua (1927 – 2022) was an outstanding personality. He will remain an ideal model as a university professor in technical sciences, researcher, and author of scientific reference papers on electric motors and drives. He pioneered high-level education in Romanian electrical engineering and the advanced research of electrical machines and drives. He was an eminent trainer and inspirer of many generations of specialists, and qualities grafted onto a personality of modesty and balance rarely encountered.

Born in Braila on November 12th, 1927, Alexandru Fransua graduated in 1950 from the Faculty of Electromechanics of the Polytechnic Institute of Bucharest with a diploma of merit. In 1955 he was awarded by the same institution a Ph.D. in Engineering, the specialty of Electrical Machines, with the thesis "Study of a DC electric machine with series characteristics without excitation windings, using the rotor flux". In 1964, he earned his Master of Science in Electrical Engineering from the Polytechnic University of New York. He had scientific contacts and exchanges with the Academies of Sciences from Hungary, the USSR, China, the Royal Society of London, and universities from Belgium, France, Germany, and Greece.

Between 1950-1965 he successively held the positions of assistant, senior lecturer, and associate professor at the Polytechnic Institute of Bucharest. Between 1965-1990 he was a professor at the same institution, and between 1960-1963, he was the dean of the Faculty of Electrical Engineering. From 1963-1967, he was the Director of the Technical and Economic Higher Education Department of the Romanian Ministry of Education. From 1990 he was a consultant professor at the University "Politehnica" of Bucharest. Between 1991-2000 was a member of the National Council for the Attestation of University Titles, Diplomas, and Certificates, and between 1994-2000 vice-president of the Commission for Engineering Sciences of the National Council for Academic Evaluation.

Professor Fransua supervised 34 doctoral theses and, in 1984. He obtained the "Traian Vuia" award from the Romanian Academy. He also received Diplomas of Excellence for all his scientific activity from the Research Institute in Electrical Engineering (ICPE), the National Commission for Electrical Drives, and

the University Politehnica of Bucharest. He was Doctor Honoris Causa of the University of Craiova and Galati University "Dunărea de Jos" and an Honorary Citizen of Brăila Municipality: an outstanding educator, Prof. Alexandru Fransua has always captured and incited the students' curiosity through his rigorously coherent, phenomenological, fluent, and perfectly logical high-profile presentations.

Parallel to the educational activity, Prof. Alexandru Fransua had significant scientific contributions as a researcher, pioneer, and trainer of specialists in the top fields of Romanian electrical engineering. He had a defining role in developing special machines for electric drive systems, innovative solutions based on original ideas, and technological transfers. He contributed and opened new research perspectives in areas such as determining axial forces in transformers, electric drives in drilling, and constructing special electric machines. His contribution to developing families of advanced electric motors for electric drives was remarkable. A pioneer, Prof. Alexandru Fransua, envisioned the wide range of applications opened by the synergy between the electric machine and power electronics, an innovative concept at that time.

On the publication level, it should be noted the high-value personal contributions materialized in 23 volumes with more than 7000 pages, among which "The Electrical Machines Treaty" – 4 books (1968 - 1972), at the Romanian Academy Publishing House, "Electrical Machines and Drive Systems" (1984) at Oxford Press and "Elektrische Maschinen und Antriebssysteme" (1999) at Vieweg Verlag, Wiesbaden. Over 60 scientific papers were published in specialized journals or presented at prestigious events and published in the respective Proceedings, and three inventions were patented.

All these contributions, marked by solid originality, mainly in the fields of the design and construction of special electric machines, as well as of the drive systems, were appreciated as the source of fundamental knowledge in the area, a fact revealed by the excellent reviews published in specialized publications at international level. Thus, one can outline the worldwide recognition of Prof. Alexandru Fransua, characterized by a great creative force, who was a pioneer in the field of science that he served with exemplary devotion and undeniable competence.

For the generations of students who had the chance to collaborate with the scientist and teacher Alexandru Fransua, his personality represents not only the specialist defined by a broad scientific vision but also a model of dedication in the service of the public and national interest. For all the scientific and teaching entities he led, Prof. Fransua left unforgettable memories which offer the present and future generations a model of dedication, serious work, perseverance, and innovative spirit.

The Editorial Board

9 December 2022