

IN MEMORIAM

PROFESSOR CONSTANTIN NEMOIANU



Constantin Octavian Teodor Nemoianu was born in Timișoara, Banat region of Romania, on December 11, 1928, to the renowned pediatricist, sociologist, and writer Iosif Nemoianu and his wife, Stela Nemoianu. He passed away in Bucharest on July 22, 2022, as one of the last remaining collaborators of the founder of the modern Romanian Electrical Engineering School and his mentor – Professor Remus Răduleț, a Member of the Romanian Academy. He received elementary education at the “Spiru Haret” school (1935 – 1939) and secondary studies at the “Constantin Diaconovici Loga” National College of Timișoara (1939 – 1947). After graduation and passing the science baccalaureate, he attended the courses of the Faculty of Electrotechnics of Timișoara (1947 – 1952), having as professors, among others, the eminent personalities of the time Remus Răduleț, Plautius Andronescu, and Corneliu Micloși.

At the end of his studies, he was appointed as principal energy engineer of the Petroșani Coal Trust, in charge of controlling and maintaining the surface and underground electrical installations of the Petrila, Aninoasa, and Lonea coal mines. To gain industrial experience in mining activities, he benefited from introductory internships at the Lonea III mine. He had frequent information and control visits to the Petrila mine – at that time, the most technologically developed mine in the eastern part of the Jiu Valley. Because back in 1952, the power efficiency of the electrical installations of the mining companies was unsatisfactory, he was assigned to carry out in-depth studies regarding the improvement of the electric installations’ power factor. At the same time, he was co-opted as a teaching assistant at the Mining Institute of Petroșani, where he organized and dispensed laboratory and seminary classes and electrical engineering lectures to students without any prior secondary education. With the aim of professional development of mining technicians and foremen, he gave them lessons on the construction and operation of electrical machines and drives specific to mining applications and equipment.

In 1954 he became a teaching assistant at the Chair of Electrotechnics I from the Polytechnic Institute of Bucharest (later University POLITEHNICA of Bucharest) and a teaching assistant at the Railways Institute of Bucharest. Because back in 1954, the three existing Chairs of Electrotechnics from the Polytechnical Institute did not possess their laboratory, he participated with his colleagues in its foundation by designing and equipping it with experiments on electrical circuits, illustrating electromagnetic field phenomena.

His academic career continued in the same department as a teaching assistant (1954 – 1962), then as a

lecturer (1962 – 1968), associate professor (1968 – 1990), full professor (1990 – 1999), and Emeritus Professor from 1999 until his death. He also served as a teaching assistant at the Institute of Civil Engineering of Bucharest (1964 – 1968).

As a member of the academic staff, he taught laboratory and application courses at several faculties of the Polytechnic: Electrotechnics, Electronics, Mechanics, Transports, and Metallurgy. As associate professor and later as a full professor, he taught – for 31 years – Theoretical Electrical Engineering (theory of electrical circuits and theory of the electromagnetic field) to the Faculty of Faculty of Electronics, Telecommunications and Information Technology students.

In 1965, he finalized and defended his doctoral thesis entitled “Distribution of the harmonic current flow in rectilinear conductors of discontinuous cross-sectional variation,” elaborated under professor Remus Răduleț.

The main directions of his research were directed to a set of problems concerning the flow distribution of conduction currents in massive conductive media, including their injection in steel sheets during the electric welding process, all in collaboration with Professor Răduleț. The object of his research also aimed at the distribution of the magnetic field in the deflection coils of kinescope tubes and solenoids components of particle accelerators, as well as various research studies concerning the active and reactive power flow specific to unbalanced non-symmetrical three-phase networks. As part of the conjugated scientific research effort of the Chair of Electrotechnics, he collaborated on the research mentioned above with Professor Răduleț and his illustrious disciples and collaborators: professors Alexandru Timotin, Andrei Țugulea (members of the Romanian Academy), Constantin Mocanu, and Augustin Moraru.

We also can mention a few distinct works concerning the electromagnetic field transient parameters, the detection of manufacturing defects in ferromagnetic bars, the study of the electric field and the equipotential surfaces of earth electrodes, the STAS (Romanian national standard) terminology for the electromagnetic field quantities, “The Romanian Technical Lexicon”, “The CEI Electricity Thesaurus”, “Dictionary of Standardized Electrotechnical Terminology”, *etc.*

From the year 1954 onward, Constantin Nemoianu published 58 single-authored or multi-authored works, among which 14 textbooks, courses, collections of problems, laboratory guides, encyclopedic volumes, and 44 scientific articles published in several prestigious journals, “Revue Roumaine des Sciences Techniques – Série Électrotechnique et Énergétique” of the Romanian Academy, the Bulletin of the Polytechnic Institute of Bucharest, and the Bulletin of the Institute of Civil Engineering of Bucharest. His research also comprises 20 articles published in the proceedings volumes of the various scientific events he had contributed to and tutored 11 student scientific circle papers. He participates as a team leader or member in developing several significant research projects and grants with the industry and the Romanian Higher-education Authority. He made an exchange visit to the Computer Science Department of the University of Dresden – East Germany (1972) and visited the Microwave and RF research group of the University of Cantabria (1991) and the Department of Communication Engineering of the University of Cantabria Santander – Spain (1993), the latter within the framework of a “Tempus” mobility grant.

Other professional activities can also be mentioned: he served as a member of numerous graduation juries (for bachelor’s degrees), for admission to the doctorate, a member of juries for attributing the academic positions within the Chair of Electrotechnics, official scientific referee of doctoral theses, member of the jury in the student scientific circles competitions, students’ internship coordinator, and many other administrative duties. He was a reviewer for many specialty books, treaties, and scientific publications. In 1995 he became a doctoral thesis supervisor.

In recognition of his professional achievements, Constantin Nemoianu was awarded six excellence diplomas by the University POLITEHNICA of Bucharest (in 2002, 2004, 2008, and 2011) and Technical University of Cluj-Napoca, and the University of Craiova (both in 2008).

The multilateral and complex personality of Constantin Nemoianu manifested itself not only in the field of professional interest but also in the arts. Family and friends knew he had a great enthusiasm for music, especially classical music of the baroque period, particularly for W.A. Mozart’s compositions, which he learned in detail, almost like a genuine orchestra director. He also published two autobiographies and memories books cherishing the city of Timișoara and the Banat region, which the author was very fond of and had a kind affection for, but also several articles evoking cultural personalities from the same historical county, and a couple of poems. As for the visual arts, he was a passionate photographer and a talented drawer and cartoonist.

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