

PERSONALITIES FROM THE MERIDIANS OF THE ENGINEERING UNIVERSE

Ilie Murgulescu was born on the 27th of January 1902 in Cornu village, Dolj county. After graduating the primary school in his home village, he attended the secondary school at "*Frații Buzești*" High-school and "*Carol I*" High-school in Craiova. In many occasions Ilie Murgulescu evoked with gratitude his primary school teacher who convinced his father to let him continue his studies in Craiova.

He attended the Faculty of Science of „*King Ferdinand*” Romanian University from Cluj between 1922 and 1928. In 1926, when he was still a student, he started his teaching activity in Cluj as a junior assistant and then as an assistant of professor Gheorghe Spacu. He worked there until 1945. In 1932, after the supervision of Gheorghe Spacu he got his Ph.D. diploma with the thesis untitled *The Formation and the Decomposition of Double Salts*. After a postdoctoral specialization at University of Leipzig in physic chemistry he came back into Romanian. He was appointed assistant professor at the Polytechnic Institute of Timișoara, but also in Cluj for a period of time.



Rector and Minister.

From 1945 he was professor at the Polytechnic Institute of Timișoara and he was the Rector of this institute between 1947 and 1948. In 1949 he was appointed rector of the University of Bucharest and he occupied this position until 1950. He was the Minister of Education (1953-1956) and the Minister of Education and Culture (1960- 1963). Although the period was not very long, he had enough time the substantially reduce the effects of the education reform from 1948. As a result, in 1966, there was introduced the high school with 12 grades, structured in two directions, scientific and humanities, based on extended curricula and excellent manuals which combined the scientific knowledge with teaching methodology. In this period there was also eliminated the criterion of social origin for passing the entrance exams in university.

Scientific research. After getting in 1930 the Ph.D. degree with "*Magna Cum Laude*" in chemistry, he worked as a researcher at University of Leipzig between 1932-1933. In the photochemistry laboratory led by professor Fritz Weigert he documented on the optic methods applied in chemistry and photochemistry. The scientific researches of professor Murgulescu related to the domain of physic chemistry referred to: molecular structure and spectroscopy, chemical kinetics,

chemical thermodynamics, electrochemistry, radiochemistry, abiochemistry and analytic chemistry. He also studied the domain of chemical kinetics, the complex combinations of silver and copper sulphates when sodium, potassium and amonium cations are present. In the field of analytical chemistry he established new methods for determining the mercury level and he was the first researcher who used the ortho choric benzoic acid in alkalimetry and acidmetry.

He published studies regarding the equivalent point in titration and the determination of normal potential of the electrodes. He also had an important contribution in the filed of redox reactions, of thermal decomposition of the methane. He invented the polymerization process of the acrylonitrile.

An honest man. Due to his personality, he had a contribution to the reintegration of some great personalities in the academic system such as George Călinescu, Tudor Vianu, Ion Zamfirescu, Constantin D. Papastate. The Romanian historian Nicolae Șerban Tanașoca said in an interview: "*It was the last "purification" of the students, that of 1959, when a lot of young people with the so-called 'unhealthy' origin were expelled. We wrote and sent a lot of memories to the authorities until 1960 when the Minister of Education was appointed Ilie Murgulescu and he re-hired almost all of them. We have to mention the discourse of the academician Gabriel Țepelea delivered in 2002 and delivered by professor Alexandru Cecal from the "A.I.Cuza" University of Iasi: "The academician Gabriel Țepelea surprised us all with a unusual discourse about the character of an honest man and a great patriot, the academician Ilie Murgulescu. He stated that in 1951 he and tens of former professors who were political prisoners were freed from prison by an order given by Gh. Gheorghiu-Dej. The order was released to the intervention of the academician Ilie Murgulescu. The reason that the latter mentioned was the disastrous situation in the pre-academic system (with only seven compulsory grades) due to the almost total lack of teachers who could teach difficult disciplines such as mathematics, physics, and chemistry. The minister presented to Gheorghiu-Dej the way of solving this problem fast by setting up the teaching institutes in the traditional academic centers, but also in some other cities such as: Craiova, Constanța, Bacău, Suceava, Baia Mare, Oradea etc., where some important intellectuals that were former political prisoners could teach"*. He died on the 28th of October 1991 in Bucharest.

Dragomir Hurmuzescu was born on the 13rd of March 1869 in Bucharest on Dorobanți Street as the eldest son of Martin Hurmuzescu, a mail clerk and of Profira, a housewife.

He attended “*Matei Basarab*” secondary school and then “*Sf. Sava*” High school. In 1885 he got a scholarship at the Superior Teaching School who formed the future secondary school teachers for scientific disciplines.



In 1887 he got a scholarship at Sorbonne University of Paris where he completed his theoretical studies and he graduated a program of experimental and applied sciences. In 1890, after getting his physics diploma as the best student he started working as the research laboratory of professor Lippman. He made the most important practical discoveries in this period: dielectric – “*an insulator made up of a mixture of sulphur and paraffin*”, the high tension dynamo – 3000 volts and the Hurmuzescu electroscope with electrostatic screen. The dynamo and the electroscope were patented in France.

His Ph.D. thesis. On the 28th of April 1896 he got his Ph.D. degree with a thesis entitled *About new determinations of the ratio between the electrostatic and electromagnetic units* which determines the electrodynamic constant. The originality of this thesis is given by the fact that he used the apparatus he built himself in order to determine the electrodynamic constant, and the result was quoted in all academic courses from that period. His Ph.D. thesis, the invention of electroscope and the publication of 17 extremely valuable scientific papers assured him an important place in the scientific world. After finishing his Ph.D. degree he came back into Romania in order to raise the Romanian research to European level.

His activity in Iași. On the 1st of October 1897 he was appointed assistant professor at Faculty of Science of Iași, and in 1897, professor at the Department of Gravity, Heat and Electricity. In 1900 he became full professor at University of Iași and he worked exclusively as a scientific researcher. Between 1904 and 1910 he organized the first electricity laboratory where he built devices for experiments; he transformed it later into the School of Electricity, namely “*The Institute of Electrotechnics*” belonging to University of Iași (1900-1911). This is the first experimental physics school following the model of Lippman’s. Due to this school Hurmuzescu is considered to be the

founder of the electrotechnics academic school in our country. We have to take into account that this school will become “*Gh. Asachi*” Politechnics Institute of Iași. During this period he repeated and set up, in 1901, the radio communication experiments of Guglielmo Marconi, Alexandru Popov, researched the radioactivity of petrol and of mineral waters, he improved the galvanometers. He founded in 1900 together with Petru Poni, the journal “*The Scientific Annals of "Alexandru Ioan Cuza" University of Iași*”, written in French. He was its editor and he introduced it into the worldwide circuit of scientific publications.

Activity in Bucharest. In 1913 he was transferred as professor at University of Bucharest and he taught the course entitled “*The applications of the heat and electricity*” until he retired in 1937. He set up the Electrotechnics Institute of Bucharest in the same way as the one in Iași. He was the manager of this institute and the Dean of the Faculty of Science. He made his first attempts regarding the wireless transmission. In 1924, within the Electrotechnics Institute he built the first radio broadcasting network under Hurmuzescu’s supervision. In 1925, under Dragomir Hurmuzescu’s guidance it was built and put into use the first radio tuner. It broadcast twice a week, on Thursdays and Saturdays at 21.30. Dragomir Hurmuzescu used to say: “*In the laboratory from Victor Emanuel Street we made the first demonstrations of hearing foreign radio networks, the one from Wien was the best heard in Bucharest at that time. At these meetings a lot of people came in order to convince themselves of the miracle of listening music and words, carried through air by the electromagnetic waves from thousands of kilometers away. The curious people who wanted to understand this mystery was so big that they didn’t have enough space inside the hall and some of them stood in the yard of the laboratory in the evenings when we broadcast*”. Nowadays the Museum of the Romanian Literature is in that building.

Radio Bucharest. In 1922, under his leadership, it was created the Romanian Society of Radio which broadcast for the first time on the 1st November 1928, the first words being: *Hello, Hello, here is Radio Bucharest*. It was the moment that practically inaugurated the national radio network in Romania. In 1915 he was appointed member of the Romanian Academy. He died in 1954, on the 29th of May, in Bucharest while writing his memories, almost completely forgotten by the “*Stalinist*” era.

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