

Professor Aurel CAMPEANU at his 80th anniversary

Professor Aurel Câmpeanu was born on the 6-th of August 1935, in Calafat town, Dolj County. He followed secondary-school classes at «Nicolae Bălcescu» Popular College in Craiova, which graduated with praiseworthy diploma in 1953. In 1953 he was admitted without exam at the Faculty of Electrotechnics of the Institute of Electrical Machines and Apparatus in Craiova. In 1958 he graduated the Faculty of Electrotechnics in Craiova as part of the Polytechnic Institute from Bucharest, obtaining engineer diploma.



He started his professional activity as an electrotechnical engineer in the Central Laboratory of Electroputere Factory in Craiova (1958 – 1963). In 1963 he occupied the position of university assistant and then lecturer at the Department of Electrical Machines in the framework of the Faculty of Electrotechnics of the Polytechnical Institute of Timișoara where he collaborated with Academician Professor Toma DORDEA. In 1969 he presented his thesis for a doctor's degree entitled «*Study of two mechanically coupled synchronous machines, connected to a common network*», under the guidance of Academician Toma DORDEA, obtaining PhD title.

Since 1970 he has been going on his higher education and research activity in the framework of the University of Craiova, Faculty of Electrotechnics, where he occupied successively positions from lecturer to full professor. Since 2005 he is honorary professor in the framework of the Faculty of Electrical Engineering.

Testing engineer in Electroputere Factories – Central Laboratory.

In this quality he had the following contributions:

- he carried out *Testing Method in heating for transformers with three windings of high power and unequal*, which made dispatch possible, with important economic consequences, towards beneficiaries of transformers rated at 5/3/2 MVA (for India) and 40/30/30 MVA (for Poland); that method was acknowledged as an invention;

- he established a *method of recoverable test for synchronous machines rated at powers which sensitively exceed the power of the testing stands*. That made possible the industrial test, including in heating and avoiding, on this basis, the operation problems. That method was acknowledged as an invention and included in the IEC-60034-2 Standard elaborated by the International Electrotechnical Commission, regarding tests of electrical machines;

- he directly participated in homologating all the machines and transformers which were to be manufactured, including the motors and generators of the first generation of electrical diesel railway engines.

Teacher at the Polytechnic Institute in Timișoara.

This period is fundamentally marked by the presence of Academician Toma Dordea. The first meeting had taken place, without professor's knowledge, in the third year of studies, when Academician Toma Dordea came to Craiova as a President of the State Exam. He frequently expressed his gratitude to Professor's essential contribution in his professional formation as well as in a larger context.

Beside the current academic activity as an assistant and lecturer and the participation in research projects with Electromotor Factory Timișoara:

- he worked for elaborating, under Professor's coordination, the doctorate thesis "*Study of two mechanically coupled synchronous machines, connected to a common network*", original research, which carried out theoretical bases of a particular operation regime of synchronous machine and which had as a final purpose the method acknowledged as an invention and tested in Electroputere Factory;

- the publication activity and participating at conferences became a major preoccupation.

Teacher at the University of Craiova

He followed all the university stages of lecturer and professor, the disciplines taught being those afferent to electrical machines; he was head of department, pro-rector and dean. Professor Campeanu considers student as a close partner, that any failure must be equally assumed by teacher, too, which cannot be a simple provider of professional information, however high.

Concomitantly, he persevered in the activity of scientific research, constantly appreciated as being compulsory for a professor. His research activity has materialized in:

- over 200 scientific papers published in the most prestigious Romanian reviews ("Revue roumaine des sciences techniques – Série Electrotechnique et Energétique") and international reviews ("Electrical

Engineering-AfE”) or in outstanding international conferences ICEM (Vilamoura, Marseille, Rome, Helsinki), ELECTROMOTION (Patras, Bologna, Bodrum, Marrakesh, Lausanne, Lille) PEMC (Warsaw, Budapest), SPEEDAM (Capri, Ischia), EUROCON (Warsaw) IPEMC (Shanghai), IEMDC (Antalya) OPTIM (Braşov), AECE (Bucharest), ICED (Rome, Helsinki) PCIM (Nuremberg) EDPE (Dubrovnic) ACEMP (Kusadasi) etc.

- 13 books; among them, “Electrical machines. Basic problems, special and of optimal operation” was awarded the “Traian Vuia Prize” of the Romanian Academy; two books which approach present problems regarding modelling and simulation of alternating current machines published in the Academy Publishing House are appreciated by Academician Toma Dordea as publications elaborated at a high scientific level which surely satisfy the necessity of perfecting specialists which work in the area of electrical machines design and performant electrical drives, university teaching staff, master students and trainers for a doctor’s degree;

- research contracts, being Director of Grant with World Bank and Director of Tempus I, II Programs; these referred to perfecting and modernizing through advanced studies and doctorate at the Faculty of Electromechanics of the University of Craiova; all the teaching staff got mobilities in university centres in France, Belgium, Spain, Italy and all the laboratories of the faculty were modernized etc.

The favourite research area of Professor Aurel Câmpeanu has been connected with dynamic regimes of electrical machines, with an original approach, activity materialized in papers and books acknowledged in our country and abroad. Among the original contributions of Professor Profesorului Aurel Câmpeanu we can mention:

1. Elaborating the theory of a general method of testing in heating for transformers with three windings of high power and unequal;
2. Elaborating the generalized unitary theory of dynamic mathematical models of induction machine using representative vectors;
3. Elaborating the unitary theory of dynamic mathematical models of synchronous machine considering saturation and magnetic asymmetry;

Acknowledgements of scientific activity in our country and abroad.

Here are a few reference points of professional and scientific acknowledgement of Professor Aurel Câmpeanu:

- Permanent expert from Romania at International Electrotechnical Comitee IEC-WG 28 (present at meetings in Madrid, Toronto, Paris, Montréal, Zurich, Berlin, St. Petersburg, Helsinki, Heidelberg, Brno, Milano, London etc.);

- “Traian Vuia Prize” of the Romanian Academy (1991);

- Titular member of the Academy of Technical Sciences of Romania. Vice-president of the section Electrotechnics - Energetics, President of ASTR – territorial branch of Craiova;

- Doctor-Honoris Causa of the Technical University of Moldova- Chişinău, North University of Baia Mare, “Gh. Asachi” Technical University - Iaşi, “Stefan cel Mare” University - Suceava, “Eftimie Murgu” University - Reşiţa;

- Invited Professor with papers to universities from abroad (France, Belgium, Spain, Switzerland, Canada);

- Invited Professor to the International Conference of European Universities, CESAER, (Belgium) with the theme “Transfer of technology from universities towards industry”;

- Honour Distinction of the Senate of the Technical University of Cluj - Napoca;

- Diploma of Honoured Emeritus Professor of the University of Craiova;

This is the survey of an activity devoted to professional and responsible formation of over 50 generations of engineers, from among over 45 in the framework of the University of Craiova, in general to scientific knowledge.

Prof.dr.ing. Ioan C. POPA