



**CONSTANTIN GAINDRIC**

*(A tribute in honor of his 60th birthday)*

On September 11, 2001 director of the Institute of Mathematics and Computer Science of the Academy of Sciences of the Republic of Moldova, Doctor habilitat in Technical Sciences Constantin Gaindric celebrates his 60th anniversary.

Constantin Gaindric was born in the village of Zaicani, Edinets district. There he finished a secondary school, which is remarkable for the fact that a Corresponding member of the Acad. Of Sci. of RM, 5 doctors habilitat and 70 doctors of sciences finished that school too. In 1957 C.Gaindric failed to enter the Kishinev State University

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of Moldova because he was under 16 at that time. That is why, not wishing to miss a year, C. Gaidric became a student of the Faculty of Physics and Mathematics of the Beltsy Pedagogic Institute. He was in luck with teachers, among them were mathematicians V. Belousov, I. Gohberg and physicist I. Bersuker, all becoming later famous scientists.

In 1962, on graduating from the institute, V. Belousov offered to C. Gaidric the position of assistant, but he preferred the position of a schoolteacher in the village of Mileshti, Nisporeni district. After several months he was called up for military service, which lasted in the course of 1962 – 1964.

In 1964, on leaving the army, C. Gaidric decided to work at the Institute of Mathematics of Academy of Moldova. Although there was no vacancy at the institute, the problem was solved due to V. Belousov, I. Gohberg and V. Cheban, who by that time had worked already at the institute.

Soon C. Gaidric left for Moscow, to be a special student at the Central Economic Mathematical Institute of the AS USSR, one of the greatest scientific research centers of the country. There during two years C. Gaidric passed the magnificent research school under the supervision of Professors Yu. A. Oleynic-Ovod and T. M. Velikanova, solving modeling problems of dispatching type. Contacts with prominent scientists E. G. Golshtein, A. A. Fridman, D.B. Yudin also influenced him greatly.

Two-year stay in Moscow was a success. The young scientist was offered to work at the Central Economic Mathematical Institute of the AS USSR. But C. Gaidric preferred to come back to Kishinev. In June 1967, on academician V. Andrunakievich's recommendation, he started to work at the just established Department of Economic Mathematical Methods of the Republican State Planning Committee, and in 1968 became the deputy director of the Institute of Scientific and Technical Information of the State Planning Committee of RM. Here C. Gaidric founded the department of economic mathematical methods of planning. In 1970 on the basis of this department the Computer Center of the State Planning Committee of RM was set up, and C. Gaidric became its director. In October 1972 the Computer Cen-

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ter was reorganized into the Planning Institute of the State Planning Committee of RM, where C. Gaindric had worked as deputy director till 1977. In October 1977 he returned to the Institute of Mathematics of Academy of Moldova and was appointed as deputy director.

In April 1991 C. Gaindric was elected the director of the Institute of Mathematics of Academy of Moldova. Thus he changed on that post the Academician V. Andrunakievich, the founder of the institute who had been at it's head since 1961 and retired in 1991. In 1996 scientists of the Institute elected C. Gaindric the director again.

From the very beginning the scientific activity of C. Gaindric was connected with researches and implementations in the field of multicriterion optimization and related problems.

During his stay in Moscow C. Gaindric was engaged in problems of transportation dispatching. He solved a difficult problem of road motor transportation dispatching. The exact solution that was obtained as the solution of the generalized traveling salesman problem served as test for finding approximate solutions. This permitted to reduce the time of problem solving and to diminish the computer demands. Further C. Gaindric proposed a modified method "Tabu Search" for solving dispatching problems with taking into account the time of visiting the transport net intermediate stations.

The elaborated algorithms were applied in 1965-1970 in computer-aided systems of planning the transportation of small amount of goods in Moscow. Further on the basis of these results the concept of planning system for the development of motor transport in Moldova was proposed and grounded. In the framework of this concept a corresponding simulation computer system was realized.

C. Gaindric elaborated a method of the stratification of complex simulation models that are used in the planning and management of national economy as well as in separate economic units. It permitted to construct different schemes of calculations consecutions of economic indices. This method was applied in the simulation system of the planning of motor transport work at separate enterprises.

In the field of multicriterion optimization C. Gaindric worked out different methods for solving multicriterion problems with non-uniform

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criteria (non-differentiable and non-linear), interactive schemes and schemes using fuzzy sets formalisms.

During the last years C. Gaidric proposed and grounded an essentially new scheme of the decision support systems in ill-formalizable domains. This scheme is based on an adequate description of objects under control by means of fuzzy logic and formalized knowledge, as well as on the use of intellectual interfaces. The conceptual scheme envisages the integration of classical methods of multicriterion choice with elements of knowledge engineering. In the framework of this concept some concrete interactive systems of the managements of motor-car enterprise, the transportation dispatching, the distribution and monitoring of the scientific projects financing are realized.

C. Gaidric defended the doctor thesis "Some generalizations of traveling salesman problem and methods of their solving" at the Central Economic Mathematical Institute of AS USSR in 1972 at the specialized council with Professor E. G. Golshtein as the chair. The thesis for conferring the degree of doctor habilitat in technical sciences "Mathematical methods of the elaboration and grounding the decisions in social economical systems" was defended by him at the Technical University of Moldova in 2000.

Theoretic researches and implementations in the difficult and important domain of decision support made C. Gaidric to be well known both in Moldova and abroad.

According his research results C. Gaidric published two monographs and about 60 papers in many international journals including Bulgarian, French, German, Romanian, and Russian ones. He took part in several significant scientific conferences, among them Soviet – Finnish – French Symposium on Computers (Finland, 1978), International Symposium on Mathematical Problems ... (Germany 1984), International Congress of IFIP (Germany 1994), two conferences of the European Community on Information Systems of Universities and Academies (Germany 1995; France 1997), Workshop on Applied Mathematics in Europe (Switzerland 2001).

C. Gaidric is actively engaged in scientific organizing work. He had been the chair of the Coordination Council in Mathematics and

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Computer Science of ASRM (1991 – 2001), was a member of the Council of Information Resources and Informatics under President of RM (1999–2000), is a member of the Supreme Council in Science and Technology Development of RM. C. Gaidric is the founder and permanent editor-in-chief of the scientific journal "Computer Science Journal of Moldova" published by Institute of Mathematics since 1993. He is also a member of the editorial boards of the international journals "Control Systems and Machine" (Ukraine), "Fuzzy Systems and Artificial Intelligence" (Romania) and of the Romanian Journal "Studies in Informatics and Control". C. Gaidric was a member of program committees of the International conferences on Information Systems (Tunis 1997), decision support systems (Switzerland, 1998), fuzzy systems (Turkey, 1991), International Congress of IFAP (Romania 2001) and others.

C. Gaidric always paid much attention to training young specialists and their involving into research work. 4 doctors theses were maid and defended under his supervision. He permanently deliveres lectures on operations research, mathematical modeling of economic processes, methods of decision support at the Academy of Economic Sciences and the High Anthropologic School. In 1983 C. Gaidric organized at Institute of Mathematics the working group of operation research involving able young specialists and students of the university. They obtained a lot of interesting scientific results.

It was a hard time both for the country and science when C. Gaidric came at the head of the Institute. Financing of the Academy of Sciences of RM decreased considerably. Institutes of Academy of Moldova encountered many problems: forced leaves without pay, lack of heating, electricity, telephone communication. Great experience, talent of organizer, non-standard decisions, selfdevotion to science and institute, optimism were those merits of C. Gaidric that allowed the institute to overcome the difficulties better than others could do.

The Institute as well as other Academic institutes lost many active scientists. Some of them left for more prosperous countries, others got jobs at private companies or universities. Nevertheless, the institute survived and, more over, it makes progress. During these hard years several international and national research grants were won. A num-

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ber of monographs and dozens of scientific articles were published by authoritative publishing houses abroad. Scientists of the Institute take part in the International projects and conferences more and more often. The Institute publishes three scientific journals: "Buletinul Academiei de Stiinte a Republicii Moldova. Matematica", "Computer Science Journal of Moldova" and "Quazigroups and related Systems". Also Institute of Mathematics organized several conferences on mathematics and computer science. Students and postgraduate students join our research groups.

We would like to mention some personal traits of our director, which influence the atmosphere of the Institute. He is a man of great erudition, democratic and open for workers of the Institute, modest, ready to encourage and help.

The whole team of the Institute of Mathematics and the Editorial board of the "Computer Science Journal of Moldova" cordially congratulate C. Gaidric with his jubilee and wishes him health, strength and success in hard but noble task of service to science.