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# **ROMANIAN ACADEMY**

One Hundred Romanian Authors in Theoretical Computer Science

Edited by: SVETLANA COJOCARU, GHEORGHE PĂUN, DRAGOŞ VAIDA

EDITURA ACADEMIEI ROMÂNE

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"The Romanian Academy, aware of the need for synthesis works, which have to reflect concisely and coherently the progress of the national science and culture, assumed the responsibility to elaborate and coordinate a collection entitled «Civilizația românească / Romanian Civilization», published first in Romanian and later in English and other international languages."

"More than 30 volumes are expected to be published within this collection, reflecting the Romanian contribution to the main cultural and scientific areas: agriculture, biology, church and religious forms of worship, chemistry, computer science, demography, diplomacy, economy, education, electronics, ethnology, geophysics, geography, geology, history, historiography, law and institutional structures, linguistics, literature, mathematics, medicine, music, monetary and banking system, philosophy, physics, sociology, technical sciences, theater and cinema, visual arts, etc. It is of course one of the most ambitious projects assumed by the Romanian Academy since its foundation a century and a half ago. It is also worth mentioning that the most outstanding personalities of this highest Romanian forum of research and culture agreed to be involved and bring eminent contributions to the Romanian intellectual life and progress of science."

"In spite of hardships life and suffering, the Romanian people was able to generate constructive energies, creating values in different areas of life, and modelling gifted scientists and artists who have been valued both in the country and abroad. The synthesis volumes within this collection have the mission to disseminate research and information bringing Romania's contribution to the cultural and scientific thesaurus of mankind, mirroring the national intellectual potential."

Acad. VICTOR SPINEI



# THE ROMANIAN CIVILIZATION

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## **SUPPLEMENT 1**



THE ROMANIAN ACADEMY THE INFORMATION SCIENCE AND TECHNOLOGY SECTION

# ONE HUNDRED ROMANIAN AUTHORS IN THEORETICAL COMPUTER SCIENCE

Edited by: SVETLANA COJOCARU GHEORGHE PĂUN DRAGOŞ VAIDA



EDITURA ACADEMIEI ROMÂNE București, 2018

## **ORMAN, Gabriel V.**

Born on November 15, 1933, in Bălți, Romania (now in Republic of Moldova).

Education: Faculty of Mathematics and Physics, "Victor Babeş" University of Cluj (1957).

**PhD** in mathematics at University of Bucharest, 1973. Thesis title: *Clasificări* ale limbajelor liniare (*Classifications of the Linear Languages*). Scientific advisor: Solomon Marcus.

Scholarships: University of Bucharest (1964); University of Bratislava, Czecho-Slovakia (1972). Visiting professor at University of Illinois, USA (1991).

**Positions:** Professor at a high school in Predeal (1957–1962). Assistant at the Faculty of Mathematics, Pedagogical Institute in Braşov (1962–1971). From 1971, Lecturer and then I climbed all steps in University of Braşov. From 1990, Professor at Faculty of Mathematics and Informatics, University of Braşov, now "Transilvania" University of Braşov.

**Research areas, main results:** The mathematical theory of formal languages, probability and applications to the study of the systems.

After 1975 I was interested in interdisciplinary domains involving algorithms of stochastic approximation, stochastic processes and applications to the study of the generative systems and the transmission of the information, of the genetic systems, applications in reliability, in the analysis of the economic systems and the problems of risk.

The scientific activity has been materialized in about 220–230 published scientific works (books, papers, textbooks) and also many papers for the popularization of the science. I gave over 250 conferences, scientific communications in Romania and also on the occasion of my visits to universities from Europe and USA.

I have been Gastprofessur at the University "Gerhard Mercator" from Duisburg, Germany, where I realized studies related to methods of stochastic approximation and I gave lectures on limit theorems and stochastic approximation to the students from Master degree (in 2001).

Administrative position: Head of the Department of Mathematical Analysis and Probability, "Transilvania" University of Braşov (1992–2004); President of the

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University House from Braşov (1984-1992); Member in the Scientific Council of the Faculty of Mathematics and Informatics from Braşov; Member in the Senate of "Transilvania" University of Braşov; Member in the Council of Honorary of the Senate of "Transilvania" University of Braşov (up to 2004); Member (many years) of the Central Institute of Mathematics, Bucharest, representing the Faculty of Mathematics and Informatics from Brasov.

Editorial boards: I have edited the proceedings of the many conferences that I organized in our faculty: Languages, Logic, Mathematical Linguistics (periodical); Symmetry and Anti-Symmetry in Mathematics, Formal Languages and Computer Science" (periodical - satellite Conferences of ECM); Mathematics and Its Applications; Scientific Session dedicated to Grigore C. Moisil on the occasion of 100 years since his birth (April 2006).

Membership to professional organizations: European Mathematical Society; The Committee of Mathematical Linguistics of Romanian Academy; The Academy of Romanian Scientists; The Romanian Society of Mathematical Sciences; The Romanian Society of Probability and Statistics; The Romanian Society of Informatics -SOCROMINFO; International Scientific Committee of Balkan Conferences on Operational Research, Thessaloniki, Greece (1994-1999).

Honors, prizes, scientific distinctions: Centro Superiore di Logica e Science Comparate, Bologna - Membro Consulente Aggregato (1972); Honorary member, International Biographical Centre, Cambridge (1999).

PhD students: Dorin Bocu (1996), Patricia Giurgescu (1996), Eugen Păltănea (1997), Mircea Vîntu (1997), Mariana Neagu (1998), Călina Frandăş (1998), Viorel Drăghici (1999), Nicolae Bârsan Pipu (2000), Mihai N. Pascu (2002), Ovidiu Popescu (2004), Cristian Mihai Pomohaci (2004), Adriana Winter (Oprei; 2004), Iulian Marcel I. Adrian (2005), Doina Constanța Mihai (2006), Constantin Lădescu (2006), Andreea Fulga (2007), Gabriel Lucian Nepotu (2008), Cristina Maria Vlădărean (2008), Mioara Varga (2008), Adela Zară (2009), Delia Maria Teselios (2009), Maria Alexandra Proca (2010), Mihail Ioan Pop (2012), Mioara Alina Nicolae (2012), Nadia Mirela Stoian (2012), Sorina Mihaela Stoian (2014), Neculai I. Crîşmaru MIGHARMACOMTLA SEMANDES MANDER (M (2014).

## **Books:**

1. Limbaje formale (Formal languages), Editura Tehnică, București, 1982.

2. Capitole de Matematici Aplicate (Chapters of Applied Mathematics), Editura Albastră, MicroInformatica, Cluj-Napoca, 1999.

3. Limbaje formale și acceptori (Formal Languages and Acceptors), Editura Albastră, MicroInformatica, Cluj-Napoca, 2002.

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4. Aspects of Convergence and Approximation in Random Systems Analysis, LAP LAMBERT Academic Publishing, 2012.

5. Basic Probability Theory, Convergence, Stochastic Processes and Applications, "Transilvania" University Press, Braşov, 2016.

### **Representative articles:**

1. A Characterization of Left Linear Context-Free Languages, *Informatica* (Bled), 3 (1970).

2. Consideration sur les languages "Context-Free" linéaires à gauche et à droite, *Revue Roumaine de Math. Pures et Appl.*, XVI, 7 (1971), 1107–1114.

3. On the Characterization of Context–Free Languages, *Proc. VIIth Yugoslav International Symposium on Information Processing*, Bled, 1972, F 5 (1–8).

4. On the Complexity of Context-Free Grammars, *Informatica* (Ljubljana), 1975, B 3–21 (1–8);

5. Two Aspects Concerning "General Theory of Directed Numbers" by Franco Spisani and an Application, *International Logic Review* (Bologna), 32 (1985), 67–71.

6. On Some Numerical Functions Utilized in the Study of a Class of Discrete Systems, *Journal of Systems Science*, 19, 1 (1993), 27–37.

7. On the Characterization of Some Generative Grammars by Numerical Functions, *Current Issues in Mathematical Linguistics* (C. Martín-Vide, ed.), Elsevier Science, 1994, 151–160.

8. On Stochastic Approximation Methods in Reliability, *Invited Lecture & Preprint ICRSA* – 2003, University of South Carolina, Columbia, USA, May 2003.

9. On Stochastic Approximation Methods in Reliable Systems Analysis, International Journal Communications in Dependability and Quality Management, 9, 1 (2006), 38–44.

10. On Stochastic Calculus and Diffusion Approximation to Markov Processes, in *Chaos and Complex Systems* (S.G. Stavrinides, S. Banerjee, S.H. Caglar, M. Ozer, eds.), Springer, Berlin, 2013, 239–244 (in collab.).

### **Further information:**

The book *Limbaje Formale (Formal Languages)*, Ed. Tehnică, București, 1982, is the first monograph in the Romanian language in which one discusses, into an unitary form, the languages from the Chomsky's hierarchy and the automata able to accept them. A new version, containing also new subjects, was published in 2002: *Limbaje formale și acceptori (Formal Languages and Acceptors)*, Grupul MicroInformatica, Cluj-Napoca, 2002.

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