



**The Economic Informatics
Department**
of the Academy of Economic Studies
Bucharest

nominees for

Grigore C. Moisil *award*

2008

awarded by
the Association for Promoting Education in Economic Informatics – INFOREC –
and the *Informatica Economică* Journal,
for contributing to the economical informatics development in Romania, to:

Acad. Gheorghe Păun

For the following achievements:

- playing a special part in theoretical informatics development in Romania;
- conducting substantial international researches in the field of “P-Systems”;
- underlying “membrane computing theory” which proved to be an area with important results for modern computer science research;
- being a world renown and appreciated personality through his many works issued at first-class publishing houses and in accredited science journals;
- generating a modern theoretical informatics school in our country, while involving top-class research experts;
- being the messenger of Romanian computer science by holding speeches at many international conferences around the globe;
- advocating economic informatics development in our country through his major contributions within conferences and workshops organized by various local and foreign universities.

The Grigore C. Moisil honor has also been awarded to:

- Prof.dr. Paul BRAN, Rector of The Academy of Economic Studies of Bucharest (1998)
- Prof.dr. Florin-Gheorghe FILIP, Vice-president of The Romanian Academy (1999)
- Prof.dr. Dragoș-Alexandru VAIDA, The first Pro-Dean of Economic Calculation and Economic Cybernetics Faculty, Academy of Economic Studies of Bucharest (2000)
- Prof.dr. Dan-Mihai RACOVÎȚAN, Dean of Economic Science Faculty, University Babeș-Bolyai of Cluj-Napoca (2001)
- Prof.dr.ing. Ioan DUMITRACHE, Rector of Politehnica University of Bucharest (2002)
- Prof.dr.ing. Doina BANCIU, professor at University of Bucharest (2003)
- Prof.dr. Ștefan NIȚCHI, professor at University Babeș-Bolyai of Cluj-Napoca (2004)
- Prof.dr. Dumitru TODOROI, professor at Academy of Economic Studies of Chișinău, Republic of Moldova (2005)
- Prof.dr. Dumitru OPREA, professor at Alexandru Ioan Cuza University of Iași (2006)
- Silviu HOTĂRAN, Microsoft România, General Manager (2007)

Born on December 6th 1950, in Cicănești, Argeș County, **Gheorghe Păun** graduated the Mathematics Faculty at University of Bucharest in 1974, having his major in computer science. Under the close tutelage of respected professor Solomon Marcus, he accomplishes Ph.D. studies in the field of mathematics in 1977 with thesis titled “The Simulation of some economic processes by means of formal language theory”, at Mathematics Faculty of the Bucharest University.

His professional activity continues with preeminent positions, like mathematician at the CEPECA Calculation Center of Bucharest between 1974 and 1978, researcher at The Board for System Study at University of Bucharest between 1978 and 1987, Computing Center of University of Bucharest between 1987 and 1990, and Mathematics Institute of Romanian Academy from 1990.

Academician Gheorghe Păun won several scholarships and fellowships like:

- *Alexander von Humboldt* fellowship at Magdeburg University, Germany, between 1992 and 1993;
- *Ramon y Cajal* fellowship at University of Sevilla, Spain, between 2001 and 2006;
- other scholarships and fellowships in Finland, Italy, the Netherlands, Poland, Japan, France, Hungary.

Along his exceptional research activity, he receives, as recognition for his outstanding results, various awards and honors from local and foreign science journals, as:

- *Gheorghe Lazăr* award of Romanian Academy, in 1981;
- *Best Paper* award at the Twelfth European Meeting on Cybernetics and Systems Research, in 1994.

He was also nominated for the first edition of the *Excellency in Romanian Culture Award* in 1999.

From 1997 he is elected corresponding member of the Romanian Academy for Science and Information Technology Department, Doctor Honoris Causa and member of honor of International Academy of Informatization, Chișinău branch in 1999, guest professor of Huazhong University of Science and Technology, Wuhan, China, in 2005, member of European Academy from 2006, Doctor Honoris Causa of the Silesian University of Opava, Czech Republic, in 2007 and Honorary Citizen of Arges county from 2007.

The name of academician Gheorghe Păun appears on several informatics monographies published within the country and abroad at famous publishing houses. Among them:

- *Mecanisme generative ale proceselor economice*, Editura Tehnică, Bucharest, 1980;
- *Gramatici matriciale*, Editura Științifică și Enciclopedică, Bucharest, 1981;
- *Gramatici contextuale*, Editura Academiei, Bucharest, 1982;
- *Probleme actuale in teoria limbajelor formale*, Editura Științifică și Enciclopedică, Bucharest, 1984;
- *Paradoxurile clasamentelor*, Editura Științifică și Enciclopedică, Bucharest, 1987;
- *Regulated Rewriting in Formal Language Theory* (with J. Dassow – Germany), Akademie-Verlag, Berlin, 1989, Springer-Verlag, Berlin, 1989;
- *Grammar Systems. A Grammatical Approach to Distribution and Cooperation* (with E. Csuhaj-Varju – Hungary, J. Dassow – Germany, J. Kelemen – Czech Republic), Gordon and Breach, London, 1994;
- *Marcus Contextual Grammars*, Kluwer, Boston, 1997;

- *DNA Computing. New Computing Paradigms* (with G. Rozenberg – Netherlands, A. Salomaa – Finland), Springer-Verlag, Berlin, 1998 and 2004, translated into Japanese (1999), Russian (2004), Chinese (2005);
- *Computing with Cells and Atoms* (with C. Calude – New Zealand), Francis and Taylor, London, 2000, translated into Russian (2007);
- *Membrane Computing. An Introduction*, Springer-Verlag, Berlin, 2002, translated into Chinese (2009).

In addition, the name of academician Gheorghe Păun appears, through his valuable contributions, on over 50 volumes of informatics, all published in English at top-class publishing houses.

He created as single author or co-author over 500 original articles in international science magazines and journals. He worked with over 120 researchers from all over the world, many of them resonant names of computer science, like A. Salomaa, G. Rozenberg, A. Ehrenfeucht, G. Thierrin, O.H. Ibarra, G. Mauri, J. Dassow, M.J. Perez-Jimenez, A. Skowron, T. Yokomori, S. Yu.

Academician Gheorghe Păun, significant personality of Romanian computer science, is cited in over 3300 articles, books, Ph.D. theses, being the most cited Romanian computer scientist and among the first 0,5% most cited computer scientists of the world. The fact is measured and certified by Thomson-Reuters Institute for Scientific Information (ISI), Philadelphia, SUA, where Gheorghe Păun is *ISI Highly Cited Scientist*.

As recognition for his irreproachable reputation in the scientific world, academician Gheorghe Păun is constantly invited at over 100 conferences in universities of Hungary, Austria, France, Czech Republic, Slovakia, Germany, Finland, Holland, Spain, Japan, United States, Canada, Poland, Italy, Singapore, Malaysia, China, Greece, having over 120 participations in international conferences for holding public science speeches.

He is member of over 100 international conferences program committees in the field of computer science and member of editorial boards of over 15 international computer science journals.

The original research works carried by academician Gheorghe Păun during his activity, reached areas like formal languages theory, computational linguistics, word combinations, semiotics, operational researches or DNA calculus. He is the father of membrane computing, the original models obtained from his research bearing his name (P-systems). The bibliography generated by this specific field counts over 80 publications, among which:

- *Computing with membranes; An introduction*, Bulletin of EATCS, 1999;
- *Simulating H systems by P systems*, J. Univ. Computer Sci., 2000;
- *Computing with membranes (P Systems); Attacking NP-complete problems, Unconventional Models of Computation* (with I. Antoniou, C. S. Calude, M. J. Dinneen, eds.), Springer-Verlag, London, 2000;
- *P Systems on graphs of restricted forms* (with Y. Sakakibara, T. Yokomori), Publ. Math. Debrecen, 2002;
- *Array-rewriting P systems* (with R. Ceterchi, K.G. Subramanian), Natural Computing, 2003;
- *On the power of membrane division in P systems* (with Y. Suzuki, H. Tanaka, T. Yokomori), Theoretical Computer Sci., 2004;
- *P systems with mobile membranes* (with S.N. Krishna), Natural Computing, 2005;
- *On the branching complexity of P systems* (with G. Ciobanu, M.J. Perez-Jimenez), Fundamenta Informaticae, 2006;
- *Small universal spiking neural P systems* (with A. Paun), BioSystems, 2007;

- *Editing configurations of P systems* (with E. Csuhaj-Varju, A. Di Nola, M.J. Perez-Jimenez, G. Vaszil), Fundamenta Informaticae, 2008.

Although there are less than eleven years from the initial paper, considered by ISI “fast breaking paper”, this field generated over 1300 titles, which proves the importance of the concepts and theoretical results discovered in this area.

From 2000, academician Gheorghe Păun is the main organizer of a series of international meetings called *Workshop on Membrane Computing* which took place in Spain, Italy, Austria, Holland, Greece, England, Germany and Romania.

From 1990, he is member of the Writers Union of Romania and the first president of Romanian GO Federation.

For all these remarkable results, the selection committee decided that the 2008 Grigore C. Moisil award goes to academician Gheorghe Păun.