Roumanian Scientists
Volume 2: Savanți Români

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Biografii de Savanți Români

Alexandru Proca

Alexandru Proca	
	
Born	October 16, 1897 Bucharest, Romania
Died	December 13, 1955 (aged 58) Paris, France
Citizenship	France
Nationality	Romania
Fields	Physicist (theoretical)
Alma mater	Paris-Sorbonne University in France
Doctoral advisor	Louis de Broglie
Known for	Proca's equations
Notable awards	Honorary Member of the Romanian Academy of Arts and Sciences, elected post mortem in 1990.

Alexandru Proca (October 16, 1897, Bucharest – December 13, 1955, Paris) was a Romanian physicist. He developed the meson theory of nuclear forces and the mathematical physics equations that bear his name (Proca's equations). He became a French citizen in 1931.

Education

High-school and college

In Romania, he was one of the eminent students of the school "Gheorghe Lazar" and the Polytechnic School in Bucharest. With a very strong interest in theoretical physics, he went to Paris where he graduated in Science from the Paris-Sorbonne University, receiving from the hand of Marie Curie his diploma of the Bachelor of Science degree. Then, he was employed as a researcher/physicist at the Radium Institute in Paris in 1925.

Ph.D. studies

He carried out Ph.D. studies in theoretical physics under the supervision of Nobel laureate Louis de Broglie. He defended successfully his Ph.D. thesis entitled *"On the relativistic theory of Dirac's electron"* in front of an examination committee chaired by the Nobel laureate Jean Perrin.

Scientific achievements

He also studied and worked with Nobel laureates Niels Bohr and Marie Curie,[1] . Alexandru Proca became to be known as one of the most influential Romanian theoretical physicists of the last century.[2] having developed the meson theory of nuclear forces ahead of the first reports of Nobel laureate Hideki Yukawa. Proca's equations for the vectorial mesonic field were employed by Yukawa who subsequently received the Nobel Prize for an explanation of the nuclear forces by using this field.

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Ştefan Procopiu

Ştefan Procopiu	
 Ştefan Procopiu	
Born	January 18, 1890 Bârlad
Died	February 22, 1972 Iaşi
Residence	Iaşi
Citizenship	Romanian
Nationality	Romanian
Fields	Physics
Alma mater	Alexandru Ioan Cuza University of Iaşi
Known for	Bohr-Procopiu magneton Procopiu effect Procopiu phenomenon
Notable awards	Romanian State Prize (1964)

Ştefan Procopiu (b. January 19, 1890 in Bârlad, Romania, d, August 22, 1972 in Iaşi, Romania) was a Romanian physicist.

Biography

Ştefan Procopiu was born on January 19, 1890 in Bârlad. His father, Emanoil Procopiu, was employed at the Bârlad courthouse. His mother, Ecaterina Taşcă was the daughter of Gheorghe I. Taşcă (see Taşcă family) [1] He attended the Gheorghe Roşca Codreanu High School in Bârlad from 1901 to 1908, continuing his studies at the Faculty of Sciences of the "Alexandru Ioan" Cuza University of Iaşi from 1908 to 1912. After graduation he became assistant to professor Dragomir Hurmuzescu.[2]

In 1919 he obtained a scholarship to continue his studies in Paris, attending courses of famous scientists, such as Gabriel Lippmann, Marie Curie, Paul Langevin, Aimé Cotton. On 5 March 1924, Procopiu obtained the title of doctor in physics with the thesis "On the electric birefringence of suspensions" presented to a commission including professor Aimé Cotton as coordinator and Charles Fabry and Henri Mouton as cross-examiners. [3]

After his return to Romania on January 15, 1925 professor of the gravitation, heat and electricity department of the "Alexandru Ioan Cuza" University of Iaşi, replacing his former teacher Dragomir Hurmuzescu, who had retired., Procopiu coordinated the department until his retirement in 1962.[4] At the same time he was appointed professor at the "Gheorghe Asachi" Polytechnic Institute of Iaşi[3] In 1939 Ştefan Procopiu published his treatise on "Electricity

and Magnetism", followed in 1948 by his monography on “Thermodynamics”.

On June, 1948 he was appointed corresponding member of the Romanian Academy, being promoted to full membership on July 2, 1955. [3] In 1964 he was awarded the Romanian State Prize[4] He was also decorated with the Order of Work (Ordinul Muncii), Order of the Star of Romania and the Order of Scientific Merit. Procopiu was also selected twice as member in the Commission for the award of the Nobel Prize, [2]

Ştefan Procopiu was also deeply involved in the cultural life of the city of Iaşi. He was an active member of the Board of Directors of the National Theatre “Vasile Alecsandri” of Iaşi [4]

Ştefan Procopiu died on August 22, 1972 in Iaşi age 82.[5]

Scientific activity

Ştefan Procopiu started scientific research even before graduating. He continued this activity while he was assistant professor.

The magnetic moment of electrons

The first important paper by Ştefan Procopiu is "Determining the Molecular Magnetic Moment by M. Planck’s Quantum Theory". After studying Planck’s quantum theory and Langevin’s magnetism theory, established the magnetic moment and determined the physical constant of magnetic moment, named magneton. [6] Ştefan Procopiu published his results two years before Niels Bohr made the same discovery independently. [7] The magneton is now known as Bohr-Procopiu magneton

Continuing his studies, in 1954 he established a method for the experimental determination of the magneton, which he improved in 1963[8]

Other research before and during World War I

Ştefan Procopiu also worked on wireless communications and in 1913 published a paper on “Experimental Research on Wireless Telegraphy”. In 1916 he invented a device for locating and establishing the depth of bullets in the bodies of the wounded soldiers. [7]

Longitudinal depolarization of light

In 1921, Procopiu discovered and analyzed in the Physics Laboratory of Sorbonne University a new optical phenomenon which consisted in the longitudinal depolarization of light by suspensions and colloids. [8] . In 1930, the occurrence was designated as "Procopiu Phenomenon" by prof. Augustin Boutaric. Part of this research was included in Procopiu's doctoral thesis.

Electromotive force of galvanic elements

Thus, in 1930, studying the Barkhausen effect, Ştefan Procopiu discovered a circular effect of magnetic discontinuity. In 1951, this effect was named "Procopiu Effect". [4] This discovery had important applications in the development of the memory of computers[2]

Studies of the earth magnetism

Earth’s magnetism was a continuous concern of Ştefan Procopiu, For 25 years he studied this phenomenon in Romania and developed the magnetic maps of the country. He also identified the magnetic anomaly located on the Iaşi-Botoşani line.

In 1947, Procopiu identified a variation of the earth's magnetic field, with a periodicity of approximately 500 years, indicating that, starting 1932 earth’s magnetic moment increases from the Ecuator to the poles. [2] [3]

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George Emil Palade

George E. Palade	
 Dr. George E. Palade won the Nobel Prize in 1974.	
Born	November 19, 1912 Iaşi, Romania
Died	October 7, 2008 (aged 95)
Citizenship	United States
Nationality	Romanian
Fields	cell biologist
Alma mater	Carol Davila School of Medicine
Known for	Rough ER
Notable awards	1974 Nobel Prize in Physiology or Medicine and the US National Medal of Science in 1986.

George Emil Palade (November 19, 1912 – October 7, 2008) was a Romanian cell biologist. In 1974, he shared the Nobel Prize in Physiology or Medicine with Albert Claude and Christian de Duve, for discovering the vacuole.

Palade also received the U.S. National Medal of Science in Biological Sciences for "pioneering discoveries of a host of fundamental, highly organized structures in living cells..." in 1986,(National Medal of Science [1]), and was previously elected a Member of the National Academy of Science in 1961.

Biography

George Emil Palade was born on November 19, 1912 at Iaşi, Romania; his father was a Professor of Philosophy at the University and his mother was a high school teacher. Both parents strongly encouraged George to further develop his abilities through higher education at university. George E. Palade received his M.D. in 1940 from the Carol Davila School of Medicine of the University of Bucharest, Romania. He was a member of the faculty of that famous school until 1945 when he went to the United States for postdoctoral studies. There, he joined Prof. Albert Claude at the Rockefeller Institute for Medical Research.[2]

In 1952, Palade became a naturalized citizen of the United States. He was a Professor at the Rockefeller Institute (1958-1973), Yale University Medical School (1973-1990), and University of California, San Diego (1990-2008). At UCSD, Palade was Professor of Medicine in Residence (Emeritus) in the Department of Cellular & Molecular Medicine, as well as a Dean for Scientific Affairs (Emeritus), in the School of Medicine at La Jolla, California.[3] In 1970, he was awarded[4] the Louisa Gross Horwitz Prize from Columbia University together with Renato Dulbecco co-winner of 1974 Nobel Prize in Physiology or Medicine "*for discoveries concerning the functional organization of the cell that were seminal events in the development of modern cell biology*.",[5] related to his previous research carried out at the Rockefeller Institute for Medical Research[6] . His Nobel lecture, delivered on December 12, 1974,

was entitled: *"Intracellular Aspects of the Process of Protein Secretion"* [7] , published in 1992 by the Nobel Prize Foundation [8] , [9]

Palade was the first Chairman of the Department of Cell Biology at Yale University. Presently, the Chair of Cell Biology at Yale is named the "George Palade Professorship"

At the Rockefeller Institute for Medical Research, Palade used electron microscopy to study the internal organization of such cell structures as ribosomes, mitochondria, chloroplasts, the Golgi apparatus, and others. His most important discovery was made while using an experimental strategy known as a pulse-chase analysis. In the experiment Palade and his colleagues were able to confirm an existing hypothesis that a secretory pathway exists and that the Rough ER and the Golgi apparatus function together.

He focused on Weibel-Palade bodies (a storage organelle unique to the endothelium, containing von Willebrand factor and various proteins) which he described together with the Swiss anatomist Ewald R. Weibel. [10]

Palade is survived by his wife Marilyn Farquhar, a cell biologist at the University of California, San Diego.

Research note: Palade's coworkers and approach in the 1960s

The following is a concise excerpt from Palade's Autobiography appearing in the Nobel Award documents[2]

"In the 1960s, I continued the work on the secretory process using in parallel or in succession two different approaches. The first relied exclusively on cell fractionation, and was developed in collaboration with Philip Siekevitz, Lewis Greene, Colvin Redman, David Sabatini and Yutaka Tashiro; it led to the characterization of the zymogen granules and to the discovery of the segregation of secretory products in the cisternal space of the endoplasmic reticulum. The second approach relied primarily on radioautography, and involved experiments on intact animals or pancreatic slices which were carried out in collaboration with Lucien Caro and especially James Jamieson. This series of investigations produced a good part of our current ideas on the synthesis and intracellular processing of proteins for export. A critical review of this line of research is presented in the Nobel Lecture." [11] .

One notes also that the Nobel Prize in Chemistry was awarded in 2009 to Drs. Venkatraman Ramakrishnan, Thomas A. Steitz and Ada E. Yonath "*for studies of the structure and function of the ribosome*", discovered by Dr. George Emil Palade[12] .

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See also

- Cell biology
- Ribosomes
- RNAs
- Protein synthesis
- Biosynthesis
- Molecular biology
- Biophysics
- Nobel laureates
- "Romanian Scientists", Wikipedia Book PDF, 2010 [43]

- PDF File of "Romanian Scientists", includes biography of George Emil Palade, Nobel-prize winner.
- Electron microscopy
- Photosynthesis

External links

- Autobiography written in 1974 for the Nobel Prize [44]
- Professor Palade's webpage at University of California, San Diego [45]
- George Palade biography Image & Video Library [46]
- The Official Site of Louisa Gross Horwitz Prize [47]

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Grigore Moisil

Grigore Moisil	
 Acad. Prof. Dr. Grigore Moisil in Ottawa	
Born	10 January 1906 Tulcea, Romania
Died	May 21, 1973 (aged 67)
Citizenship	Romania
Ethnicity	Romanian
Fields	mathematics,logic and mathematical logic
Institutions	University of Bucharest
Alma mater	Polytechnic University of Bucharest
Doctoral advisor	Prof. Dr. Gheorghe Ţiţeica
Doctoral students	25
Known for	Łukasiewicz-Moisil algebra,Algebraic logic and MV-algebra

Grigore Constantin Moisil (10 January 1906 in Tulcea, Romania – 21 May 1973 in Ottawa, Canada) was a Romanian mathematician, computer pioneer, and member of the Romanian Academy. His research was mainly in the fields of mathematical logic, (Łukasiewicz-Moisil algebra), Algebraic logic, MV-algebra, algebra and differential equations. He is viewed as the father of computer science in Romania.

Moisil was also a member of the Academy of Sciences in Bologna and of the International Institute of Philosophy. In 1996, the IEEE Computer Society awarded him posthumously the *Computer Pioneer* Award.

Biography

Grigore Moisil was born in 1906 in Tulcea into an intellectual family. His grandfather, Grigore Moisil (1814-1891), a clergyman, was one of the founders of the first Romanian high school in Năsăud. His father, Constantin Moisil (1867-1958), was a history professor, archaeologist and numismatist; as a member of the Romanian Academy, he filled the position of Director of the Numismatics Office of the Academy. His mother, Elena (1863-1949), was a teacher in Tulcea, later the director of "Maidanul Dulapului" school in Bucharest (now "Enăchiţă Văcărescu" school).

Grigore Moisil attended primary school in Bucharest, then high school in Vaslui and Bucharest (at "Spiru Haret" High School) between 1916-1922. In 1924 he was admitted at the Constructions Faculty of the Polytechnic University of Bucharest, and also the Mathematics Faculty of the University of Bucharest. He showed a stronger interest in mathematics, so he quit the Polytechnic University in 1929, despite already having passed all the third-year exams. In 1929 he defended his Ph.D. thesis, *La mécanique analytique des systemes continus* (Analytical

mechanics of continuous systems), before a commission led by Gheorghe Ţiţeica, with Dimitrie Pompeiu and Anton Davidoglu as members. The thesis was published the same year by the Gauthier-Villars publishing house in Paris, and received favourable comments from Vito Volterra, Tullio Levi-Civita, and Paul Lévy.

In 1930 Moisil went to the University of Paris for further study in mathematics, which he finalized the next year with the paper *On a class of systems of equations with partial derivatives from mathematical physics*. In 1931 he returned to Romania, where he was appointed in a teaching position at the Mathematics Faculty of the University of Iaşi. Shortly after, he left for a one-year Rockefeller Foundation scholarship to study in Rome. In 1932 he returned to Iaşi, where he remained for almost 10 years, developing a close relationship with professor Alexandru Myller. He taught the first modern algebra course in Romania, named *Logic and theory of proof*, at the University of Iaşi. During that time, he started writing a series of papers based on the works of Jan Łukasiewicz in multi-valued logic. His research in mathematical logic laid the foundation for significant work done afterwards in Romania, as well as Argentina, Yugoslavia, Czechoslovakia, and Hungary. While in Iaşi, he completed research remarkable for the many new ideas and for his way of finding and using new connections between concepts from different areas of mathematics. He was promoted to Full Professor in November 1939.

In 1941, a position of professor at the University of Bucharest opened up, and Moisil applied for it. However, Gheorghe Vrânceanu, Dan Barbilian, and Miron Nicolescu also applied for the position, and Vrânceanu got it. Moisil approached the Ministry of Education, arguing that it would be a great opportunity for mathematics in Romania if all four could be appointed. As a result of his appeal, all four mathematicians were hired. Moisil moved to Bucharest, where he became a Professor in the Faculty of Mathematics (later the Faculty of Mathematics and Computer Science) at the University of Bucharest, on December 30, 1941.

From 1946 to 1948, Moisil took a leave of absence, being named plenipotentiary envoy to Ankara. While in Turkey, he gave several series of mathematics lectures at Istanbul University and Istanbul Technical University.

In 1948, he resumed teaching at the University of Bucharest. That same year, he was elected to the Romanian Academy, and a member of the Institute of Mathematics of the Romanian Academy. After 1965, one of his outstanding students-- *George Georgescu* -- worked closely with him on multi-valued logics, and after the emergence of Romania from dictatorship in 1989, he became a Professor of Mathematics and Logic at the same university and department as Moisil in 1991[1] . His student also published extensive, original work on algebraic logic, MV-algebra, Algebra, Algebraic topology, categories of MV-algebras, category theory and Łukasiewicz-Moisil algebra[2] [3] [4] [5] [6] [7] [8] .

In 1967, Gheorghe S. Nadiu publishes in “Mathematical studies and researches”, the article “On a method for the construction of three - valued Łukasiewicz algebras” (in Romanian), cited in the book on “Cylindric Algebras” by P. Monk, L. Henkin, A. Tarski. His article attracted the attention of Grigore C. Moisil, who offered him a scholarship, to pursue his doctorate at the Mathematic Institute of the Romanian Academy; thereafter, Nadiu Gh. became one of his top disciples.

Work

Moisil published papers on mechanics, mathematical analysis, geometry, algebra and mathematical logic. He developed a multi-dimensional extension of Pompeiu's areolar derivative, and studied monogenic functions of one hypercomplex variable with applications to mechanics. Moisil also introduced some many-valued algebras, which he called Łukasiewicz algebras (now also named Łukasiewicz-Moisil algebras), and used them in logic and the study of automata theory. He created new methods to analyze finite automata, and had many contributions to the field of automata theory in algebra.

Moisil had important contributions in the creation of the first Romanian computers. He played a fundamental role in the development of computer science in Romania, and in raising the first generations of Romanian computer scientists. In 1996, he was awarded posthumously the *Computer Pioneer* Award by the Institute of Electrical and Electronics Engineers Computer Society.

See also

- Boolean logic
- Jan Łukasiewicz

Łukasiewicz logic

- Ternary logic
- Lattices
- Multi-valued logic:

Łukasiewicz-Moisil algebras

- Quantum logic:

Quantum computers

- Algebraic logic:

MV-algebra

- Symbolic logic:

Mathematical logic

- Algebra
- Category theory:

Categorical logic, Adjoint functors

- Institute of Electrical and Electronics Engineers

Notes

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- *Introducere in algebră. I. Inele şi ideale* [Introduction to algebra. I. Rings and ideals], Editura Academiei Republicii Popular Române, Bucharest, 1954. MR 0069136 (http://www.ams.org/mathscinet-getitem?mr=0069136)
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- *Théorie structurelle des automates finis*, Gauthier-Villars, Paris, 1967. OCLC 9049760 (http://www.worldcat.org/oclc/9049760)
- *The algebraic theory of switching circuits*, Pergamon Press, Oxford, New York, 1969. ISBN 0080101488

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- George Georgescu, Afrodita Iorgulescu, Sergiu Rudeanu, "Grigore C. Moisil (1906 - 1973) and his School in Algebraic Logic" (http://www.journal.univagora.ro/?page=article_details&id=28), International Journal of Computers, Communications & Control, vol. 1 (2006), no.1, 81–99.
- Solomon Marcus, "Grigore C. Moisil: A life becoming a myth" (http://www.journal.univagora.ro/?page=article_details&id=27), International Journal of Computers, Communications & Control (http://journal.univagora.ro/), vol. 1 (2006), no. 1, 73–79.
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- Sergiu Rudeanu, Afrodita Iorgulescu, George Georgescu and Cătălin Ioniţă, "G. C. Moisil memorial issue", *Multiple-Valued Logic* 6 (2001), no. 1-2. Gordon and Breach, Yverdon, 2001. MR 1817431 (http://www.ams.org/mathscinet-getitem?mr=1817431)

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- Grigore Moisil (http://genealogy.math.ndsu.nodak.edu/id.php?id=105937) at the Mathematics Genealogy Project
- Short bio (http://www.ici.ro/romania/en/stiinta/moisil.html), at the Romanian National Institute for R&D in Informatics
- Grigore Moisil centenary (http://fmi.unibuc.ro/cniv/2006/centenar-moisil/), at the University of Bucharest
- "Grigore Moisil" (http://www.observatorul.com/articles_main.asp?action=articleviewdetail&ID=307), *Observatorul*, Toronto, Canada, January 5, 2003
- Symposium on the Grigore Moisil centenary (http://www.univagora.ro/Arhiva/ArE2006/Simpozion_Moisil.html), at Agora University
- International Conference on Computers, Communications & Control, ICCCC 2006 (http://www.iccc.univagora.ro/iccc-2006/index.html), at Agora University.
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- **(Romanian)** Grigore C. Moisil (http://www.ici.ro/romania/ro/stiinta/moisil.html)
- **(Romanian)** Centenar Grigore C. Moisil (http://fmi.unibuc.ro/cniv/2006/centenar-moisil/)
- **(Romanian)** Grigore Moisil - Observatorul (Canada) (http://www.observatorul.com/articles_main.asp?action=articleviewdetail&ID=307)
- **(Romanian)** Simpozion "Spiritul moisilian pe meleaguri bihorene" (http://www.univagora.ro/Arhiva/ArE2006/Simpozion_Moisil.html)
- **(Romanian)** MoisilBrasov.ro (http://www.moisilbrasov.ro/) - Colegiul National de Informatica "Grigore Moisil" Brasov
- **(Romanian)** LTGM.ro (http://www.ltgm.ro/) - Liceul Teoretic "Grigore Moisil" Urziceni

Nicolae Popescu

Nicolae Popescu (born 22 September 1937, at Strehaia, Romania) is a Romanian mathematician and Emeritus Professor. Popescu was elected a Member of the Romanian Academy in 1992, and he is best known for his contributions to Algebra and the theory of abelian categories. Since 1964 he collaborated on the characterization of abelian categories with the well-known French mathematician Pierre Gabriel. His areas of expertise are: Category theory, abelian categories with Applications to Rings and Modules, Adjoint Functors [1] and limits/colimits [2] ,Theory of Rings, Fields and Polynomials, and Valuation Theory; he also has interests and published in the following areas: Algebraic Topology, Algebraic Geometry, Commutative Algebra, K-Theory, Class-Field theory, and Algebraic Function Theory. He published between 1962 and 2008 more than 102 papers in peer-reviewed, mathematics journals, several monographs on the theory of sheaves, and also six books on abelian category theory and abstract algebra. In a Grothendieck-like, energetic style, he initiated and provided scientific leadership to several seminars on category theory[3] , sheaves and abstract algebra which resulted in a continuous stream of high-quality mathematical publications in international, peer-reviewed mathematics journals by several members participating in his Seminar series. His book *Abelian Categories with Applications to Rings and Modules*[4] continues to provide valuable information to mathematicians around the world. His recent contributions have also branched into valuation and number theory.

Biography

Popescu is married and has three children. He earned his M.S. degree in mathematics in 1964, and his Ph.D. degree in mathematics in 1967, both at the University of Bucharest. He was awarded a D. Phil. degree (Doctor Docent) in 1972 by the University of Bucharest.

Presently, he continues his mathematics studies at the Institute of Mathematics of the Romanian Academy in the Algebra research group [5] and also has international collaborations on three continents. One finds from conversations with Academician Popescu that he shares many moral, ethical and religious values with another famous mathematician French-German-Jewish Alexander Grothendieck who visited the School of Mathematics in Bucharest in 1968. Like Grothendieck he has a long-standing interest in category theory, number theory, practicing Yoga, and supporting promising young mathematicians in his fields of interest. He also supported the early developments of category theory applications in relational biology and mathematical biophysics/mathematical biology.

Academic positions

Popescu was appointed as a Lecturer at the University of Bucharest in 1968 where he taught graduate students until 1972. Since 1964, he also held a Research Professorship [6] at the Institute of Mathematics of the Romanian Academy, which institute was ruthlessly eliminated by former dictator and president of S.R. Romania, Nicolae Ceauşescu, in 1976 for reasons related to his daughter Zoe Ceauşescu who was 'hired' by the Mathematics Institute in Bucharest two years before.

Books published

1. Elemente de teoria analitica a numerelor, Univ. Bucuresti, 1968.
2. Teoria categoriilor si teoria fascicolelor, Ed. Stiintifica, 1971.
3. Categorii Abeliene, Ed. Academiei, 1971.
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6. Selected topics in valuation theory (to appear).

External links

- Nicolae Popescu - Institute of Mathematics of the Romanian Academy [6]
- Nicolae Popescu --Biography [8]

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[3] http://planetphysics.org/encyclopedia/FunctorialAlgebraicGeometry.html Seminars on Algebraic Geometry and Category theory
[4] Nicolae Popescu. Abelian Categories with Applications to Rings and Modules, Academic Press, L. M. S. Monograph No.3, London, 1973.,ISBN 0125615507 (http://www.lib.iastate.edu:81/ipac20/ipac.jsp?session=1WB345344H890.711450&profile=parks&source=~!horizon&view=items&uri=full=3100001~!47305~!0&ri=1&aspect=basic_search&menu=search&ipp=20&spp=20&staffonly=&term=Modules+(Algebra)&index=PSUBJ&uindex=&aspect=basic_search&menu=search&ri=1#focus)
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[6] http://www.imar.ro/~nipopesc/
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Horia Hulubei

Horia Hulubei	
 Acad. Prof. Dr. Horia Hulubei in Bucharest, 1960's	
Born	November 15, 1896 Iaşi, Romania
Died	November 22, 1972 (aged 76) Bucharest, Romania
Nationality	Romanian
Doctoral advisor	Jean Perrin
Known for	Development of X-ray spectroscopy
Notable awards	Member of the Romanian Academy of Arts and Sciences

Horia Hulubei, Academician Prof.Dr. (November 15, 1896 – November 22, 1972) was a Romanian atomic/nuclear physicist, known for his contributions to the development of X-ray spectroscopy.

Education

He studied at the University of Iaşi and in Paris at the Sorbonne, with the Nobel laureate Jean Perrin as his PhD advisor; he obtained his Ph.D. from the Paris-Sorbonne University for his work with Jean Perrin.[1] His Ph.D. thesis with the title *"Contribution to the study of quantum diffusion of X-rays"* was defended in 1933 in Paris in front of an examination committee chaired by Nobel laureate Marie Curie.

Scientific achievements

With the help of his advanced X-ray spectroscopy equipment he observed several previously unidentified X-ray spectral lines, and subsequently came to the decision that such lines are acosiated with new elements. Then, he claimed and published the discovery of a new element "moldavium" in 1936, the discovery of "sequanium" in 1939 and that of "dor" in 1945. Later, however, it was shown that the reported X-ray lines did not belong to new elements.[2]

For his many scientific achievements the National Institute for Physics and Nuclear Engineering in Romania was named after him -- Horia Hulubei National Institute of Physics and Nuclear Engineering - IFIN HH [3]. He was the Founder and First Director of the Institute of Atomic Physics (IFA) [4] in Bucharest, Romania.

University teaching

During the early 60's and 70's he was also a Professor of Atomic Physics in the Department of Atomic and Nuclear Physics of the School of Physics [5] at the University of Bucharest, where he delivered elegant and clear lectures on the Compton effect and inelastic Compton scattering/resonant inelastic X-ray scattering (RIXS).

Publications

- *Course Notes of Physical Chemistry*, Ed. Academiei, Bucharest, 1940. ("Curs de chimie fizică "(1940))
- *X-ray Spectroscopy* ("Spectroscopia X"). (1948)
- *The Structure of Matter.* "Structura materiei" (1950)

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- Horia Hulubei National Institute of Physics and Nuclear Engineering - IFIN HH [6]

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[3] http://www.nipne.ro/index.php

[4] http://www.ifa-mg.ro/despre_en.php

[5] http://www.unibuc.ro/en/fac_ffiz_en

Theodor V.Ionescu

Theodor V. Ionescu	
 Acad. Prof. Dr. Th. V. Ionescu in Bucharest, 1970	
Born	February 8, 1899 Dorohoi, Romania
Died	November 6, 1988 (aged 89)
Citizenship	Romania
Ethnicity	Romanian
Fields	physicist
Alma mater	Paris-Sorbonne University in France, School of Physics at the University of Iaşi (currently, Alexandru Ioan Cuza University of Iaşi), and the University of Bucharest
Known for	Plasma Physics,magnetic resonance, first maser studies, magnetron invention, 3D cinematography/TV devices, coupled electron-ion oscillations in ultra-hot plasmas and research on nuclear fusion in ultra-hot hydrogen plasmas.

Theodor V. Ionescu, **Prof. Dr. Doc.** (born February 8 1899, Dorohoi, Botoşani County - d. 6 November 1988, Bucharest) was a Romanian physicist and inventor who made remarkable discoveries in plasma physics, ionosphere physics, ion coupling electrons in dense plasmas, masers, magnetron amplifiers, and Zeeman effects related to controlled nuclear fusion, quantum emission mechanisms in hot plasmas. Member of the Romanian Academy.

Ph.D. studies in plasma physics

He received his Ph.D. in plasma physics first in Paris, and then in Iaşi, Romania. Thus, the history of plasma physics in Romania began in 1923 with the defense of the first PhD thesis in physics at the University of Iaşi by Theodor V. Ionescu, under the guidance of Professor Peter Bogdan. Th. V. Ionescu carried out the first experimental studies in Romania of the physics of ionized gases/plasmas.

Scientific achievements and collaborators

In 1925 invented a microphone based on thermoionic currents (currents emitted by heated bodies) and a light projector using the interference phenomenon.

Founded in the same year the first Electricity and Magnetism Laboratory, as well as the first Chair of Electricity and Magnetism in the Department of Mathematics and Physics at the University of Bucharest.

The first prototype of a precursor to the magnetron power amplifier

He built in 1934-1935 a precursor[1] to the high-power, multi-cavity magnetron that was built subsequently, in 1937-1940, by the British physicist, Sir John Turton Randall, FRSE together with a team of British coworkers for the British and American, military radar instalations in WWII[2] . At the same time, the Telefunken Company of Berlin was 'searching' for such a device[3] but has apparently met with much less success than the British inventors or Th. V. Ionescu. (However, the split anode magnetron had first been developed in 1921 by Dr. A.E.Hull at GEC Company in USA; also in 1921, Haben, who was working in Germany, developed a similar device that worked on a 3 cm wavelength. A strong competitor of the former inventors was also Dr. H.E.Hollman who registered many patents between 1925 and 1935 that documented devices related to magnetron development)[4] .

Patents

In 1936 he obtained a patent for the 3D imaging in cinema and television. In 1946, together with physicist V. Mihu invented and built a device that has obtained the first 'show boosted " type maser (*microwave quantum amplifier*), and has thus tested the first precursor of the working maser [5] reported in 1954[6] .

Discoveries

He worked in the early 1960s in the Laboratory of the Bucharest Institute of Plasma Physics together with his childhood friend, Octav Gheorghiu [7], whom he greatly respected for his exceptional human qualities. They studied systematically the resonant frequencies of molecular oxygen and hydrogen ions. Then, they published their most important experimental results in a series of articles in *C.R. Acad. Sci. Paris".(pp.245, 898, 957, 246, pp. 2250, 3598, 1958, 250, 2182 p. 1960, 252, p. 870, 1961) and* Rev Roum. Phys.

In the early 1970s, together with physicists Dr. Radu Pârvan and J. C. Băianu [8] - one of his Ph.D. research assistants in plasma physics in magnetic fields in the Electricity Department of the Faculty of Physics, Bucharest - Th. V. Ionescu completed experiments on controlled magnetic resonance oscillations in ultra-hot plasmas. Such seminal experiments involved the coupling of ionic and electronic oscillations in ultra-hot plasma involving quantum amplified stimulation processes in the presence of longitudinal magnetic fields which opened novel possibilities for achieving hot nuclear fusion in the future (Achieving nuclear fusion in high pressure hot plasma [9])[10] . The first report of these research results was presented at the French Academy of Science in Paris by Louis Néel, member of the Academy and Nobel Prize in Physics for Magnetism[11] . Additional results were then published in the same year in the internationally renowned magazine *C.R. Acad. Sci. Paris*[12] .

His successor as Head of Department in 1970 was Florin Ciorăscu, "imported" from the IFA, (who died in 1977 during the major earthquake in Bucharest).

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[2] "Radar Recollections - A Bournemouth University/CHiDE/HLF project" by Prof. W. E. Burcham (http://histru.bournemouth.ac.uk/Oral_History/Talking_About_Technology/radar_research/the_magnetron.html)

[3] From the 1935 magazine *Electronics*: "Microwaves To Detect Aircraft" (http://histru.bournemouth.ac.uk/Oral_History/Talking_About_Technology/radar_research/the_magnetron.html)

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[12] Th.V.Ionescu et al. (1969). *C.R.A.Sci. Paris*, **270**: 1321-1324

Ionel Solomon

Ionel Solomon, PhD.	
 Member of the French Academy of Sciences since 20 June 1988	
Born	8 January 1929 Iaşi, Romania
Citizenship	French
Nationality	French
Fields	physicist
Alma mater	Paris-Sorbonne University in France
Notable awards	1958 Grand Prix for Research (with Anatole Abragam and J. Combrisson); 1963 The CNRS Silver Medal; 1969 Robin Prize of the French Physics Society (Societe Francaise de Physique)

Ionel Solomon (born 1929) is a French-Romanian physicist, Member of the French Academy of Sciences, CNRS Research Director, and Professor at the Polytechnic School in Paris.

Education

- 1949-1951 PhD, Polytechnic School (École Polytechnique) in Paris

Major scientific contributions

Ionel Solomon made major contributions to the fields of: Nuclear Magnetic Resonance (NMR)[1] , Solid state physics, Semiconductors[2] and Photovoltaics[3] . In Nuclear Magnetic Resonance he derived fundamental equations that bear his name, and specify the nuclear spin-echo response and dipole-dipole interactions in solids (the *Solomon equations*)[4] [5] .

Scientific career

- 1951-1952 Research Fellow at the University of Liverpool, UK
- 1955-1956 Research Fellow at Harvard University, USA
- 1953-1962 Researcher in the resonance Group of the Atomic Energy Commission (Commissariat Energie Atomique in Saclay)
- 1962 Director of the Laboratory for Condensed Matter (Solid-State) Physics (Laboratoire de Physique de la Matiére Condensée), at the Polytechnic School in Paris
- 1962 Head of Research at C.N.R.S.
- 1962 Head of Conferences
- 1968 CNRS Research Director
- 1973-1976 Physics Departement Head at the Polytechnic School in Paris 1973-1974 President of the Societé Française de Physique (the French Physics Society).
- 1975-1979 Professor, at the Polytechnic School in Paris
- 1976 Invited Visiting Professor at the Xerox Research Center, Palo Alto,USA

- 1980 Invited Visiting Professor at Tokyo University
- 1981-1985 Founder and Scientific Director of SOLEMS Company
- 1987 President of the Scientific Council of PHOTOTRONICS (a French-German Company for photovoltaic products)
- 1988, June 22, Elected Member of the Physics Institute of the French Academy of Sciences[6]
- Laboratory of Condensed Matter Physics

Awards and prizes

- 1958 Grand Prix for Research (with Anatole Abragam and J. Combrisson)
- 1963 The CNRS Silver Medal
- 1969 Robin Prize of the French Physics Society (Societe Francaise de Physique)
- 1972 Holweck Prize of the Institute of Physics and S.F.P (French Physics Society)
- 1981 The Y. Peyches Prize of the Academy of Sciences

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- Physique des Semiconducteurs (1966-1976) : L'effet Hall “extraordinaire”. Pompage optique dans les solides. Découverte du transport dépendant des Spins.
- Silicium amorphe et photovoltaïque (1977-1987) : transport et optique dans le silicium amorphe. Photopiles solaires. Nouveaux matériaux amorphes.
- Recherche matériaux (depuis 1989) : fibres carbone, fibres SiC et SiCN. Photoluminescence et électroluminescence dans les semiconducteurs et dispositifs.

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Constantin Constantinescu

Constantin Constantinescu-Claps	
20 February 1884 – 1961	
Place of birth	Beceni, Bacau County
Allegiance	Kingdom of Romania
Service/branch	Army
Years of service	1913-1944
Rank	Army General
Commands held	4th Army
Battles/wars	Second Balkan War World War I World War II

Constantin Constantinescu-Claps (February 20, 1884–1961) was a Romanian soldier, also known as a political prisoner under the communist regime. He participated in both World War I and World War II, and rose through the ranks in the Romanian Army. On November 9, 1941, he was appointed the commander of Romanian 4th Army, and became a Corps General on January 24, 1942. On February 10, 1943, he was relieved of his assignment and replaced by Constantin Sănătescu. Constantinescu-Claps retired in 1941, was arrested in 1951, and was condemned to 15 years' imprisonment in 1954. However, he was exonerated and released a year later.

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External links

- Career information [1]

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Miron Nicolescu

Miron Nicolescu (August 27, 1903 – June 30, 1975) was a renowned Romanian mathematician.

Born in Giurgiu, he attended the Matei Basarab high school in Bucharest. After completing his undergraduate studies at the Faculty of Mathematics of the University of Bucharest in 1924, he went to Paris, where he enrolled at the École Normale Supérieure and the Sorbonne. In 1928, he completed his doctoral dissertation, *Fonctions complexes dans le plan et dans l'espace*, under the direction of Paul Montel. Upon returning to Romania, he taught at the University of Cernăuţi until 1940, when he was named professor at the University of Bucharest.

In 1936, he was elected corresponding member of the Romanian Academy, and, in 1953, full member. In 1963, he became director of the Institute of Mathematics of the Romanian Academy. From 1966 until his death, he served as President of the Romanian Academy.

At the International Congress of Mathematicians held in Vancouver, Canada in 1974, he was elected Vice-President of the International Mathematical Union.

Through his collaboration with Solomon Marcus, Nicolescu has Erdős number 2.

External links

- Miron Nicolescu [1] at the Mathematics Genealogy Project

References

[1] http://genealogy.math.ndsu.nodak.edu/id.php?id=58575

Gheorghe Ţiţeica

Gheorghe Ţiţeica (Romanian pronunciation: [ˈge̯orge t͡si ˈt͡sejka]; October 4, 1873 in Turnu Severin–February 5, 1939) publishing as **George** or **Georges Tzitzeica**) was a Romanian mathematician with important contributions in geometry. He is recognized as the founder of the Romanian school of differential geometry.

He showed an early interest in science, as well as music and literature. Ţiţeica was an accomplished violinist, having studied music since childhood: music was to remain his hobby. While studying at the Carol I High School in Craiova, he contributed to the school's magazine, writing the columns on mathematics and studies of literary critique. After graduation he obtained a scholarship at the preparatory school in Bucharest, where he also was admitted as a student of the mathematics department of the Faculty of Sciences. In June 1895, he graduated with a *Bachelor of Mathematics*.

In the summer of 1896, after a stint as a substitute teacher at the Bucharest theological seminary, Ţiţeica passed his exams for promotion to a secondary school position, becoming teacher in Galaţi.

In 1897, on the advice of teachers and friends, Ţiţeica completed his studies at a preparatory school in Paris. Among his mates were Henri Lebesgue and Paul Montel. On June 30, 1899 he defended his master's degree thesis on the framework of oblique curvature, before a board of examiners lead by Gaston Darboux.

Upon his return to Romania, Ţiţeica was appointed assistant professor at the University of Bucharest. He was promoted to full professor on May 4, 1900, retaining this position until his death in 1939. He also taught mathematics at the Polytechnic University of Bucharest. In 1913, at age 40, Ţiţeica was elected as a permanent member of the Romanian Academy, replacing Spiru Haret. Later he was appointed in leading roles: in 1922, vice-president of the scientific section, in 1928, vice-president and in 1929 secretary general. Ţiţeica was also president of the Mathematical Association of Romania, of the Romanian Association of Science and of the

Association of the development and the spreading of science. He was a vice-president of the Polytechnics Association of Romania and member of the High Council of Public Teaching.

Ţiţeica was elected correspondent of the Association of Sciences of Liège and *doctor honoris causa* of the University of Warsaw. He was the president of the geometry section at the International Congress of Mathematicians in Toronto (1924), Zürich (1932), and Oslo (1936). In 1926, 1930 and 1937 he gave a series of lectures as titular professor at the Faculty of Sciences in Sorbonne. He also gave many lectures at the University of Brussels (1926) and the University of Rome (1927).

The scientific work of Ţiţeica counts about 400 volumes, of which 96 are scientific projects, most addressing problems of differential geometry. Carrying the researches of the American geometer of German origin Ernest Wilczynski, Ţiţeica discovered a new category of surfaces and a new category of curves which now carry his name. He also studied R-networks in n-dimensional space, defined through Laplace equations.

Books

- *The projective differential geometry of lattices*, 1924
- *Introduction to differential projective differential geometry of curves*, 1931

External links

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- Gabriel Teodor Pripoae, Radu Gogu, *Gheorghe Tzitzeica - an incomplete bibliography* [2]
- Short bio [3], Mathematics Magazine for Grades 1-12, July 2002
- Short bio [4]

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[2] http://www.emis.de/journals/BJGA/10.1/bt-prg.pdf
[3] http://www.mathematicsmagazine.com/nr7-2002/nr_7-2002_Titeica.htm
[4] http://www.ici.ro/romania/en/stiinta/titeica.html

Solomon Marcus

Solomon Marcus (b. March 1, 1925) is a Romanian mathematician, member of the Mathematical Section of the Romanian Academy (a full member of the latter since 2001) and Emeritus Professor of the University of Bucharest's Faculty of Mathematics. His main research is in the fields of mathematical analysis, mathematical and computational linguistics and computer science, but he also published numerous papers on various cultural topics: poetics, linguistics, semiotics, philosophy and history of science and education.

Solomon Marcus in 2007.

Biography

Born to Jewish parents in Bacău, he graduated from high school in 1944, and completed his studies at the University of Bucharest's Faculty of Science, Department of Mathematics, in 1949. He obtained his PhD in Mathematics in 1956, with a thesis on the *Monotonic functions of two variables*, written under the direction of Miron Nicolescu.[1] He was appointed Lecturer in 1955, Associate Professor in 1964, and became a Professor in 1966 (Emeritus in 1991).

Marcus published about 50 books in Romanian, English, French, German, Italian, Spanish, Russian, Greek, Hungarian, Czech, Serbo-Croatian, and about 400 research articles in specialized journals in almost all European countries, in the United States, Canada, South America, Japan, India, and New Zealand among others; more than 1,000 authors have quoted his works.

He is recognized as one of the initiators of mathematical linguistics and of mathematical poetics, and is a member of the editorial board of several international scientific journals.

Marcus wrote a paper together with Paul Erdős ("Sur la décomposition de l'espace euclidien en ensembles homogènes", Acta Math. Acad. Sci. Hungar 8 (1957), 443–452); this gives him an Erdős number of 1.

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- Publication list on his web page [3], at the "Simion Stoilow" Institute of Mathematics of the Romanian Academy
- *International Journal of Computers, Communications & Control* [4], Vol.I (2006), No.1, pp.73–79, "Grigore C. Moisil: A Life Becoming a Myth", by Solomon Marcus, Editor's note about the author (p.79)
- Marcus' articles on semiotics at *Potlatch* [5]

External links

- Solomon Marcus [6] at the University of Bucharest

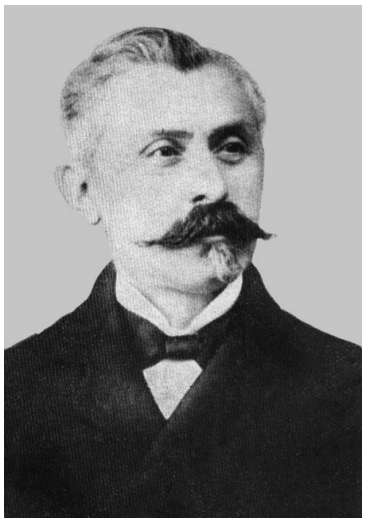
References

[1] Solomon Marcus (http://genealogy.math.ndsu.nodak.edu/id.php?id=49018) at the Mathematics Genealogy Project
[2] http://www.uip.edu/gpss/Solomon_Marcus.html
[3] http://www.imar.ro/~smarcus/
[4] http://www.journal.univagora.ro/
[5] http://www.potlatch.com.ar
[6] http://funinf.cs.unibuc.ro/~marcus/

Spiru Haret

Spiru C. Haret (February 15, 1851, Iaşi – 17 December 1912) was a Romanian-Armenian mathematician, astronomer and politician. He made a fundamental contribution to the *n*-body problem in celestial mechanics by proving that using a third degree approximation for the disturbing forces implies instability of the major axes of the orbits, and by introducing the concept of *secular perturbations* in relation to this. As a politician, during his three terms as Minister of Education, Spiru Haret ran deep reforms, building the modern Romanian education system. He was made a full member of the Romanian Academy in 1892.

Spiru Haret also founded the Astronomical observatory in Bucharest, appointing Nicolae Coculescu as its first director. The crater Haret on the Moon is named after him.



Spiru Haret

Life

Spiru Haret showed an early talent for mathematics, publishing two textbooks (one in algebra and one in trigonometry) when he was still a high school student. In 1869 he entered the University of Bucharest, where he studied physics and mathematics. In 1870, while a student in his second term, he became teacher of mathematics at Nifon Seminary in Bucharest, but quit the following year in order to continue his studies. In 1874, at age 23, he graduated with a degree in physics and mathematics.

After graduation, Haret won a scholarship competition organized by Titu Maiorescu and went to Paris in order to study mathematics at the Sorbonne. There he earned a mathematics diploma in 1875 and a physics diploma in 1876. Two years later (on January 18, 1878) he earned his Ph.D. by defending his thesis, *Sur l'invariabilité des grandes axes des orbites planétaires* (*On the invariability of the major axis of planetary orbits*), in front of examiners led by Victor Puiseux. In this work he proved a result fundamental for the *n*-body problem in astronomy, the thesis being published in Vol. XVIII of the *Annales de l'Observatoire de*

Paris. Spiru Haret was the first Romanian to obtain a Ph.D. degree in Paris.

After his return to Romania in 1878, Haret abandoned scientific research and dedicated the rest of his life to improving Romanian education, which was heavily underdeveloped at the time, both as professor and as politician. He was appointed professor of rational mechanics at the Science Faculty in Bucharest. The next year (1879), Spiru Haret became a correspondent member of the Romanian Academy, receiving full membership in 1892. He kept the professorship at the Science Faculty until his retirement in 1910, when he was followed as professor of mechanics by Dimitrie Pompeiu. From 1882 he was also a professor of analytical geometry at the *Bridges and Roads' School in Bucharest*. After retirement Haret occasionally lectured at the informal *People's University*.

Statue in University Square, Bucharest

Haret was the Minister of Public Education in three liberal governments, between 1897-1899, 1901-1904 and 1907-1910. As Minister of Education he ran a complete reform, basically building the modern Romanian education system.

Scientific activity

Spiru Haret's major scientific contribution was made in 1878, in his Ph.D. thesis *Sur l'invariabilité des grandes axes des orbites planétaires*. At the time it was known that planets disturbe each other's orbits, thus deviating from the elliptic motion described by Johannes Kepler's First Law. Pierre Laplace (in 1773) and Joseph Louis Lagrange (in 1776) had already studied the problem, both of them showing that the major axes of the orbits are stable, by using a first degree approximation of the perturbing forces. In 1808 Siméon Denis Poisson had proved that the stability also holds when using second degree approximations. In his thesis, Haret proved by using third degree approximations that the axes are not stable as previously believed, but instead feature a time variability, which he called *secular perturbations*. This result implies that planetary motion is not absolutely stable. Henri Poincaré considered this result *a great surprise* and continued Haret's research, which eventually led him to the creation of chaos theory. Félix Tisserand recommended the extension of Haret's method to other astronomic problems and, much later, in 1955, Jean Meffroy restarted Haret's research using new techniques.

Soon after his return to Romania, Spiru Haret abandoned research, focusing for the rest of his life on teaching and, as Minister of Education, on the reform of the education system. He only published an article on the secular acceleration of the Moon in 1880 and one on Jupiter's Great Red Spot (1912).

In 1910 he published *Social mechanics*, which used mathematics to explain social behavior.

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Gheorghe Marinescu

Gheorghe Marinescu	
 Gheorghe Marinescu on Romanian post stamp	
Born	February 28, 1863 Bucharest
Died	May 15, 1938 Bucharest
Nationality	Romania
Fields	neurology
Alma mater	Bucharest University
Known for	Romanian School of Neurology

Gheorghe Marinescu (February 28, 1863, Bucharest – May 15, 1938, Bucharest) was a Romanian neurologist, founder of the Romanian School of Neurology.

After the attendance of Medicine at the Bucharest University, Marinescu received most of his medical education as preparator at the laboratory of histology at the Brâncoveanu Hospital and as assistant at the Bacteriological Institute under Victor Babeş, and with Babes already early published several works on myelitis transversa, hysterical muteness, dilatation of the pupil in pneumonia etc.

After qualification, on the recommendation of Babes the government sent him with a grant to Paris to undertake postgraduate training in neurology under Jean-Martin Charcot at the Salpêtrière Hospital, where he met Pierre Marie, Joseph Babinski and Fulgence Raymond. He later worked with Carl Weigert in Frankfurt a.M. and then with Emil du Bois-Reymond in Berlin. On the assignment of Pierre Marie he lectured on the pathological anatomy of acromegaly at the Berlin International Congress in 1890.

After nine years abroad Marinescu returned in 1897 to Bucharest where he received his doctorate. At Bucharest a new professorial department had been created for him at the Pantelimon Hospital. Shortly thereafter, in 1897, a chair of Clinical Neurology was created in the University of Bucharest, at the Colentina Hospital. He remained in this post for the next 41 years and is regarded as the founder of the Romanian School of Neurology.

Between July 1898 and 1901 the Marinescu made the first science films in the world, in his clinic in Bucharest:[1] *The walking troubles of organic hemiplegy* (1898), *The walking troubles of organic paraplegies* (1899), *A case of hysteric hemiplegy healed through hypnosis* (1899), *The walking troubles of progressive locomotion ataxy* (1900) and *Illnesses of the muscles* (1901). All these short subjects have been preserved. The professor called his works "studies with the help of the cinematograph", and published the results, along with several consecutive frames, in issues of "La Semaine Médicale" magazine from Paris, between 1899 and 1902.[2] In 1924, Auguste Lumiere recognized the priority of professor Marinescu concerning the first science films: "I've seen your scientific reports about the usage of cinematograph in studies of nervous illnesses, when I was still receiving "La Semaine Médicale",

but back then I had other concerns, which left me no spare time to begin biological studies. I must say I forgot those works and I am thankful to you that you reminded them to me. Unfortunately, not many scientists have followed your way."[3]

Marinescu maintained close academic links with his Parisian colleagues and many of his articles, which exceeded 250 in number, were published in the French language. He had a wide range of research interests, including pathological anatomy and experimental neuropathology. Daily contact with scores of the infirm and his astuteness made him put use every one of the latest methods as they became available: the roentgen ray, with which he investigated bone changes in acromegaly, the film camera, for the study of body movements in health and disease. The results of these studies appeared in the monography *Le Tonus des Muscles striés* (1937) with Nicolae Ionescu-Siseşti [4], Oskar Sager [5] and Arthur Kreindler [6], with a preface by Sir Charles Sherrington.

Early in his career he published with the bacteriologist Victor Babeş and the French pathologist Paul Oscar Blocq a much needed atlas on the pathological histology of the nervous system. His description with Blocq of a case of parkinsonian tremor due to tumour in the *substantia nigra*, in 1893, was the basis for Édouard Brissaud's theory that parkinsonism occurs as a consequence of damage to the *substantia nigra*. With Paul Blocq he was the first to describe senile plaques and with Romanian neurologist Ion Minea confirmed in 1913 Hideyo Noguchi's discovery of *Treponema pallidum* in the brain in patients with general paresis. His monumental work *La Cellule Nerveuse*, with a preface by Santiago Ramon y Cajal, appeared in 1909.

Gheorghe Marinescu was an eminent teacher. In his lectures he emphasised ideas and gave perspective for further investigations. Recognition in the form of honours came to him from many countries. It was he above all others who was chosen to represent the students of Charcot when the centenary of the great master was celebrated in 1925.

Associated eponyms

- *Marinescu's hand*, a cold blue oedematous hand with lividity of the skin seen in neurological lesions such as syringomyelia.
- *Marinescu-Sjögren-syndrome*, a rare congenital disorder with spinocerebellar ataxia, congenital cataract, short stature, mental retardation and some skeletal deformity.
- *Kinn reflex (Marinescu-Radovici)*, in some patients presenting with pyramidal lesions.

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Carol Davila

Carol Davila (1828 – 24 August 1884) was a prestigious Romanian physician of Italian ancestry.

Carol Davila - portrait by Theodor Aman

Biography

He started from humble beginnings, most probably as an abandoned child, and the surname *Davila* was bestowed on him by his adoptive family.

Davila studied medicine at the University of Paris, graduating in February 1853. In March 1853, he arrived in Romania. He was the organizer of the military medical service for the Romanian Army and of the country's public health system. Davila, together with Nicolae Kretzulescu, inaugurated medical training in Romania in 1857, by founding the National School of Medicine and Pharmacy. It was he who had determined government authorities to issue the first official instructions concerning the health care of factory workers and the organisation of medical districts in the country.

It was due to his many activities that several scientific associations appeared in Romania: the Medical Society (1857), the Red Cross Society (1876), the Natural Sciences Society (1876). With his assistance, two medical journals entered print: the *Medical Register* (1862) and the *Medical Gazette* (1865). During the Independence War (1877-1878) he was the head of the Army's sanitary service.

Davila is also credited with the invention of the *Davila tincture* for the treatment of cholera, an opioid-based oral solution in use for symptomatic management of diarrhea.

Today, the University of Medicine and Pharmacy in Bucharest, the largest of its kind in Romania, is named in his honor.

On 14 January 1874, his wife, Ana Racoviţă, a descendant of the Racoviţă and Golescu boyar families, was accidentally poisoned when a colleague of Davila's gave her strychnine instead of quinine. Davila's son Alexandru was a noted dramatist and friend of King Carol I.

Statue of Carol Davila by Karl Storck, in front of the University of Medicine and Pharmacy in Bucharest

Works

- *Syphilis Prophylaxis* (1853)
- *Athmospheric Air* (1871).

External links

- Carol Davila [1]

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János Bolyai

János Bolyai	
 Unauthentic portrait of Bolyai	
Born	15 December 1802 Kolozsvár, Transylvania, Kingdom of Hungary, Habsburg Empire (today Cluj-Napoca, Romania)
Died	27 January 1860 (aged 57) Marosvásárhely, Transylvania, (today Târgu Mureş, Romania)
Residence	Habsburg Empire
Ethnicity	Hungarian
Fields	Mathematics
Known for	non-Euclidean geometry

János Bolyai (pronounced /ˈjaːnoʃ ˈboːjɒi/) (December 15, 1802 – January 27, 1860) was a Hungarian mathematician, known for his work in non-Euclidean geometry.

Bolyai was born in Kolozsvár, Transylvania, Habsburg Empire (today Cluj-Napoca, Romania), the son of the well-known mathematician Farkas Bolyai.

János Bolyai (1802-1860) Hungarian-Romanian mathematician (artwork made by Attila Zsigmond)

Life

By the age of 13, he had mastered calculus and other forms of analytical mechanics, receiving instruction from his father. He studied at the Royal Engineering College in Vienna from 1818 to 1822. He became so obsessed with Euclid's parallel postulate that his father wrote to him: "For God's sake, I beseech you, give it up. Fear it no less than sensual passions because it too may take all your time and deprive you of your health, peace of mind and happiness in life". János, however, persisted in his quest and eventually came to the conclusion that the postulate is independent of the other axioms of geometry and

that different consistent geometries can be constructed on its negation. He wrote to his father: "Out of nothing I have created a strange new universe".[1] Between 1820 and 1823 he prepared a treatise on a complete system of non-Euclidean geometry. Bolyai's work was published in 1832 as an appendix to a mathematics textbook by his father.

Gauss, on reading the Appendix, wrote to a friend saying "I regard this young geometer Bolyai as a genius of the first order". In 1848 Bolyai discovered not only that Lobachevsky had published a similar piece of work in 1829, but also a generalization of this theory. As far as we know, Lobachevsky published his work a few years earlier than Bolyai, but it contained only hyperbolic geometry. Bolyai and Lobachevsky didn't know each other or each other's works.

Memorial plaque of János Bolyai in Olomouc, (Czech Republic).

Other work

In addition to his work in the geometry, Bolyai developed a rigorous geometric concept of complex numbers as ordered pairs of real numbers. Although he never published more than the 24 pages of the Appendix, he left more than 20,000 pages of mathematical manuscripts when he died. These can now be found in the Bolyai-Teleki library in Marosvásárhely (now Târgu-Mureş, Romania), where Bolyai died.

He was an accomplished polyglot speaking nine foreign languages, including Chinese and Tibetan. No original portrait of Bolyai survives. An unauthentic picture appears in some encyclopedias and on a Hungarian postage stamp.

Legacy

The Babeş-Bolyai University in Cluj-Napoca bears his name, as does the crater Bolyai on the Moon [2]. Also, in the Carpathian basin, many high schools bear his name.

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- János Bolyai (http://genealogy.math.ndsu.nodak.edu/id.php?id=101411) at the Mathematics Genealogy Project

Traian Lalescu

Traian Lalescu	
	
Born	12 July 1882 Bucharest, Romania
Died	15 June 1929 (aged 46) Bucharest, Romania
Residence	Romania
Nationality	Romania
Fields	Mathematician
Institutions	Polytechnic University of Timişoara University of Bucharest
Alma mater	University of Bucharest University of Paris
Doctoral advisor	Émile Picard
Known for	Integral equations

Traian Lalescu (12 July 1882, Bucharest–15 June 1929, Bucharest) was a Romanian mathematician. His main focus was on integral equations and he contributed to work in the areas of functional equations, trigonometric series, mathematical physics, geometry, mechanics, algebra, and the history of mathematics.

Life

He went to the Carol I High School in Craiova, continuing high school in Roman and Iaşi. After entering the University of Iaşi, he completed his undergraduate studies in 1903 at the University of Bucharest.

He earned his Ph.D. in Mathematics from the University of Paris in 1908. His dissertation, *Sur les équations de Volterra*, was written under the direction of Émile Picard. In 1911, he published *Introduction to the Theory of Integral Equations*, the first book ever on the subject of integral equations.

He was a professor at the University of Bucharest, the Polytechnic University of Timişoara (where he was the first rector, in 1920), and the Polytechnic University of Bucharest.

The Lalescu sequence

$$L_n = \sqrt[n+1]{(n+1)!} - \sqrt[n]{n!}$$

$$\lim_{n\to\infty} L_n = \frac{1}{e}$$

Legacy

There are several institutions bearing his name, including Colegiul Naţional de Informatică *Traian Lalescu* in Hunedoara and Liceul Teoretic *Traian Lalescu* in Reşiţa. There is also a Traian Lalescu Street in Timişoara. The National Mathematics Contest *Traian Lalescu* for undergraduate students is also named after him.

A statue of Lalescu, executed in 1930 by Cornel Medrea, is situated in front of the Faculty of Mechanical Engineering, in Timişoara.

Bust of Traian Lalescu, in Timişoara.

Work

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External links

- Traian Lalescu [3] at the Mathematics Genealogy Project
- "Representative Figures of the Romanian Science and Technology" [4]
- **(Romanian)** "Traian Lalescu" [5], from Colegiul Naţional de Informatică *Traian Lalescu*, Hunedoara
- **(Romanian)** "Cine a fost Traian Lalescu?" [6], from Liceul Teoretic *Traian Lalescu*, Reşiţa
- **(Romanian)** "Monumentul lui Traian Lalescu (1930)" [7], at infotim.ro
- A Class of Applications of AM-GM Inequality (From a 2004 Putnam Competition Problem to Lalescu's Sequence) [8] by Wladimir G. Boskoff and Bogdan Suceava, Australian Math. Society Gazette, 33 (2006), No.1, 51-56.

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Octav Onicescu

Octav Onicescu (August 20, 1892 – August 19, 1983) was a Romanian mathematician, member of the Romanian Academy, and founder of the Romanian school of probability theory and statistics.

Octav Onicescu stamp from Romania

Biography

He was born in Botoşani, the son of Vlad Onicescu, from Ştefăneşti, Botoşani, and Ana, from Oniceni, Neamţ County. He graduated from the Botoşani August Treboniu Laurian Lyceum in 1911 with a perfect score of 10. That same year, he entered the University of Bucharest, from where he graduated with degrees in Mathematics and Philosophy in 1913. From 1914 to 1916 he was a mathematics teacher at the military gymnasium of Dealu Monastery, near Târgovişte. From 1916 to 1918 he fought in World War I.

In 1919, Onicescu went to study geometry at the University of Rome, under the guidance of Tullio Levi-Civita. He earned his Ph.D. in June, 1920 for a thesis titled *Sopra gli spazi einsteinieni a gruppi continui di transformazione* ("On Einstein manifolds and groups of continuous transformations"). The thesis, which dealt with problems in differential geometry related to Albert Einstein's theory of relativity, was defended in front of a jury of 11 mathematicians, including Levi-Civita, Vito Volterra, and Guido Castelnuovo.

In the Fall of 1920 he went to Paris, where he gave talks in Jacques Hadamard's seminar at the Collège de France. While in Paris, he organized a seminar with other Romanian mathematicians, including Petre Sergescu, Şerban Gheorghiu, Alexandru Pantazi, and Şerban Coculescu.

In 1922, he returned to Bucharest, where he embarked on a 40-year long university career. In 1924, he started teaching the first college-level probability theory course in Romania. From 1928 on, he was professor at the Faculty of Sciences of the University of Bucharest, and was appointed full professor in 1931. In 1930, he organized the School of Statistics and established an Institute of Calculus, serving as its director for many years. In 1936 he entered the Legionary Movement. The Romanian poet and mathematician Ion Barbu (Dan Barbilian) was a close friend of his.

He was elected corresponding member of the Romanian Academy in 1933, and became full member on February 4, 1965. He was in charge of the Probability Theory section of the Institute of Mathematics of the Romanian Academy.

He died in Bucharest on the eve of his 91st birthday, after a short illness.

Legacy

Onicescu was one of the founders of the Balkan Union of Mathematicians (in 1934) and of the International Centre for Mechanical Sciences in Udine (in 1968).

The "Octav Onicescu" museum, founded in Botoşani in October 1995, houses furniture and memorabilia that belonged to him, including manuscripts, letters, diplomas, books, photographs, and military decorations.

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Biographies

Alexandru Proca

Alexandru Proca	
	
Born	October 16, 1897 Bucharest, Romania
Died	December 13, 1955 (aged 58) Paris, France
Citizenship	France
Nationality	Romania
Fields	Physicist (theoretical)
Alma mater	Paris-Sorbonne University in France
Doctoral advisor	Louis de Broglie
Known for	Proca's equations
Notable awards	Honorary Member of the Romanian Academy of Arts and Sciences, elected post mortem in 1990.

Alexandru Proca (October 16, 1897, Bucharest – December 13, 1955, Paris) was a Romanian physicist. He developed the meson theory of nuclear forces and the mathematical physics equations that bear his name (Proca's equations). He became a French citizen in 1931.

Education

High-school and college

In Romania, he was one of the eminent students of the school "Gheorghe Lazar" and the Polytechnic School in Bucharest. With a very strong interest in theoretical physics, he went to Paris where he graduated in Science from the Paris-Sorbonne University, receiving from the hand of Marie Curie his diploma of the Bachelor of Science degree. Then, he was employed as a researcher/physicist at the Radium Institute in Paris in 1925.

Ph.D. studies

He carried out Ph.D. studies in theoretical physics under the supervision of Nobel laureate Louis de Broglie. He defended successfully his Ph.D. thesis entitled *"On the relativistic theory of Dirac's electron"* in front of an examination committee chaired by the Nobel laureate Jean Perrin.

Scientific achievements

He also studied and worked with Nobel laureates Niels Bohr and Marie Curie,[1] . Alexandru Proca became to be known as one of the most influential Romanian theoretical physicists of the last century.[2] having developed the meson theory of nuclear forces ahead of the first reports of Nobel laureate Hideki Yukawa. Proca's equations for the vectorial mesonic field were employed by Yukawa who subsequently received the Nobel Prize for an explanation of the nuclear forces by using this field.

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Ştefan Procopiu

Ştefan Procopiu	
 Ştefan Procopiu	
Born	January 18, 1890 Bârlad
Died	February 22, 1972 Iaşi
Residence	Iaşi
Citizenship	Romanian
Nationality	Romanian
Fields	Physics
Alma mater	Alexandru Ioan Cuza University of Iaşi
Known for	Bohr-Procopiu magneton Procopiu effect Procopiu phenomenon
Notable awards	Romanian State Prize (1964)

Ştefan Procopiu (b. January 19, 1890 in Bârlad, Romania, d, August 22, 1972 in Iaşi, Romania) was a Romanian physicist.

Biography

Ştefan Procopiu was born on January 19, 1890 in Bârlad. His father, Emanoil Procopiu, was employed at the Bârlad courthouse. His mother, Ecaterina Taşcă was the daughter of Gheorghe I. Taşcă (see Taşcă family) [1] He attended the Gheorghe Roşca Codreanu High School in Bârlad from 1901 to 1908, continuing his studies at the Faculty of Sciences of the "Alexandru Ioan" Cuza University of Iaşi from 1908 to 1912. After graduation he became assistant to professor Dragomir Hurmuzescu.[2]

In 1919 he obtained a scholarship to continue his studies in Paris, attending courses of famous scientists, such as Gabriel Lippmann, Marie Curie, Paul Langevin, Aimé Cotton. On 5 March 1924, Procopiu obtained the title of doctor in physics with the thesis "On the electric birefringence of suspensions" presented to a commission including professor Aimé Cotton as coordinator and Charles Fabry and Henri Mouton as cross-examiners. [3]

After his return to Romania on January 15, 1925 professor of the gravitation, heat and electricity department of the "Alexandru Ioan Cuza" University of Iaşi, replacing his former teacher Dragomir Hurmuzescu, who had retired., Procopiu coordinated the department until his retirement in 1962.[4] At the same time he was appointed professor at the "Gheorghe Asachi" Polytechnic Institute of Iaşi[3] In 1939 Ştefan Procopiu published his treatise on "Electricity

and Magnetism", followed in 1948 by his monography on “Thermodynamics”.

On June, 1948 he was appointed corresponding member of the Romanian Academy, being promoted to full membership on July 2, 1955. [3] In 1964 he was awarded the Romanian State Prize[4] He was also decorated with the Order of Work (Ordinul Muncii), Order of the Star of Romania and the Order of Scientific Merit. Procopiu was also selected twice as member in the Commission for the award of the Nobel Prize, [2]

Ştefan Procopiu was also deeply involved in the cultural life of the city of Iaşi. He was an active member of the Board of Directors of the National Theatre “Vasile Alecsandri” of Iaşi [4]

Ştefan Procopiu died on August 22, 1972 in Iaşi age 82.[5]

Scientific activity

Ştefan Procopiu started scientific research even before graduating. He continued this activity while he was assistant professor.

The magnetic moment of electrons

The first important paper by Ştefan Procopiu is "Determining the Molecular Magnetic Moment by M. Planck’s Quantum Theory". After studying Planck’s quantum theory and Langevin’s magnetism theory, established the magnetic moment and determined the physical constant of magnetic moment, named magneton. [6] Ştefan Procopiu published his results two years before Niels Bohr made the same discovery independently. [7] The magneton is now known as Bohr-Procopiu magneton

Continuing his studies, in 1954 he established a method for the experimental determination of the magneton, which he improved in 1963[8]

Other research before and during World War I

Ştefan Procopiu also worked on wireless communications and in 1913 published a paper on “Experimental Research on Wireless Telegraphy”. In 1916 he invented a device for locating and establishing the depth of bullets in the bodies of the wounded soldiers. [7]

Longitudinal depolarization of light

In 1921, Procopiu discovered and analyzed in the Physics Laboratory of Sorbonne University a new optical phenomenon which consisted in the longitudinal depolarization of light by suspensions and colloids. [8] . In 1930, the occurrence was designated as "Procopiu Phenomenon" by prof. Augustin Boutaric. Part of this research was included in Procopiu's doctoral thesis.

Electromotive force of galvanic elements

Thus, in 1930, studying the Barkhausen effect, Ştefan Procopiu discovered a circular effect of magnetic discontinuity. In 1951, this effect was named "Procopiu Effect". [4] This discovery had important applications in the development of the memory of computers[2]

Studies of the earth magnetism

Earth’s magnetism was a continuous concern of Ştefan Procopiu, For 25 years he studied this phenomenon in Romania and developed the magnetic maps of the country. He also identified the magnetic anomaly located on the Iaşi-Botoşani line.

In 1947, Procopiu identified a variation of the earth's magnetic field, with a periodicity of approximately 500 years, indicating that, starting 1932 earth’s magnetic moment increases from the Ecuator to the poles. [2] [3]

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George Emil Palade

George E. Palade	
 Dr. George E. Palade won the Nobel Prize in 1974.	
Born	November 19, 1912 Iaşi, Romania
Died	October 7, 2008 (aged 95)
Citizenship	United States
Nationality	Romanian
Fields	cell biologist
Alma mater	Carol Davila School of Medicine
Known for	Rough ER
Notable awards	1974 Nobel Prize in Physiology or Medicine and the US National Medal of Science in 1986.

George Emil Palade (November 19, 1912 – October 7, 2008) was a Romanian cell biologist. In 1974, he shared the Nobel Prize in Physiology or Medicine with Albert Claude and Christian de Duve, for discovering the vacuole.

Palade also received the U.S. National Medal of Science in Biological Sciences for "pioneering discoveries of a host of fundamental, highly organized structures in living cells..." in 1986,(National Medal of Science [1]), and was previously elected a Member of the National Academy of Science in 1961.

Biography

George Emil Palade was born on November 19, 1912 at Iaşi, Romania; his father was a Professor of Philosophy at the University and his mother was a high school teacher. Both parents strongly encouraged George to further develop his abilities through higher education at university. George E. Palade received his M.D. in 1940 from the Carol Davila School of Medicine of the University of Bucharest, Romania. He was a member of the faculty of that famous school until 1945 when he went to the United States for postdoctoral studies. There, he joined Prof. Albert Claude at the Rockefeller Institute for Medical Research.[1]

In 1952, Palade became a naturalized citizen of the United States. He was a Professor at the Rockefeller Institute (1958-1973), Yale University Medical School (1973-1990), and University of California, San Diego (1990-2008). At UCSD, Palade was Professor of Medicine in Residence (Emeritus) in the Department of Cellular & Molecular Medicine, as well as a Dean for Scientific Affairs (Emeritus), in the School of Medicine at La Jolla, California.[2] In 1970, he was awarded[3] the Louisa Gross Horwitz Prize from Columbia University together with Renato Dulbecco co-winner of 1974 Nobel Prize in Physiology or Medicine "*for discoveries concerning the functional organization of the cell that were seminal events in the development of modern cell biology*.",[4] related to his previous research carried out at the Rockefeller Institute for Medical Research[5] . His Nobel lecture, delivered on December 12, 1974,

was entitled: *"Intracellular Aspects of the Process of Protein Secretion"* [6] , published in 1992 by the Nobel Prize Foundation [7] , [8]

Palade was the first Chairman of the Department of Cell Biology at Yale University. Presently, the Chair of Cell Biology at Yale is named the "George Palade Professorship"

At the Rockefeller Institute for Medical Research, Palade used electron microscopy to study the internal organization of such cell structures as ribosomes, mitochondria, chloroplasts, the Golgi apparatus, and others. His most important discovery was made while using an experimental strategy known as a pulse-chase analysis. In the experiment Palade and his colleagues were able to confirm an existing hypothesis that a secretory pathway exists and that the Rough ER and the Golgi apparatus function together.

He focused on Weibel-Palade bodies (a storage organelle unique to the endothelium, containing von Willebrand factor and various proteins) which he described together with the Swiss anatomist Ewald R. Weibel. [9]

Palade is survived by his wife Marilyn Farquhar, a cell biologist at the University of California, San Diego.

Research note: Palade's coworkers and approach in the 1960s

The following is a concise excerpt from Palade's Autobiography appearing in the Nobel Award documents[1]

"In the 1960s, I continued the work on the secretory process using in parallel or in succession two different approaches. The first relied exclusively on cell fractionation, and was developed in collaboration with Philip Siekevitz, Lewis Greene, Colvin Redman, David Sabatini and Yutaka Tashiro; it led to the characterization of the zymogen granules and to the discovery of the segregation of secretory products in the cisternal space of the endoplasmic reticulum. The second approach relied primarily on radioautography, and involved experiments on intact animals or pancreatic slices which were carried out in collaboration with Lucien Caro and especially James Jamieson. This series of investigations produced a good part of our current ideas on the synthesis and intracellular processing of proteins for export. A critical review of this line of research is presented in the Nobel Lecture." [10] .

One notes also that the Nobel Prize in Chemistry was awarded in 2009 to Drs. Venkatraman Ramakrishnan, Thomas A. Steitz and Ada E. Yonath "*for studies of the structure and function of the ribosome*", discovered by Dr. George Emil Palade[11] .

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See also

- Cell biology
- Ribosomes
- RNAs
- Protein synthesis
- Biosynthesis
- Molecular biology
- Biophysics
- Nobel laureates
- "Romanian Scientists", Wikipedia Book PDF, 2010 [43]

- PDF File of "Romanian Scientists", includes biography of George Emil Palade, Nobel-prize winner.
- Electron microscopy
- Photosynthesis

External links

- Autobiography written in 1974 for the Nobel Prize [44]
- Professor Palade's webpage at University of California, San Diego [45]
- George Palade biography Image & Video Library [46]
- The Official Site of Louisa Gross Horwitz Prize [47]

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Grigore Moisil

Grigore Moisil	
 Acad. Prof. Dr. Grigore Moisil in Ottawa	
Born	10 January 1906 Tulcea, Romania
Died	May 21, 1973 (aged 67)
Citizenship	Romania
Ethnicity	Romanian
Fields	mathematics,logic and mathematical logic
Institutions	University of Bucharest
Alma mater	Polytechnic University of Bucharest
Doctoral advisor	Prof. Dr. Gheorghe Ţiţeica
Doctoral students	25
Known for	Łukasiewicz-Moisil algebra,Algebraic logic and MV-algebra

Grigore Constantin Moisil (10 January 1906 in Tulcea, Romania – 21 May 1973 in Ottawa, Canada) was a Romanian mathematician, computer pioneer, and member of the Romanian Academy. His research was mainly in the fields of mathematical logic, (Łukasiewicz-Moisil algebra), Algebraic logic, MV-algebra, algebra and differential equations. He is viewed as the father of computer science in Romania.

Moisil was also a member of the Academy of Sciences in Bologna and of the International Institute of Philosophy. In 1996, the IEEE Computer Society awarded him posthumously the *Computer Pioneer* Award.

Biography

Grigore Moisil was born in 1906 in Tulcea into an intellectual family. His grandfather, Grigore Moisil (1814-1891), a clergyman, was one of the founders of the first Romanian high school in Năsăud. His father, Constantin Moisil (1867-1958), was a history professor, archaeologist and numismatist; as a member of the Romanian Academy, he filled the position of Director of the Numismatics Office of the Academy. His mother, Elena (1863-1949), was a teacher in Tulcea, later the director of "Maidanul Dulapului" school in Bucharest (now "Enăchiţă Văcărescu" school).

Grigore Moisil attended primary school in Bucharest, then high school in Vaslui and Bucharest (at "Spiru Haret" High School) between 1916-1922. In 1924 he was admitted at the Constructions Faculty of the Polytechnic University of Bucharest, and also the Mathematics Faculty of the University of Bucharest. He showed a stronger interest in mathematics, so he quit the Polytechnic University in 1929, despite already having passed all the third-year exams. In 1929 he defended his Ph.D. thesis, *La mécanique analytique des systemes continus* (Analytical

mechanics of continuous systems), before a commission led by Gheorghe Ţiţeica, with Dimitrie Pompeiu and Anton Davidoglu as members. The thesis was published the same year by the Gauthier-Villars publishing house in Paris, and received favourable comments from Vito Volterra, Tullio Levi-Civita, and Paul Lévy.

In 1930 Moisil went to the University of Paris for further study in mathematics, which he finalized the next year with the paper *On a class of systems of equations with partial derivatives from mathematical physics*. In 1931 he returned to Romania, where he was appointed in a teaching position at the Mathematics Faculty of the University of Iaşi. Shortly after, he left for a one-year Rockefeller Foundation scholarship to study in Rome. In 1932 he returned to Iaşi, where he remained for almost 10 years, developing a close relationship with professor Alexandru Myller. He taught the first modern algebra course in Romania, named *Logic and theory of proof*, at the University of Iaşi. During that time, he started writing a series of papers based on the works of Jan Łukasiewicz in multi-valued logic. His research in mathematical logic laid the foundation for significant work done afterwards in Romania, as well as Argentina, Yugoslavia, Czechoslovakia, and Hungary. While in Iaşi, he completed research remarkable for the many new ideas and for his way of finding and using new connections between concepts from different areas of mathematics. He was promoted to Full Professor in November 1939.

In 1941, a position of professor at the University of Bucharest opened up, and Moisil applied for it. However, Gheorghe Vrânceanu, Dan Barbilian, and Miron Nicolescu also applied for the position, and Vrânceanu got it. Moisil approached the Ministry of Education, arguing that it would be a great opportunity for mathematics in Romania if all four could be appointed. As a result of his appeal, all four mathematicians were hired. Moisil moved to Bucharest, where he became a Professor in the Faculty of Mathematics (later the Faculty of Mathematics and Computer Science) at the University of Bucharest, on December 30, 1941.

From 1946 to 1948, Moisil took a leave of absence, being named plenipotentiary envoy to Ankara. While in Turkey, he gave several series of mathematics lectures at Istanbul University and Istanbul Technical University.

In 1948, he resumed teaching at the University of Bucharest. That same year, he was elected to the Romanian Academy, and a member of the Institute of Mathematics of the Romanian Academy. After 1965, one of his outstanding students-- *George Georgescu* -- worked closely with him on multi-valued logics, and after the emergence of Romania from dictatorship in 1989, he became a Professor of Mathematics and Logic at the same university and department as Moisil in 1991[1] . His student also published extensive, original work on algebraic logic, MV-algebra, Algebra, Algebraic topology, categories of MV-algebras, category theory and Łukasiewicz-Moisil algebra[2] [3] [4] [5] [6] [7] [8] .

In 1967, Gheorghe S. Nadiu publishes in “Mathematical studies and researches”, the article “On a method for the construction of three - valued Łukasiewicz algebras” (in Romanian), cited in the book on “Cylindric Algebras” by P. Monk, L. Henkin, A. Tarski. His article attracted the attention of Grigore C. Moisil, who offered him a scholarship, to pursue his doctorate at the Mathematic Institute of the Romanian Academy; thereafter, Nadiu Gh. became one of his top disciples.

Work

Moisil published papers on mechanics, mathematical analysis, geometry, algebra and mathematical logic. He developed a multi-dimensional extension of Pompeiu's areolar derivative, and studied monogenic functions of one hypercomplex variable with applications to mechanics. Moisil also introduced some many-valued algebras, which he called Łukasiewicz algebras (now also named Łukasiewicz-Moisil algebras), and used them in logic and the study of automata theory. He created new methods to analyze finite automata, and had many contributions to the field of automata theory in algebra.

Moisil had important contributions in the creation of the first Romanian computers. He played a fundamental role in the development of computer science in Romania, and in raising the first generations of Romanian computer scientists. In 1996, he was awarded posthumously the *Computer Pioneer* Award by the Institute of Electrical and Electronics Engineers Computer Society.

See also

- Boolean logic
- Jan Łukasiewicz

Łukasiewicz logic

- Ternary logic
- Lattices
- Multi-valued logic:

Łukasiewicz-Moisil algebras

- Quantum logic:

Quantum computers

- Algebraic logic:

MV-algebra

- Symbolic logic:

Mathematical logic

- Algebra
- Category theory:

Categorical logic, Adjoint functors

- Institute of Electrical and Electronics Engineers

Notes

[1] http://fmi.unibuc.ro/ro/catedre/funinf/georgescu_george/Department of Mathematics and Informatics of the Bucharest

[2] http://planetphysics.org/?op=getobj&from=books&id=253 Algebraic Mathematics and Logics. 2009., 400 pp, GNUL contributed book of 500+ contributing authors.

[3] http://planetphysics.org/encyclopedia/AlgebraicCategoryOfLMnLogicAlgebras.html Algebraic category of LM_n-logic algebras

[4] Georgescu, G. and C. Vraciu. 1970, On the characterization of centered Łukasiewicz algebras., *J. Algebra*, **16**: 486-495.

[5] 2 Georgescu, G. 2006, N-valued Logics and Łukasiewicz-Moisil Algebras, *Axiomathes*, **16** (1-2): 123-136.

[6] http://planetmath.org/?op=getobj&from=lec&id=105 Order convergence and distance on Lukasiewicz-Moisil algebras

[7] http://planetmath.org/?op=getobj&from=objects&id=10756 Quantum ŁM-algebraic Logic

[8] http://philpapers.org/autosense.pl?searchStr=George%20Georgescu Web-generated list of Publications

Selected publications

- *Logique modale*, Disquisit. Math. Phys. 2 (1942), 3–98. MR 0020524 (http://www.ams.org/mathscinet-getitem?mr=0020524)
- *Introducere in algebră. I. Inele şi ideale* [Introduction to algebra. I. Rings and ideals], Editura Academiei Republicii Popular Române, Bucharest, 1954. MR 0069136 (http://www.ams.org/mathscinet-getitem?mr=0069136)
- *Teoria algebrică a mecanismelor automate* [Algebraic theory of automatic machines], Academia Republicii Popular Romîne, Editura Tehnică, Bucharest, 1959. MR 0120120 (http://www.ams.org/mathscinet-getitem?mr=0120120)
- *Circuite cu tranzistori* [Transistor Circuits], Editura Academiei Republicii Popular Romîne, Bucharest, 1961-62. OCLC 15371418 (http://www.worldcat.org/oclc/15371418)
- *Théorie structurelle des automates finis*, Gauthier-Villars, Paris, 1967. OCLC 9049760 (http://www.worldcat.org/oclc/9049760)
- *The algebraic theory of switching circuits*, Pergamon Press, Oxford, New York, 1969. ISBN 0080101488

Books and articles on Moisil

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- Solomon Marcus, "Grigore C. Moisil: A life becoming a myth" (http://www.journal.univagora.ro/?page=article_details&id=27), International Journal of Computers, Communications & Control (http://journal.univagora.ro/), vol. 1 (2006), no. 1, 73–79.
- Viorica Moisil, "Once upon a time... Grigore Moisil" (*A fost odată... Grigore Moisil*), Bucharest: Curtea Veche, 2002. ISBN 973-8356-09-1
- Sergiu Rudeanu, Afrodita Iorgulescu, George Georgescu and Cătălin Ioniţă, "G. C. Moisil memorial issue", *Multiple-Valued Logic* 6 (2001), no. 1-2. Gordon and Breach, Yverdon, 2001. MR 1817431 (http://www.ams.org/mathscinet-getitem?mr=1817431)

External links

- O'Connor, John J.; Robertson, Edmund F., "Grigore Moisil" (http://www-history.mcs.st-andrews.ac.uk/Biographies/Moisil.html), *MacTutor History of Mathematics archive*, University of St Andrews.
- Grigore Moisil (http://genealogy.math.ndsu.nodak.edu/id.php?id=105937) at the Mathematics Genealogy Project
- Short bio (http://www.ici.ro/romania/en/stiinta/moisil.html), at the Romanian National Institute for R&D in Informatics
- Grigore Moisil centenary (http://fmi.unibuc.ro/cniv/2006/centenar-moisil/), at the University of Bucharest
- "Grigore Moisil" (http://www.observatorul.com/articles_main.asp?action=articleviewdetail&ID=307), *Observatorul*, Toronto, Canada, January 5, 2003
- Symposium on the Grigore Moisil centenary (http://www.univagora.ro/Arhiva/ArE2006/Simpozion_Moisil.html), at Agora University
- International Conference on Computers, Communications & Control, ICCCC 2006 (http://www.iccc.univagora.ro/iccc-2006/index.html), at Agora University.
- ICCCC 2006: An International Conference dedicated to the centenary of the birth of Academician Grigore C. Moisil (http://www.iccc.univagora.ro/iccc-2006/index.html)
- Jan Łukasiewicz (http://planetphysics.org/encyclopedia/JanLukasiewicz.html)
- International Journal of Computers, Communications & Control (http://www.journal.univagora.ro/), Vol. I (2006), No.1, pp. 73-80 / Grigore C. Moisil: A Life Becoming a Myth, by Solomon Marcus
- International Journal of Computers, Communications & Control (http://www.journal.univagora.ro/), Vol. I (2006), No.1, pp. 81- 99/ Grigore C. Moisil (1906 - 1973) and his School in Algebraic Logic, by George Georgescu, Afrodita Iorgulescu, Sergiu Rudeanu.
- **(Romanian)** Grigore C. Moisil (http://www.ici.ro/romania/ro/stiinta/moisil.html)
- **(Romanian)** Centenar Grigore C. Moisil (http://fmi.unibuc.ro/cniv/2006/centenar-moisil/)
- **(Romanian)** Grigore Moisil - Observatorul (Canada) (http://www.observatorul.com/articles_main.asp?action=articleviewdetail&ID=307)
- **(Romanian)** Simpozion "Spiritul moisilian pe meleaguri bihorene" (http://www.univagora.ro/Arhiva/ArE2006/Simpozion_Moisil.html)
- **(Romanian)** MoisilBrasov.ro (http://www.moisilbrasov.ro/) - Colegiul National de Informatica "Grigore Moisil" Brasov
- **(Romanian)** LTGM.ro (http://www.ltgm.ro/) - Liceul Teoretic "Grigore Moisil" Urziceni

Nicolae Popescu

Nicolae Popescu (born 22 September 1937, at Strehaia, Romania) is a Romanian mathematician and Emeritus Professor. Popescu was elected a Member of the Romanian Academy in 1992, and he is best known for his contributions to Algebra and the theory of abelian categories. Since 1964 he collaborated on the characterization of abelian categories with the well-known French mathematician Pierre Gabriel. His areas of expertise are: Category theory, abelian categories with Applications to Rings and Modules, Adjoint Functors [1] and limits/colimits [1] ,Theory of Rings, Fields and Polynomials, and Valuation Theory; he also has interests and published in the following areas: Algebraic Topology, Algebraic Geometry, Commutative Algebra, K-Theory, Class-Field theory, and Algebraic Function Theory. He published between 1962 and 2008 more than 102 papers in peer-reviewed, mathematics journals, several monographs on the theory of sheaves, and also six books on abelian category theory and abstract algebra. In a Grothendieck-like, energetic style, he initiated and provided scientific leadership to several seminars on category theory[2] , sheaves and abstract algebra which resulted in a continuous stream of high-quality mathematical publications in international, peer-reviewed mathematics journals by several members participating in his Seminar series. His book *Abelian Categories with Applications to Rings and Modules*[3] continues to provide valuable information to mathematicians around the world. His recent contributions have also branched into valuation and number theory.

Biography

Popescu is married and has three children. He earned his M.S. degree in mathematics in 1964, and his Ph.D. degree in mathematics in 1967, both at the University of Bucharest. He was awarded a D. Phil. degree (Doctor Docent) in 1972 by the University of Bucharest.

Presently, he continues his mathematics studies at the Institute of Mathematics of the Romanian Academy in the Algebra research group [5] and also has international collaborations on three continents. One finds from conversations with Academician Popescu that he shares many moral, ethical and religious values with another famous mathematician French-German-Jewish Alexander Grothendieck who visited the School of Mathematics in Bucharest in 1968. Like Grothendieck he has a long-standing interest in category theory, number theory, practicing Yoga, and supporting promising young mathematicians in his fields of interest. He also supported the early developments of category theory applications in relational biology and mathematical biophysics/mathematical biology.

Academic positions

Popescu was appointed as a Lecturer at the University of Bucharest in 1968 where he taught graduate students until 1972. Since 1964, he also held a Research Professorship [6] at the Institute of Mathematics of the Romanian Academy, which institute was ruthlessly eliminated by former dictator and president of S.R. Romania, Nicolae Ceauşescu, in 1976 for reasons related to his daughter Zoe Ceauşescu who was 'hired' by the Mathematics Institute in Bucharest two years before.

Books published

1. Elemente de teoria analitica a numerelor, Univ. Bucuresti, 1968.
2. Teoria categoriilor si teoria fascicolelor, Ed. Stiintifica, 1971.
3. Categorii Abeliene, Ed. Academiei, 1971.
4. Nicolae Popescu. Abelian categories with Applications to Rings and Modules, Academic Press, L. M. S. Monograph No.3, London, 1973, ISBN=0125615507. [7]
5. Popescu, Nicolae; Popescu, Liliana Theory of categories. Martinus Nijhoff Publishers, The Hague; Sijthoff & Noordhoff International Publishers, Alphen aan den Rijn, 1979. x+337 pp. ISBN 90-286-0168-6.
6. Selected topics in valuation theory (to appear).

External links

- Nicolae Popescu - Institute of Mathematics of the Romanian Academy [6]
- Nicolae Popescu --Biography [8]

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[1] http://planetmath.org/encyclopedia/AdjointFunctor.html

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[3] Nicolae Popescu. Abelian Categories with Applications to Rings and Modules, Academic Press, L. M. S. Monograph No.3, London, 1973.,ISBN 0125615507 (http://www.lib.iastate.edu:81/ipac20/ipac.jsp?session=1WB345344H890.711450&profile=parks&source=~!horizon&view=items&uri=full=3100001~!47305~!0&ri=1&aspect=basic_search&menu=search&ipp=20&spp=20&staffonly=&term=Modules+(Algebra)&index=PSUBJ&uindex=&aspect=basic_search&menu=search&ri=1#focus)

Horia Hulubei

Horia Hulubei	
 Acad. Prof. Dr. Horia Hulubei in Bucharest, 1960's	
Born	November 15, 1896 Iaşi, Romania
Died	November 22, 1972 (aged 76) Bucharest, Romania
Nationality	Romanian
Doctoral advisor	Jean Perrin
Known for	Development of X-ray spectroscopy
Notable awards	Member of the Romanian Academy of Arts and Sciences

Horia Hulubei, Academician Prof.Dr. (November 15, 1896 – November 22, 1972) was a Romanian atomic/nuclear physicist, known for his contributions to the development of X-ray spectroscopy.

Education

He studied at the University of Iaşi and in Paris at the Sorbonne, with the Nobel laureate Jean Perrin as his PhD advisor; he obtained his Ph.D. from the Paris-Sorbonne University for his work with Jean Perrin.[1] His Ph.D. thesis with the title *"Contribution to the study of quantum diffusion of X-rays"* was defended in 1933 in Paris in front of an examination committee chaired by Nobel laureate Marie Curie.

Scientific achievements

With the help of his advanced X-ray spectroscopy equipment he observed several previously unidentified X-ray spectral lines, and subsequently came to the decision that such lines are acosiated with new elements. Then, he claimed and published the discovery of a new element "moldavium" in 1936, the discovery of "sequanium" in 1939 and that of "dor" in 1945. Later, however, it was shown that the reported X-ray lines did not belong to new elements.[2]

For his many scientific achievements the National Institute for Physics and Nuclear Engineering in Romania was named after him -- Horia Hulubei National Institute of Physics and Nuclear Engineering - IFIN HH [3]. He was the Founder and First Director of the Institute of Atomic Physics (IFA) [4] in Bucharest, Romania.

University teaching

During the early 60's and 70's he was also a Professor of Atomic Physics in the Department of Atomic and Nuclear Physics of the School of Physics [5] at the University of Bucharest, where he delivered elegant and clear lectures on the Compton effect and inelastic Compton scattering/resonant inelastic X-ray scattering (RIXS).

Publications

- *Course Notes of Physical Chemistry*, Ed. Academiei, Bucharest, 1940. ("Curs de chimie fizică "(1940))
- *X-ray Spectroscopy* ("Spectroscopia X"). (1948)
- *The Structure of Matter.* "Structura materiei" (1950)

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[2] Fontani, Marco (2005-09-10). "The Twilight of the Naturally-Occurring Elements: Moldavium (Ml), Sequanium (Sq) and Dor (Do)" (http://web.archive.org/web/20060224090117/http://5ichc-portugal.ulusofona.pt/uploads/PaperLong-MarcoFontani.doc). International Conference on the History of Chemistry. Lisbon. pp. 1–8. Archived from the original (http://5ichc-portugal.ulusofona.pt/uploads/PaperLong-MarcoFontani.doc) on 2006-02-24. . Retrieved 2007-04-08.

Theodor V.Ionescu

Theodor V. Ionescu	
 Acad. Prof. Dr. Th. V. Ionescu in Bucharest, 1970	
Born	February 8, 1899 Dorohoi, Romania
Died	November 6, 1988 (aged 89)
Citizenship	Romania
Ethnicity	Romanian
Fields	physicist
Alma mater	Paris-Sorbonne University in France, School of Physics at the University of Iaşi (currently, Alexandru Ioan Cuza University of Iaşi), and the University of Bucharest
Known for	Plasma Physics,magnetic resonance, first maser studies, magnetron invention, 3D cinematography/TV devices, coupled electron-ion oscillations in ultra-hot plasmas and research on nuclear fusion in ultra-hot hydrogen plasmas.

Theodor V. Ionescu, **Prof. Dr. Doc.** (born February 8 1899, Dorohoi, Botoşani County - d. 6 November 1988, Bucharest) was a Romanian physicist and inventor who made remarkable discoveries in plasma physics, ionosphere physics, ion coupling electrons in dense plasmas, masers, magnetron amplifiers, and Zeeman effects related to controlled nuclear fusion, quantum emission mechanisms in hot plasmas. Member of the Romanian Academy.

Ph.D. studies in plasma physics

He received his Ph.D. in plasma physics first in Paris, and then in Iaşi, Romania. Thus, the history of plasma physics in Romania began in 1923 with the defense of the first PhD thesis in physics at the University of Iaşi by Theodor V. Ionescu, under the guidance of Professor Peter Bogdan. Th. V. Ionescu carried out the first experimental studies in Romania of the physics of ionized gases/plasmas.

Scientific achievements and collaborators

In 1925 invented a microphone based on thermoionic currents (currents emitted by heated bodies) and a light projector using the interference phenomenon.

Founded in the same year the first Electricity and Magnetism Laboratory, as well as the first Chair of Electricity and Magnetism in the Department of Mathematics and Physics at the University of Bucharest.

The first prototype of a precursor to the magnetron power amplifier

He built in 1934-1935 a precursor[1] to the high-power, multi-cavity magnetron that was built subsequently, in 1937-1940, by the British physicist, Sir John Turton Randall, FRSE together with a team of British coworkers for the British and American, military radar instalations in WWII[2] . At the same time, the Telefunken Company of Berlin was 'searching' for such a device[3] but has apparently met with much less success than the British inventors or Th. V. Ionescu. (However, the split anode magnetron had first been developed in 1921 by Dr. A.E.Hull at GEC Company in USA; also in 1921, Haben, who was working in Germany, developed a similar device that worked on a 3 cm wavelength. A strong competitor of the former inventors was also Dr. H.E.Hollman who registered many patents between 1925 and 1935 that documented devices related to magnetron development)[4] .

Patents

In 1936 he obtained a patent for the 3D imaging in cinema and television. In 1946, together with physicist V. Mihu invented and built a device that has obtained the first 'show boosted " type maser (*microwave quantum amplifier*), and has thus tested the first precursor of the working maser [5] reported in 1954[5] .

Discoveries

He worked in the early 1960s in the Laboratory of the Bucharest Institute of Plasma Physics together with his childhood friend, Octav Gheorghiu [7], whom he greatly respected for his exceptional human qualities. They studied systematically the resonant frequencies of molecular oxygen and hydrogen ions. Then, they published their most important experimental results in a series of articles in *C.R. Acad. Sci. Paris".(pp.245, 898, 957, 246, pp. 2250, 3598, 1958, 250, 2182 p. 1960, 252, p. 870, 1961) and* Rev Roum. Phys.

In the early 1970s, together with physicists Dr. Radu Pârvan and J. C. Băianu [8] - one of his Ph.D. research assistants in plasma physics in magnetic fields in the Electricity Department of the Faculty of Physics, Bucharest - Th. V. Ionescu completed experiments on controlled magnetic resonance oscillations in ultra-hot plasmas. Such seminal experiments involved the coupling of ionic and electronic oscillations in ultra-hot plasma involving quantum amplified stimulation processes in the presence of longitudinal magnetic fields which opened novel possibilities for achieving hot nuclear fusion in the future (Achieving nuclear fusion in high pressure hot plasma [9])[6] . The first report of these research results was presented at the French Academy of Science in Paris by Louis Néel, member of the Academy and Nobel Prize in Physics for Magnetism[7] . Additional results were then published in the same year in the internationally renowned magazine *C.R. Acad. Sci. Paris*[8] .

His successor as Head of Department in 1970 was Florin Ciorăscu, "imported" from the IFA, (who died in 1977 during the major earthquake in Bucharest).

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[2] "Radar Recollections - A Bournemouth University/CHiDE/HLF project" by Prof. W. E. Burcham (http://histru.bournemouth.ac.uk/Oral_History/Talking_About_Technology/radar_research/the_magnetron.html)

[3] From the 1935 magazine *Electronics*: "Microwaves To Detect Aircraft" (http://histru.bournemouth.ac.uk/Oral_History/Talking_About_Technology/radar_research/the_magnetron.html)

[4] "Radar Recollections - A Bournemouth University/CHiDE/HLF project" (http://histru.bournemouth.ac.uk/Oral_History/Talking_About_Technology/radar_research/the_magnetron.html)

[5] http://en.wikipedia.org/wiki/Maser

[6] http://nobelprize.org/nobel_prizes/physics/laureates/1978/kapitsa-lecture.pdf PLASMA AND THE CONTROLLED THERMONUCLEAR REACTION

[7] http://nobelprize.org/nobel_prizes/physics/laureates/1970/neel-lecture.html Louis Néel: "Magnetism and the Local Molecular Field"

[8] Th.V.Ionescu et al. (1969). *C.R.A.Sci. Paris*, **270**: 1321-1324

Ionel Solomon

Ionel Solomon, PhD.	
 Member of the French Academy of Sciences since 20 June 1988	
Born	8 January 1929 Iaşi, Romania
Citizenship	French
Nationality	French
Fields	physicist
Alma mater	Paris-Sorbonne University in France
Notable awards	1958 Grand Prix for Research (with Anatole Abragam and J. Combrisson); 1963 The CNRS Silver Medal; 1969 Robin Prize of the French Physics Society (Societe Francaise de Physique)

Ionel Solomon (born 1929) is a French-Romanian physicist, Member of the French Academy of Sciences, CNRS Research Director, and Professor at the Polytechnic School in Paris.

Education

- 1949-1951 PhD, Polytechnic School (École Polytechnique) in Paris

Major scientific contributions

Ionel Solomon made major contributions to the fields of: Nuclear Magnetic Resonance (NMR)[1] , Solid state physics, Semiconductors[2] and Photovoltaics[3] . In Nuclear Magnetic Resonance he derived fundamental equations that bear his name, and specify the nuclear spin-echo response and dipole-dipole interactions in solids (the *Solomon equations*)[4] [5] .

Scientific career

- 1951-1952 Research Fellow at the University of Liverpool, UK
- 1955-1956 Research Fellow at Harvard University, USA
- 1953-1962 Researcher in the resonance Group of the Atomic Energy Commission (Commissariat Energie Atomique in Saclay)
- 1962 Director of the Laboratory for Condensed Matter (Solid-State) Physics (Laboratoire de Physique de la Matiére Condensée), at the Polytechnic School in Paris
- 1962 Head of Research at C.N.R.S.
- 1962 Head of Conferences
- 1968 CNRS Research Director
- 1973-1976 Physics Departement Head at the Polytechnic School in Paris 1973-1974 President of the Societé Française de Physique (the French Physics Society).
- 1975-1979 Professor, at the Polytechnic School in Paris
- 1976 Invited Visiting Professor at the Xerox Research Center, Palo Alto,USA

- 1980 Invited Visiting Professor at Tokyo University
- 1981-1985 Founder and Scientific Director of SOLEMS Company
- 1987 President of the Scientific Council of PHOTOTRONICS (a French-German Company for photovoltaic products)
- 1988, June 22, Elected Member of the Physics Institute of the French Academy of Sciences[6]
- Laboratory of Condensed Matter Physics

Awards and prizes

- 1958 Grand Prix for Research (with Anatole Abragam and J. Combrisson)
- 1963 The CNRS Silver Medal
- 1969 Robin Prize of the French Physics Society (Societe Francaise de Physique)
- 1972 Holweck Prize of the Institute of Physics and S.F.P (French Physics Society)
- 1981 The Y. Peyches Prize of the Academy of Sciences

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- Physique des Semiconducteurs (1966-1976) : L'effet Hall “extraordinaire”. Pompage optique dans les solides. Découverte du transport dépendant des Spins.
- Silicium amorphe et photovoltaïque (1977-1987) : transport et optique dans le silicium amorphe. Photopiles solaires. Nouveaux matériaux amorphes.
- Recherche matériaux (depuis 1989) : fibres carbone, fibres SiC et SiCN. Photoluminescence et électroluminescence dans les semiconducteurs et dispositifs.

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[2] Physique des Semiconducteurs (1966-1976) : L'effet Hall “extraordinaire”. Pompage optique dans les solides. Découverte du transport dépendant des Spins.

[3] Silicium amorphe et photovoltaïque (1977-1987) : transport et optique dans le silicium amorphe. Photopiles solaires. Nouveaux matériaux amorphes.

[4] http://planetphysics.org/encyclopedia/IonelSolomon.html Biography of physicist Ionel Solomon

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Constantin Constantinescu

Constantin Constantinescu-Claps	
20 February 1884 – 1961	
Place of birth	Beceni, Bacau County
Allegiance	Kingdom of Romania
Service/branch	Army
Years of service	1913-1944
Rank	Army General
Commands held	4th Army
Battles/wars	Second Balkan War World War I World War II

Constantin Constantinescu-Claps (February 20, 1884–1961) was a Romanian soldier, also known as a political prisoner under the communist regime. He participated in both World War I and World War II, and rose through the ranks in the Romanian Army. On November 9, 1941, he was appointed the commander of Romanian 4th Army, and became a Corps General on January 24, 1942. On February 10, 1943, he was relieved of his assignment and replaced by Constantin Sănătescu. Constantinescu-Claps retired in 1941, was arrested in 1951, and was condemned to 15 years' imprisonment in 1954. However, he was exonerated and released a year later.

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External links

- Career information [1]

Miron Nicolescu

Miron Nicolescu (August 27, 1903 – June 30, 1975) was a renowned Romanian mathematician.

Born in Giurgiu, he attended the Matei Basarab high school in Bucharest. After completing his undergraduate studies at the Faculty of Mathematics of the University of Bucharest in 1924, he went to Paris, where he enrolled at the École Normale Supérieure and the Sorbonne. In 1928, he completed his doctoral dissertation, *Fonctions complexes dans le plan et dans l'espace*, under the direction of Paul Montel. Upon returning to Romania, he taught at the University of Cernăuţi until 1940, when he was named professor at the University of Bucharest.

In 1936, he was elected corresponding member of the Romanian Academy, and, in 1953, full member. In 1963, he became director of the Institute of Mathematics of the Romanian Academy. From 1966 until his death, he served as President of the Romanian Academy.

At the International Congress of Mathematicians held in Vancouver, Canada in 1974, he was elected Vice-President of the International Mathematical Union.

Through his collaboration with Solomon Marcus, Nicolescu has Erdős number 2.

External links

- Miron Nicolescu [1] at the Mathematics Genealogy Project

Gheorghe Ţiţeica

Gheorghe Ţiţeica (Romanian pronunciation: [ˈge̯orge t͡si.ˈt͡sejka]; October 4, 1873 in Turnu Severin–February 5, 1939) publishing as **George** or **Georges Tzitzeica**) was a Romanian mathematician with important contributions in geometry. He is recognized as the founder of the Romanian school of differential geometry.

He showed an early interest in science, as well as music and literature. Ţiţeica was an accomplished violinist, having studied music since childhood: music was to remain his hobby. While studying at the Carol I High School in Craiova, he contributed to the school's magazine, writing the columns on mathematics and studies of literary critique. After graduation he obtained a scholarship at the preparatory school in Bucharest, where he also was admitted as a student of the mathematics department of the Faculty of Sciences. In June 1895, he graduated with a *Bachelor of Mathematics*.

In the summer of 1896, after a stint as a substitute teacher at the Bucharest theological seminary, Ţiţeica passed his exams for promotion to a secondary school position, becoming teacher in Galaţi.

In 1897, on the advice of teachers and friends, Ţiţeica completed his studies at a preparatory school in Paris. Among his mates were Henri Lebesgue and Paul Montel. On June 30, 1899 he defended his master's degree thesis on the framework of oblique curvature, before a board of examiners lead by Gaston Darboux.

Upon his return to Romania, Ţiţeica was appointed assistant professor at the University of Bucharest. He was promoted to full professor on May 4, 1900, retaining this position until his death in 1939. He also taught mathematics at the Polytechnic University of Bucharest. In 1913, at age 40, Ţiţeica was elected as a permanent member of the Romanian Academy, replacing Spiru Haret. Later he was appointed in leading roles: in 1922, vice-president of the scientific section, in 1928, vice-president and in 1929 secretary general. Ţiţeica was also president of the Mathematical Association of Romania, of the Romanian Association of Science and of the Association of the development and the spreading of science. He was a vice-president of the Polytechnics Association of Romania and member of the High Council of Public Teaching.

Ţiţeica was elected correspondent of the Association of Sciences of Liège and *doctor honoris causa* of the University of Warsaw. He was the president of the geometry section at the International Congress of Mathematicians in Toronto (1924), Zürich (1932), and Oslo (1936). In 1926, 1930 and 1937 he gave a series of lectures as titular professor at the Faculty of Sciences in Sorbonne. He also gave many lectures at the University of Brussels (1926) and the University of Rome (1927).

The scientific work of Ţiţeica counts about 400 volumes, of which 96 are scientific projects, most addressing problems of differential geometry. Carrying the researches of the American geometer of German origin Ernest Wilczynski, Ţiţeica discovered a new category of surfaces and a new category of curves which now carry his name. He also studied R-networks in n-dimensional space, defined through Laplace equations.

Books

- *The projective differential geometry of lattices*, 1924
- *Introduction to differential projective differential geometry of curves*, 1931

External links

- O'Connor, John J.; Robertson, Edmund F., "Gheorghe Ţiţeica" [1], *MacTutor History of Mathematics archive*, University of St Andrews.
- Gabriel Teodor Pripoae, Radu Gogu, *Gheorghe Tzitzeica - an incomplete bibliography* [2]
- Short bio [3], Mathematics Magazine for Grades 1-12, July 2002
- Short bio [4]

Solomon Marcus

Solomon Marcus (b. March 1, 1925) is a Romanian mathematician, member of the Mathematical Section of the Romanian Academy (a full member of the latter since 2001) and Emeritus Professor of the University of Bucharest's Faculty of Mathematics. His main research is in the fields of mathematical analysis, mathematical and computational linguistics and computer science, but he also published numerous papers on various cultural topics: poetics, linguistics, semiotics, philosophy and history of science and education.

Solomon Marcus in 2007.

Biography

Born to Jewish parents in Bacău, he graduated from high school in 1944, and completed his studies at the University of Bucharest's Faculty of Science, Department of Mathematics, in 1949. He obtained his PhD in Mathematics in 1956, with a thesis on the *Monotonic functions of two variables*, written under the direction of Miron Nicolescu.[1] He was appointed Lecturer in 1955, Associate Professor in 1964, and became a Professor in 1966 (Emeritus in 1991).

Marcus published about 50 books in Romanian, English, French, German, Italian, Spanish, Russian, Greek, Hungarian, Czech, Serbo-Croatian, and about 400 research articles in specialized journals in almost all European countries, in the United States, Canada, South America, Japan, India, and New Zealand among others; more than 1,000 authors have quoted his works.

He is recognized as one of the initiators of mathematical linguistics and of mathematical poetics, and is a member of the editorial board of several international scientific journals.

Marcus wrote a paper together with Paul Erdős ("Sur la décomposition de l'espace euclidien en ensembles homogènes", Acta Math. Acad. Sci. Hungar 8 (1957), 443–452); this gives him an Erdős number of 1.

References

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- Publication list on his web page [3], at the "Simion Stoilow" Institute of Mathematics of the Romanian Academy
- *International Journal of Computers, Communications & Control* [4], Vol.I (2006), No.1, pp.73–79, "Grigore C. Moisil: A Life Becoming a Myth", by Solomon Marcus, Editor's note about the author (p.79)
- Marcus' articles on semiotics at *Potlatch* [5]

External links

- Solomon Marcus [6] at the University of Bucharest

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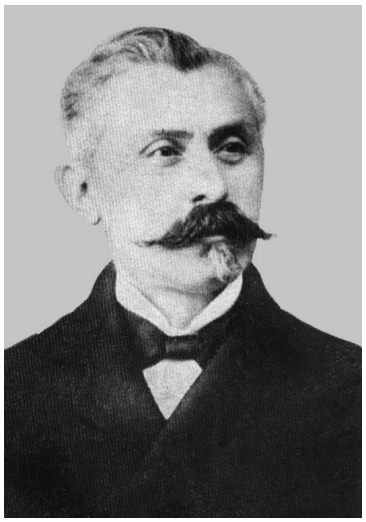
[1] Solomon Marcus (http://genealogy.math.ndsu.nodak.edu/id.php?id=49018) at the Mathematics Genealogy Project

Spiru Haret



Spiru Haret

Spiru C. Haret (February 15, 1851, Iaşi – 17 December 1912) was a Romanian-Armenian mathematician, astronomer and politician. He made a fundamental contribution to the *n*-body problem in celestial mechanics by proving that using a third degree approximation for the disturbing forces implies instability of the major axes of the orbits, and by introducing the concept of *secular perturbations* in relation to this. As a politician, during his three terms as Minister of Education, Spiru Haret ran deep reforms, building the modern Romanian education system. He was made a full member of the Romanian Academy in 1892.

Spiru Haret also founded the Astronomical observatory in Bucharest, appointing Nicolae Coculescu as its first director. The crater Haret on the Moon is named after him.

Life

Spiru Haret showed an early talent for mathematics, publishing two textbooks (one in algebra and one in trigonometry) when he was still a high school student. In 1869 he entered the University of Bucharest,

where he studied physics and mathematics. In 1870, while a student in his second term, he became teacher of mathematics at Nifon Seminary in Bucharest, but quit the following year in order to continue his studies. In 1874, at age 23, he graduated with a degree in physics and mathematics.

After graduation, Haret won a scholarship competition organized by Titu Maiorescu and went to Paris in order to study mathematics at the Sorbonne. There he earned a mathematics diploma in 1875 and a physics diploma in 1876. Two years later (on January 18, 1878) he earned his Ph.D. by defending his thesis, *Sur l'invariabilité des grandes axes des orbites planétaires* (*On the invariability of the major axis of planetary orbits*), in front of examiners led by Victor Puiseux. In this work he proved a result fundamental for the *n*-body problem in astronomy, the thesis being published in Vol. XVIII of the *Annales de l'Observatoire de Paris*. Spiru Haret was the first Romanian to obtain a Ph.D. degree in Paris.

Statue in University Square, Bucharest

After his return to Romania in 1878, Haret abandoned scientific research and dedicated the rest of his life to improving Romanian education, which was heavily underdeveloped at the time, both as professor and as politician. He was appointed professor of rational mechanics at the Science Faculty in Bucharest. The next year (1879), Spiru Haret became a correspondent member of the Romanian Academy, receiving full membership in 1892. He kept the professorship at the Science Faculty until his retirement in 1910, when he was followed as professor of mechanics by Dimitrie Pompeiu. From 1882 he was also a professor of analytical geometry at the *Bridges and Roads' School in Bucharest*. After retirement Haret occasionally lectured at the informal *People's University*.

Haret was the Minister of Public Education in three liberal governments, between 1897-1899, 1901-1904 and 1907-1910. As Minister of Education he ran a complete reform, basically building the modern Romanian education system.

Scientific activity

Spiru Haret's major scientific contribution was made in 1878, in his Ph.D. thesis *Sur l'invariabilité des grandes axes des orbites planétaires*. At the time it was known that planets disturbe each other's orbits, thus deviating from the elliptic motion described by Johannes Kepler's First Law. Pierre Laplace (in 1773) and Joseph Louis Lagrange (in 1776) had already studied the problem, both of them showing that the major axes of the orbits are stable, by using a first degree approximation of the perturbing forces. In 1808 Siméon Denis Poisson had proved that the stability also holds when using second degree approximations. In his thesis, Haret proved by using third degree approximations that the axes are not stable as previously believed, but instead feature a time variability, which he called *secular perturbations*. This result implies that planetary motion is not absolutely stable. Henri Poincaré considered this result *a great surprise* and continued Haret's research, which eventually led him to the creation of chaos theory. Félix Tisserand recommended the extension of Haret's method to other astronomic problems and, much later, in 1955, Jean Meffroy restarted Haret's research using new techniques.

Soon after his return to Romania, Spiru Haret abandoned research, focusing for the rest of his life on teaching and, as Minister of Education, on the reform of the education system. He only published an article on the secular acceleration of the Moon in 1880 and one on Jupiter's Great Red Spot (1912).

In 1910 he published *Social mechanics*, which used mathematics to explain social behavior.

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- Institute Romanian Liga "Spiru Haret" [2]

Gheorghe Marinescu

Gheorghe Marinescu	
 Gheorghe Marinescu on Romanian post stamp	
Born	February 28, 1863 Bucharest
Died	May 15, 1938 Bucharest
Nationality	Romania
Fields	neurology
Alma mater	Bucharest University
Known for	Romanian School of Neurology

Gheorghe Marinescu (February 28, 1863, Bucharest – May 15, 1938, Bucharest) was a Romanian neurologist, founder of the Romanian School of Neurology.

After the attendance of Medicine at the Bucharest University, Marinescu received most of his medical education as preparator at the laboratory of histology at the Brâncoveanu Hospital and as assistant at the Bacteriological Institute under Victor Babeş, and with Babes already early published several works on myelitis transversa, hysterical muteness, dilatation of the pupil in pneumonia etc.

After qualification, on the recommendation of Babes the government sent him with a grant to Paris to undertake postgraduate training in neurology under Jean-Martin Charcot at the Salpêtrière Hospital, where he met Pierre Marie, Joseph Babinski and Fulgence Raymond. He later worked with Carl Weigert in Frankfurt a.M. and then with Emil du Bois-Reymond in Berlin. On the assignment of Pierre Marie he lectured on the pathological anatomy of acromegaly at the Berlin International Congress in 1890.

After nine years abroad Marinescu returned in 1897 to Bucharest where he received his doctorate. At Bucharest a new professorial department had been created for him at the Pantelimon Hospital. Shortly thereafter, in 1897, a chair of Clinical Neurology was created in the University of Bucharest, at the Colentina Hospital. He remained in this post for the next 41 years and is regarded as the founder of the Romanian School of Neurology.

Between July 1898 and 1901 the Marinescu made the first science films in the world, in his clinic in Bucharest:[1] *The walking troubles of organic hemiplegy* (1898), *The walking troubles of organic paraplegies* (1899), *A case of hysteric hemiplegy healed through hypnosis* (1899), *The walking troubles of progressive locomotion ataxy* (1900) and *Illnesses of the muscles* (1901). All these short subjects have been preserved. The professor called his works "studies with the help of the cinematograph", and published the results, along with several consecutive frames, in issues of "La Semaine Médicale" magazine from Paris, between 1899 and 1902.[2] In 1924, Auguste Lumiere recognized the priority of professor Marinescu concerning the first science films: "I've seen your scientific reports about the usage of cinematograph in studies of nervous illnesses, when I was still receiving "La Semaine Médicale",

but back then I had other concerns, which left me no spare time to begin biological studies. I must say I forgot those works and I am thankful to you that you reminded them to me. Unfortunately, not many scientists have followed your way."[3]

Marinescu maintained close academic links with his Parisian colleagues and many of his articles, which exceeded 250 in number, were published in the French language. He had a wide range of research interests, including pathological anatomy and experimental neuropathology. Daily contact with scores of the infirm and his astuteness made him put use every one of the latest methods as they became available: the roentgen ray, with which he investigated bone changes in acromegaly, the film camera, for the study of body movements in health and disease. The results of these studies appeared in the monography *Le Tonus des Muscles striés* (1937) with Nicolae Ionescu-Siseşti [4], Oskar Sager [5] and Arthur Kreindler [6], with a preface by Sir Charles Sherrington.

Early in his career he published with the bacteriologist Victor Babeş and the French pathologist Paul Oscar Blocq a much needed atlas on the pathological histology of the nervous system. His description with Blocq of a case of parkinsonian tremor due to tumour in the *substantia nigra*, in 1893, was the basis for Édouard Brissaud's theory that parkinsonism occurs as a consequence of damage to the *substantia nigra*. With Paul Blocq he was the first to describe senile plaques and with Romanian neurologist Ion Minea confirmed in 1913 Hideyo Noguchi's discovery of *Treponema pallidum* in the brain in patients with general paresis. His monumental work *La Cellule Nerveuse*, with a preface by Santiago Ramon y Cajal, appeared in 1909.

Gheorghe Marinescu was an eminent teacher. In his lectures he emphasised ideas and gave perspective for further investigations. Recognition in the form of honours came to him from many countries. It was he above all others who was chosen to represent the students of Charcot when the centenary of the great master was celebrated in 1925.

Associated eponyms

- *Marinescu's hand*, a cold blue oedematous hand with lividity of the skin seen in neurological lesions such as syringomyelia.
- *Marinescu-Sjögren-syndrome*, a rare congenital disorder with spinocerebellar ataxia, congenital cataract, short stature, mental retardation and some skeletal deformity.
- *Kinn reflex (Marinescu-Radovici)*, in some patients presenting with pyramidal lesions.

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Carol Davila

Carol Davila (1828 – 24 August 1884) was a prestigious Romanian physician of Italian ancestry.

Carol Davila - portrait by Theodor Aman

Biography

He started from humble beginnings, most probably as an abandoned child, and the surname *Davila* was bestowed on him by his adoptive family.

Davila studied medicine at the University of Paris, graduating in February 1853. In March 1853, he arrived in Romania. He was the organizer of the military medical service for the Romanian Army and of the country's public health system. Davila, together with Nicolae Kretzulescu, inaugurated medical training in Romania in 1857, by founding the National School of Medicine and Pharmacy. It was he who had determined government authorities to issue the first official instructions concerning the health care of factory workers and the organisation of medical districts in the country.

It was due to his many activities that several scientific associations appeared in Romania: the Medical Society (1857), the Red Cross Society (1876), the Natural Sciences Society (1876). With his assistance, two medical journals entered print: the *Medical Register* (1862) and the *Medical Gazette* (1865). During the Independence War (1877-1878) he was the head of the Army's sanitary service.

Davila is also credited with the invention of the *Davila tincture* for the treatment of cholera, an opioid-based oral solution in use for symptomatic management of diarrhea.

Today, the University of Medicine and Pharmacy in Bucharest, the largest of its kind in Romania, is named in his honor.

On 14 January 1874, his wife, Ana Racoviţă, a descendant of the Racoviţă and Golescu boyar families, was accidentally poisoned when a colleague of Davila's gave her strychnine instead of quinine. Davila's son Alexandru was a noted dramatist and friend of King Carol I.

Statue of Carol Davila by Karl Storck, in front of the University of Medicine and Pharmacy in Bucharest

Works

- *Syphilis Prophylaxis* (1853)
- *Athmospheric Air* (1871).

External links

- Carol Davila [1]

János Bolyai

János Bolyai	
 Unauthentic portrait of Bolyai	
Born	15 December 1802 Kolozsvár, Transylvania, Kingdom of Hungary, Habsburg Empire (today Cluj-Napoca, Romania)
Died	27 January 1860 (aged 57) Marosvásárhely, Transylvania, (today Târgu Mureş, Romania)
Residence	Habsburg Empire
Ethnicity	Hungarian
Fields	Mathematics
Known for	non-Euclidean geometry

János Bolyai (pronounced /ˈjaːnoʃ ˈboːjɒi/) (December 15, 1802 – January 27, 1860) was a Hungarian mathematician, known for his work in non-Euclidean geometry.

Bolyai was born in Kolozsvár, Transylvania, Habsburg Empire (today Cluj-Napoca, Romania), the son of the well-known mathematician Farkas Bolyai.


János Bolyai (1802-1860) Hungarian-Romanian mathematician (artwork made by Attila Zsigmond)

Life

By the age of 13, he had mastered calculus and other forms of analytical mechanics, receiving instruction from his father. He studied at the Royal Engineering College in Vienna from 1818 to 1822. He became so obsessed with Euclid's parallel postulate that his father wrote to him: "For God's sake, I beseech you, give it up. Fear it no less than sensual passions because it too may take all your time and deprive you of your health, peace of mind and happiness in life". János, however, persisted in his quest and eventually came to the conclusion that the postulate is independent of the other axioms of geometry and that different consistent geometries can be constructed on its negation. He wrote to his father: "Out of nothing I have created a strange new universe".[1] Between 1820 and 1823 he prepared a treatise on a

complete system of non-Euclidean geometry. Bolyai's work was published in 1832 as an appendix to a mathematics textbook by his father.

Gauss, on reading the Appendix, wrote to a friend saying "I regard this young geometer Bolyai as a genius of the first order". In 1848 Bolyai discovered not only that Lobachevsky had published a similar piece of work in 1829, but also a generalization of this theory. As far as we know, Lobachevsky published his work a few years earlier than Bolyai, but it contained only hyperbolic geometry. Bolyai and Lobachevsky didn't know each other or each other's works.

Memorial plaque of János Bolyai in Olomouc, (Czech Republic).

Other work

In addition to his work in the geometry, Bolyai developed a rigorous geometric concept of complex numbers as ordered pairs of real numbers. Although he never published more than the 24 pages of the Appendix, he left more than 20,000 pages of mathematical manuscripts when he died. These can now be found in the Bolyai-Teleki library in Marosvásárhely (now Târgu-Mureş, Romania), where Bolyai died.

He was an accomplished polyglot speaking nine foreign languages, including Chinese and Tibetan. No original portrait of Bolyai survives. An unauthentic picture appears in some encyclopedias and on a Hungarian postage stamp.

Legacy

The Babeş-Bolyai University in Cluj-Napoca bears his name, as does the crater Bolyai on the Moon [2]. Also, in the Carpathian basin, many high schools bear his name.

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- János Bolyai (http://genealogy.math.ndsu.nodak.edu/id.php?id=101411) at the Mathematics Genealogy Project

Traian Lalescu

Traian Lalescu	
	
Born	12 July 1882 Bucharest, Romania
Died	15 June 1929 (aged 46) Bucharest, Romania
Residence	Romania
Nationality	Romania
Fields	Mathematician
Institutions	Polytechnic University of Timişoara University of Bucharest
Alma mater	University of Bucharest University of Paris
Doctoral advisor	Émile Picard
Known for	Integral equations

Traian Lalescu (12 July 1882, Bucharest–15 June 1929, Bucharest) was a Romanian mathematician. His main focus was on integral equations and he contributed to work in the areas of functional equations, trigonometric series, mathematical physics, geometry, mechanics, algebra, and the history of mathematics.

Life

He went to the Carol I High School in Craiova, continuing high school in Roman and Iaşi. After entering the University of Iaşi, he completed his undergraduate studies in 1903 at the University of Bucharest.

He earned his Ph.D. in Mathematics from the University of Paris in 1908. His dissertation, *Sur les équations de Volterra*, was written under the direction of Émile Picard. In 1911, he published *Introduction to the Theory of Integral Equations*, the first book ever on the subject of integral equations.

He was a professor at the University of Bucharest, the Polytechnic University of Timişoara (where he was the first rector, in 1920), and the Polytechnic University of Bucharest.

The Lalescu sequence

$$L_n = \sqrt[n+1]{(n+1)!} - \sqrt[n]{n!}$$

$$\lim_{n\to\infty} L_n = \frac{1}{e}$$

Legacy

There are several institutions bearing his name, including Colegiul Naţional de Informatică *Traian Lalescu* in Hunedoara and Liceul Teoretic *Traian Lalescu* in Reşiţa. There is also a Traian Lalescu Street in Timişoara. The National Mathematics Contest *Traian Lalescu* for undergraduate students is also named after him.

A statue of Lalescu, executed in 1930 by Cornel Medrea, is situated in front of the Faculty of Mechanical Engineering, in Timişoara.

Bust of Traian Lalescu, in Timişoara.

Work

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External links

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- "Representative Figures of the Romanian Science and Technology" [4]
- **(Romanian)** "Traian Lalescu" [5], from Colegiul Naţional de Informatică *Traian Lalescu*, Hunedoara
- **(Romanian)** "Cine a fost Traian Lalescu?" [6], from Liceul Teoretic *Traian Lalescu*, Reşiţa
- **(Romanian)** "Monumentul lui Traian Lalescu (1930)" [7], at infotim.ro
- A Class of Applications of AM-GM Inequality (From a 2004 Putnam Competition Problem to Lalescu's Sequence) [8] by Wladimir G. Boskoff and Bogdan Suceava, Australian Math. Society Gazette, 33 (2006), No.1, 51-56.

Octav Onicescu

Octav Onicescu (August 20, 1892 – August 19, 1983) was a Romanian mathematician, member of the Romanian Academy, and founder of the Romanian school of probability theory and statistics.

Octav Onicescu stamp from Romania

Biography

He was born in Botoşani, the son of Vlad Onicescu, from Ştefăneşti, Botoşani, and Ana, from Oniceni, Neamţ County. He graduated from the Botoşani August Treboniu Laurian Lyceum in 1911 with a perfect score of 10. That same year, he entered the University of Bucharest, from where he graduated with degrees in Mathematics and Philosophy in 1913. From 1914 to 1916 he was a mathematics teacher at the military gymnasium of Dealu Monastery, near Târgovişte. From 1916 to 1918 he fought in World War I.

In 1919, Onicescu went to study geometry at the University of Rome, under the guidance of Tullio Levi-Civita. He earned his Ph.D. in June, 1920 for a thesis titled *Sopra gli spazi einsteinieni a gruppi continui di transformazione* ("On Einstein manifolds and groups of continuous transformations"). The thesis, which dealt with problems in differential geometry related to Albert Einstein's theory of relativity, was defended in front of a jury of 11 mathematicians, including Levi-Civita, Vito Volterra, and Guido Castelnuovo.

In the Fall of 1920 he went to Paris, where he gave talks in Jacques Hadamard's seminar at the Collège de France. While in Paris, he organized a seminar with other Romanian mathematicians, including Petre Sergescu, Şerban Gheorghiu, Alexandru Pantazi, and Şerban Coculescu.

In 1922, he returned to Bucharest, where he embarked on a 40-year long university career. In 1924, he started teaching the first college-level probability theory course in Romania. From 1928 on, he was professor at the Faculty of Sciences of the University of Bucharest, and was appointed full professor in 1931. In 1930, he organized the School of Statistics and established an Institute of Calculus, serving as its director for many years. In 1936 he entered the Legionary Movement. The Romanian poet and mathematician Ion Barbu (Dan Barbilian) was a close friend of his.

He was elected corresponding member of the Romanian Academy in 1933, and became full member on February 4, 1965. He was in charge of the Probability Theory section of the Institute of Mathematics of the Romanian Academy.

He died in Bucharest on the eve of his 91st birthday, after a short illness.

Legacy

Onicescu was one of the founders of the Balkan Union of Mathematicians (in 1934) and of the International Centre for Mechanical Sciences in Udine (in 1968).

The "Octav Onicescu" museum, founded in Botoşani in October 1995, houses furniture and memorabilia that belonged to him, including manuscripts, letters, diplomas, books, photographs, and military decorations.

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External links

- Octav Onicescu [3] at the Mathematics Genealogy Project

Institute de Cercetare

Academia Română

Romanian Academy seal

The **Romanian Academy** (Romanian: *Academia Română*) is a cultural forum founded in Romania in 1866. It covers the scientific, artistic and literary domains. The academy has 181 acting members who are elected for life.

According to its bylaws, the academy's main goals are the cultivation of Romanian language and Romanian literature, the study of the national history of Romania and research into major scientific domains. Some of the academy's fundamental projects are the Romanian language dictionary (*Dicţionarul explicativ al limbii române*), the dictionary of Romanian literature, and the treatise on the history of the Romanian people.

History

On the initiative of C.A. Rosetti, the Academy was founded on April 1, 1866, as *Societatea Literară Română*. The founding members were Vasile Alecsandri, Vincenţiu Babeş, George Bariţ, Ioan D. Caragiani, Timotei Cipariu, Dimitrie Cozacovici, Ambrosiu Dimitrovici, Ştefan Gonata, Alexandru Hâjdeu, Ion Heliade Rădulescu (the first President), Iosif Hodoşiu, Alexandru Hurmuzaki, Nicolae Ionescu, August Treboniu Laurian, Titu Maiorescu, I. C. Massim, Andrei Mocioni, Gavriil Munteanu, Costache Negruzzi, Alexandru Roman, C. A. Rosetti, Ion G. Sbiera, Constantin Stamati, Ioan Străjescu, and Vasile Urechea-Alexandrescu. The name changed to *Societatea Academică Romînă* in 1867, and finally to *Academia Română* in 1879, during the reign of Prince, and (from 1881) King Carol I of independent Romania.

External links

- Official website in English [1]
- Article about Romanian Academy [2]

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[1] http://www.academiaromana.ro/def2002eng.htm
[2] http://enciclopediaromaniei.ro/wiki/Academia_R.P.R.

CNRS

The **National Center of Scientific Research** (**Centre national de la recherche scientifique** or **CNRS**)[1] is the largest governmental research organization in France[2] and the largest fundamental science agency in Europe.[3]

French science
Higher education
EPCSP University-grade institutes
Universities
Autonomous institutes
Écoles normales supérieures
Grands établissements
Grandes écoles
EPST (public research labs)
Cemagref (agriculture)
CNRS (fundamental sciences)
INED (demography)
INRA (agronomy)
INRETS (transports)
INRIA (IT and automatic)
INSERM (medicine)
IRD (development)
LCPC (civil engineering)
EPIC (public industry)
CEA (nuclear industry)
Ifremer (maritime applications)
ONERA (aerospace)

It involves 26,000 permanent employees (researchers, engineers, and administrative staff) and 6,000 temporary workers.

Organisation

CNRS logo

The CNRS has six divisions, or in French, *départements scientifiques.* The core divisions are:

- Mathematics, physics, planetary sciences ("MPPU").
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Currently CNRS researchers are active in 1,256 research groups, 85 percent of which are jointly run and also include non-CNRS researchers. The prevalence of such "mixed" research groups is an unusual characteristic of the French system. This mixing may hinder those outside the French higher education system from properly attributing works, since each laboratory may have many different names (UMR code, full name, acronym, CNRS address, university address, department inside university address).

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Employment

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- Research associates (*chargés de recherche*) (2nd class, 1st class).
- Research directors (*directeurs de recherche*) (2nd class, 1st class, exceptional class).

Theoretically, research directors may head research groups, but this is not a general rule.

All permanent employees (research engineers, technical and administrative personnel) are recruited through annual nationwide competitive campaigns. The candidates selected have the status of civil servants and are part of the *fonction publique.*

International relations

CNRS is represented through administrative centers in Brussels, Beijing, Tokyo, Hanoi, Washington, D.C., Bonn, Moscow, Tunis, Johannesburg, and Santiago de Chile.

History

The centre was created on 19 October 1939 by decree of President Albert Lebrun. Since 1954, the centre has annually awarded gold, silver, and bronze medals to French scientists and junior researchers. In 1966, the organisation underwent structural changes, which resulted in the creation of two specialised institutes: the National Astronomy and Geophysics Institute in 1967, which became the National Institute of Sciences of the Universe (INSU) in 1985, and the National Institute of Nuclear and Particle Physics (IN2P3) in 1971.

The performance of CNRS has been brought into question, with calls for wide-ranging reforms. In particular, the effectiveness of the recruitment, compensation, career management, and evaluation procedures were under scrutiny. Governmental projects include the transformation of CNRS into an organ allocating support to research projects on an ad hoc basis, and the reallocation of the CNRS researchers to the universities. Another controversial plan advanced by the government involves breaking up CNRS into six separate institutes.[4] [5]

Leadership

Catherine Bréchignac was named president on 11 January 2006. She had been director general from 1997 to 2000.

Arnold Migus was named director general on 18 January 2006 after the dismissal of reformist Bernard Larrouturou.

Past presidents

- René Pellat: 1989–1992
- Edouard Brezin: 1992–2000
- Gérard Mégie: 2000–2004
- Bernard Meunier: 2004–2006

Past directors general

- Jean Coulomb: 1957–1962
- Hubert Curien: 1969-1973
- Robert Chabbal: 1976-1980
- Pierre Papon: 1982-1986
- François Kourilsky: 1988–1994
- Guy Aubert: 1994–1997
- Catherine Bréchignac: 1997–2000
- Geneviève Berger: 2000–2003
- Bernard Larrouturou: 2003–2006

CNRS laboratories

- Centre d'Etude Spatiale des Rayonnements (CESR)
- Centre Européen de Calcul Atomique et Moléculaire (CECAM)
- Centre de Recherche et de Documentation sur l'Océanie (CREDO)
- Institut de l'information scientifique et technique (INIST)
- Institut de Recherche en Informatique et Systèmes Aléatoires (IRISA)
- Institut d'astrophysique de Paris (IAP)
- Institut de Biologie Moléculaire et Cellulaire (IBMC)
- Institut Jean Nicod (IJN)
- Laboratoire Parole et Langage (LPL)
- Laboratoire de Photonique et de Nanostructure (LPN[6])
- Laboratoire de Phonétique et Phonologie (LPP)
- Laboratoire d'Informatique, de Robotique et de Microélectronique de Montpellier (LIRMM)[7]
- Laboratoire d'Analyse et d'Architecture des Systèmes (LAAS[8])
- Laboratoire d'Informatique de Paris 6 (LIP6)
- Laboratoire d'Informatique pour la Mecanique et les Sciences de l'Ingenieur (LIMSI)
- Soleil
- Institut d'Histoire du Temps Présent (IHTP)
- Institut Méditerranéen d'Ecologie et de Paléoécologie (IMEP)

See also

- CNRS Gold medal

External links

- Official website [9]
- Review for the history of CNRS [10]
- CNRS Editions [11]

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[5] Ned Stafford, Chemists give cautious welcome for French science reforms. (http://www.rsc.org/chemistryworld/News/2008/June/05060801.asp) Chemistry World. June 5, 2008

[6] http://www.lpn.cnrs.fr

[7] http://www.lirmm.fr

[8] http://www.laas.fr

[9] http://www.cnrs.fr/

[10] http://histoire-cnrs.revues.org/

[11] http://www.cnrseditions.fr

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[1] http://www.imar.ro/
[2] http://www.acad.ro/academia2002/acadrom/pag05_06.htm

European CNRS Franco-Romanian Associated Laboratories

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[2] http://www.cnrs.fr/fr/organisme/presentation.htm LEA Agreement Details are found at https://dri-dae.cnrs-dir.fr/spip.php?article1310

Scientific Institutes

Institute of Physics

The **Institute of Physics** (IOP) is a scientific charity devoted to increasing the practice, understanding and application of physics,[1] and is the UK and Ireland's main professional body for physicists. It was founded as the Physical Society in 1874[2] and it now has over 36,000 members worldwide.[1]

The Institute of Physics building in Portland Place

It grants the professional qualifications of Chartered Physicist (CPhys) as well as Chartered Scientist (CSci) as a member organisation of the Science Council and Chartered Engineer (CEng) as a nominated body of the Engineering Council.

The IOP is prominent in its work in policy and advocacy, lobbying for stronger support for physics in education, research and industry [3] in the UK. As a part of its mission, the IOP works to engage the public with physics and runs Physics.org [4], an online guide to physics. The IOP publishes Physics World with its accompanying website physicsworld.com [5] which has physics news, jobs, and resources and a blog [6]

In addition to this, the IOP provides services to its members including careers advice and professional development, along with an online members' network MyIOP [7].

Through a wholly owned subsidiary, IOP Publishing, the IOP is a leading publisher of science books and international journals, with over 40 titles. IOP Publishing has won the Queen's Award for Export Achievement three times, in 1990, 1995 and 2000. It also publishes the magazine, *Optics & Laser Europe* [8] A second subsidiary, Institute of Physics Events, runs a conference venue at 76 Portland Place, London.

History

The present day Institute of Physics was formed in 1960 from the merger of the Physical Society of London, founded in 1874, and the Institute of Physics, founded in 1920.[2] The Physical Society was founded to provide a forum for the promotion and discussion of physical research. From its beginning, the society held open meetings and demonstrations and published its proceedings. The membership was broadly based, including eminent academics, schoolteachers and amateur scientists.[2] In the early part of the 20th century, the profession of 'physicist' emerged, partly as a result of the increased demand for scientists during World War I. In 1917, the Council of the Physical Society started to explore with the Faraday Society, the Optical Society and the Roentgen Society ways of improving the professional status of physicists. [2] This culminated in the creation of the Institute of Physics under special licence from the Board of Trade in 1920. As with the Physical Society, dissemination was fundamental to the Institute, which began publication of the 'Journal of Scientific Instruments' in 1922. [2] The annual 'Reports on Progress in Physics' began in 1934 and is still published today. In 1952, in line with its role in creating and promoting the profession of physicist, the Institute began the 'Graduateship' course and examination, which ran until 1984 when the expansion of access to universities removed demand.[2] In 1960, the Physical Society and the Institute of Physics merged to create 'The Institute of Physics and the Physical Society' as a single organisation combining the

learned society tradition of the Physical Society and the professional body tradition of the Institute of Physics[9] . The grant of a Royal Charter in 1970 was the opportunity to shorten the name to 'The Institute of Physics'[10] .

Membership

There are three grades of membership: Associated Member (AMInstP), Member (MInstP) and Fellow (FInstP). Qualification for AMInstP is normally by completion of an undergraduate degree accredited by the Institute – this covers almost all UK physics degrees[11] . An AMInstP can become an MInstP by gaining professional experience as a physicist and an FInstP by making "an outstanding contribution to the profession". MInstP and FInstP are the two corporate grades of membership, granting the right to vote in Institute elections. There are also student and affiliate grades of membership for those currently studying physics degrees and those who do not have accredited degrees (or equivalent experience)[12] .

Chartered Physicist

The Institute grants the professional title of Chartered Physicist (CPhys). Until 1998 this was granted automatically with MInstP, however since then it has become a separate qualification that is equal in stature to Chartered Engineer. In order to gain the qualification, a physicist must be appropriately qualified (an MSci or MPhys undergraduate master's degree is standard, although experience leading to an equivalent level can be counted), have had a minimum of two years of structured training and a minimum of two years responsible work experience, have demonstrated a commitment to continuing professional development, and have gained a number of competencies.

National and regional branches

The IOP operates 13 national and regional United Kingdom and the Republic of Ireland. The subsidiary IOP Publishing has offices in the USA, China, Japan and Russia.

Academic dress

The Institute grants academic dress to the various grades of membership. Those who have passed the Institute's graduateeship examination are entitled to a violet damask Oxford burgon-shaped hood (a cowl only, with no cape) lined with red taffeta. Corporate members (MInstP and FInstP) may wear a full-shaped (cowl and cape) violet damask hood lined with violet taffeta. Additionally MInstP and those who have passed the graduateeship examination are entitled to wear a black mortarboard and a black bachelor's-style gown, while FInstP may wear a black doctor's bonnet with red tassels and a black Oxford doctor's-style gown with facings (10cm) and sleeves (15cm) of violet taffeta.

Qualifications

The IOP accredits undergraduate degrees (BSc/BA and MSci/MPhys) in Physics in British and Irish universities[11] . At post-16 level, the IOP has developed the 'Advancing Physics' A-level course, in conjunction with the OCR examining board, which is accredited by the Qualifications and Curriculum Authority. The IOP also developed the Integrated Sciences degree, which is run at four universities in England [13] .

Awards

The Institute of Physics bestows several awards to recognise and reward outstanding achievements in physics, in research, teaching, outreach work and industry. The awards are presented at a high-profile ceremony held annually in central London. The awards include[14] :

- Boys Medal and Prize, for distinguished research in experimental physics, which recognises physicists early in their careers.
- Bragg Medal and Prize, for significant contributions to physics education.
- Chree Medal and Prize, for distinguished research in environmental physics, terrestrial magnetism, atmospheric electricity and related subjects.
- Duddell Medal and Prize, for outstanding contributions to the advancement of knowledge through the application of physics.
- Dirac Medal and Prize, for outstanding contributions to theoretical physics.
- Guthrie Medal and Prize, for an internationally outstanding body of work in physics.
- Glazebrook Medal and Prize, for outstanding contributions to physics organizations or the application of physics.
- Kelvin Medal and Prize, for contributions to the public understanding of science.
- Maxwell Medal and Prize, in recognition of outstanding contributions to theoretical physics in the past ten years.
- Mott Medal and Prize, for distinguished research in condensed matter physics or material physics.
- Paterson Medal and Prize, for outstanding contributions by a physicist early in their career to the application of physics and its commercial exploitation.
- Rutherford Medal and Prize, for nuclear physics, nuclear technology or elementary particle physics.
- Young Medal and Prize, for distinguished research in the field of optics, including physics outside the visible region.

IOP Publishing

IOP Publishing is a wholly owned subsidiary of the IOP with offices in Bristol, Philadelphia, Tokyo, Beijing and Washington DC. It publishes a large number of journals, websites and magazines, including:

- Journal of Physics A
- Journal of Physics B
- Journal of Physics Condensed Matter
- Reports on progress in Physics
- New Journal of Physics, an Open Access journal

PhysicsWorld

Physics World is the membership magazine of the Institute of Physics. It was launched in 1988 by IOP Publishing Ltd and has established itself as one of the world's leading physics magazines. It, and its associated website, *PhysicsWorld.com* (formerly *PhysicsWeb.org*), provides news and information relating to the study and application of physics. The most significant content of the magazine is news, employment, and upcoming-events-related information. Several of these services were originally part of a web site called The Internet Pilot to Physics or TIPTOP.

Other

- optics.org [15] - A website produced by the IOP containing lasers, optics and photonics resources and news.
- medicalphysicsweb.org [16] - A website for the medical physics community.
- eprintweb.org [17] - An e-print front end to the arXiv.org service.
- compoundsemiconductor.net [18] - Contains news, articles from Compound Semiconductors and a Buyer's Guide. A resource for the compound semiconductor community.
- nanotechweb.org [19] - Provides news, resources and events listings for nanotechnology community.
- cerncourier.com [20] - Computer Newsletter section, Buyer's Guide and the Jobs Watch directory.
- fibers.org [21] - news, analysis, buyers guide and recruitment service for optical networking community.

- environmentalresearchweb.org [22] - A source of information on issues from global warming to waste management and renewable energy sources.

External links

- iop.org [23] - The Institute of Physics
- physicsworld.com [24] - Physicsworld.com
- physics.org [25] - An online guide to physics produced by the IOP.

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[13] Integrated Sciences (http://www.integratedsciences.org.uk/)
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[15] http://optics.org/
[16] http://medicalphysicsweb.org/
[17] http://eprintweb.org/
[18] http://compoundsemiconductor.net/
[19] http://nanotechweb.org/
[20] http://cerncourier.com/
[21] http://fibers.org/
[22] http://environmentalresearchweb.org/
[23] http://www.iop.org
[24] http://www.physicsworld.com
[25] http://www.physics.org

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CNRS is represented through administrative centers in Brussels, Beijing, Tokyo, Hanoi, Washington, D.C., Bonn, Moscow, Tunis, Johannesburg, and Santiago de Chile.

History

The centre was created on 19 October 1939 by decree of President Albert Lebrun. Since 1954, the centre has annually awarded gold, silver, and bronze medals to French scientists and junior researchers. In 1966, the organisation underwent structural changes, which resulted in the creation of two specialised institutes: the National Astronomy and Geophysics Institute in 1967, which became the National Institute of Sciences of the Universe (INSU) in 1985, and the National Institute of Nuclear and Particle Physics (IN2P3) in 1971.

The performance of CNRS has been brought into question, with calls for wide-ranging reforms. In particular, the effectiveness of the recruitment, compensation, career management, and evaluation procedures were under scrutiny. Governmental projects include the transformation of CNRS into an organ allocating support to research projects on an ad hoc basis, and the reallocation of the CNRS researchers to the universities. Another controversial plan advanced by the government involves breaking up CNRS into six separate institutes.[4] [5]

Leadership

Catherine Bréchignac was named president on 11 January 2006. She had been director general from 1997 to 2000.

Arnold Migus was named director general on 18 January 2006 after the dismissal of reformist Bernard Larrouturou.

Past presidents

- René Pellat: 1989–1992
- Edouard Brezin: 1992–2000
- Gérard Mégie: 2000–2004
- Bernard Meunier: 2004–2006

Past directors general

- Jean Coulomb: 1957–1962
- Hubert Curien: 1969-1973
- Robert Chabbal: 1976-1980
- Pierre Papon: 1982-1986
- François Kourilsky: 1988–1994
- Guy Aubert: 1994–1997
- Catherine Bréchignac: 1997–2000
- Geneviève Berger: 2000–2003
- Bernard Larrouturou: 2003–2006

CNRS laboratories

- Centre d'Etude Spatiale des Rayonnements (CESR)
- Centre Européen de Calcul Atomique et Moléculaire (CECAM)
- Centre de Recherche et de Documentation sur l'Océanie (CREDO)
- Institut de l'information scientifique et technique (INIST)
- Institut de Recherche en Informatique et Systèmes Aléatoires (IRISA)
- Institut d'astrophysique de Paris (IAP)
- Institut de Biologie Moléculaire et Cellulaire (IBMC)
- Institut Jean Nicod (IJN)
- Laboratoire Parole et Langage (LPL)
- Laboratoire de Photonique et de Nanostructure (LPN[6])
- Laboratoire de Phonétique et Phonologie (LPP)
- Laboratoire d'Informatique, de Robotique et de Microélectronique de Montpellier (LIRMM)[7]
- Laboratoire d'Analyse et d'Architecture des Systèmes (LAAS[8])
- Laboratoire d'Informatique de Paris 6 (LIP6)
- Laboratoire d'Informatique pour la Mecanique et les Sciences de l'Ingenieur (LIMSI)
- Soleil
- Institut d'Histoire du Temps Présent (IHTP)
- Institut Méditerranéen d'Ecologie et de Paléoécologie (IMEP)

See also

- CNRS Gold medal

External links

- Official website [9]
- Review for the history of CNRS [10]
- CNRS Editions [11]

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[4] Scientists Protest In France. Researchers have objected to proposed restructuring of CNRS (http://pubs.acs.org/cen/news/86/i22/8622notw3.html), Chemical and Engineering News, June 2, 2008, Volume 86, Number 22, p. 13

[5] Ned Stafford, Chemists give cautious welcome for French science reforms. (http://www.rsc.org/chemistryworld/News/2008/June/05060801.asp) Chemistry World. June 5, 2008

Institute of Mathematics

Institute of Mathematics or **Mathematical Institute** may refer to one of the following.

America

- The American Institute of Mathematics
- The American Institute of Mathematical Sciences
- The Clay Mathematics Institute, Cambridge, Massachusetts
- The Centre de Recherches Mathématiques at the Université de Montréal
- The Center for Mathematical Modeling (CMM) at the University of Chile
- The Centro de Investigación en Matemáticas at Guanajuato, Guanajuato in Mexico
- The Courant Institute of Mathematical Sciences at New York University
- The Fields Institute at the University of Toronto
- The Institute for Advanced Study in Princeton, New Jersey
- Institute for Mathematics and its Applications at the University of Minnesota
- The Institute for Pure and Applied Mathematics at the University of California, Los Angeles
- Instituto Nacional de Matemática Pura e Aplicada at Rio de Janeiro
- The Mathematical Sciences Research Institute at the University of California, Berkeley
- PPGMAp at the Universidade Federal do Rio Grande do Sul in Brazil

Europe

- The Brunel Institute of Computational Mathematics in Uxbridge, UK
- The Central Economic Mathematical Institute at the Russian Academy of Sciences
- The Centre de Recerca Matemàtica at the Autonomous University of Barcelona
- Centrum Wiskunde & Informatica at Science Park Amsterdam
- CoMPLEX at University College London
- Fachinformationszentrum Karlsruhe, Germany
- The Hamilton Mathematics Institute at Trinity College, Dublin
- The Hausdorff Center for Mathematics in Bonn
- Institut de Mathématiques de Toulouse in France
- The Institute for Experimental Mathematics at the University of Duisburg-Essen in Germany
- Institute of Mathematics (National Academy of Sciences of Belarus)
- Institute of Mathematics and its Applications, a UK society
- The The Institute of Mathematics and Computer Science, University of Latvia
- The Institute of Mathematics and Informatics (Bulgarian Academy of Sciences)
- Institute of Mathematics of National Academy of Sciences of Armenia
- The Institute of Mathematics of the Romanian Academy at Bucharest
- The Institute of Mathematics, Physics, and Mechanics in Slovenia
- The Institut des Hautes Études Scientifiques near Paris
- The Institut Henri Poincaré in Paris
- The International Centre for Mathematical Sciences at Edinburgh
- The Isaac Newton Institute at the University of Cambridge
- The János Bolyai Mathematical Institute at the University of Szeged in Hungary
- The Keldysh Institute of Applied Mathematics at the Russian Academy of Sciences
- The Mathematical Institute, University of Oxford
- Mathematical Research Institute of Oberwolfach in Oberwolfach, Germany

- The Max Planck Institute for Mathematics at Bonn
- The Max Planck Institute for Mathematics in the Sciences at Leipzig
- The Mittag-Leffler Institute at Stockholm
- The Moscow State Institute of Electronics and Mathematics
- Steklov Institute of Mathematics, Moscow, Russia
- The University of Copenhagen Institute for Mathematical Sciences

Asia

- The Chennai Mathematical Institute in India
- The CR Rao Advanced Institute of Mathematics, Statistics and Computer Science at the University of Hyderabad in India
- The Harish-Chandra Research Institute at Allahabad in India
- The Institute of Applied Physics and Computational Mathematics at Beijing
- The Institute of Mathematical Sciences at Chennai in India
- The Institute for Studies in Theoretical Physics and Mathematics at Tehran
- Korea Institute for Advanced Study
- The Research Institute for Mathematical Sciences at Kyoto University, Japan
- The TIFR Centre in India

Australia

- Australian Mathematical Sciences Institute at the University of Melbourne

Africa

- The African Institute for Mathematical Sciences at Muizenberg in South Africa

and for a statistical element:

- Institute of Mathematical Statistics in the USA
- Institute of Statistical Mathematics in Japan

Romanian Academy

Romanian Academy seal

The **Romanian Academy** (Romanian: *Academia Română*) is a cultural forum founded in Romania in 1866. It covers the scientific, artistic and literary domains. The academy has 181 acting members who are elected for life.

According to its bylaws, the academy's main goals are the cultivation of Romanian language and Romanian literature, the study of the national history of Romania and research into major scientific domains. Some of the academy's fundamental projects are the Romanian language dictionary (*Dicţionarul explicativ al limbii române*), the dictionary of Romanian literature, and the treatise on the history of the Romanian people.

History

On the initiative of C.A. Rosetti, the Academy was founded on April 1, 1866, as *Societatea Literară Română*. The founding members were Vasile Alecsandri, Vincenţiu Babeş, George Bariţ, Ioan D. Caragiani, Timotei Cipariu, Dimitrie Cozacovici, Ambrosiu Dimitrovici, Ştefan Gonata, Alexandru Hâjdeu, Ion Heliade Rădulescu (the first President), Iosif Hodoşiu, Alexandru Hurmuzaki, Nicolae Ionescu, August Treboniu Laurian, Titu Maiorescu, I. C. Massim, Andrei Mocioni, Gavriil Munteanu, Costache Negruzzi, Alexandru Roman, C. A. Rosetti, Ion G. Sbiera, Constantin Stamati, Ioan Străjescu, and Vasile Urechea-Alexandrescu. The name changed to *Societatea Academică Romînă* in 1867, and finally to *Academia Română* in 1879, during the reign of Prince, and (from 1881) King Carol I of independent Romania.

External links

- Official website in English [1]
- Article about Romanian Academy [2]

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