



CURRICULUM VITAE

Gabriela Georgeta Marinoschi

Corresponding member of the Romanian Academy, June 2017

Actual position :

- Senior researcher I, Director, Gheorghe Mihoc-Caius Iacob Institute of Mathematical Statistics and Applied Mathematics of the Romanian Academy (ISMMA)

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Education :

- University of Bucharest, diploma in Mathematics, 1979
- University of Bucharest, certificate of specialization in Fluid Mechanics, 1980
- University of Bucharest, Ph. D. in Mathematics, 1989
- Thesis: Contribution to the study of wave propagation in fluids, coordinator: acad. Lazăr Dragoş

Background profile / Field of specialization :

- Mathematics / Nonlinear PDEs, optimal control, fluid dynamics

Fields of current interests and keywords:

- Nonlinear partial differential equations
- Parabolic equations
- Free boundary problems
- Semigroup and variational methods
- Optimal control, stabilization and inverse problems
- In particular, with applications in:
 - porous media (groundwater flows)
 - biological flows (population dynamics, chemotaxis, biology, medicine)
 - phase transitions
 - fluid dynamics

Publications :

- 4 books (see List of publications A)
- 11 invited chapters in peer-reviewed collective volumes (see List of publications B)
- co-editor of 9 volumes (see List of publications C)
- more than 100 papers published in peer reviewed journals (see List of publications D)
- over 70 papers presented at national and international scientific meetings
- about 30 technical reports and computer soft for operational hydrological events (1980-1990)

Language proficiency :

- English, Italian, French: very well
- German: fair

Professional positions held:

- Mathematician, Institute of Meteorology and Hydrology, Bucharest, 1980-1985
- Scientific researcher, Institute of Meteorology and Hydrology, Bucharest, 1985-1990
- Senior researcher II, Institute of Meteorology and Hydrology, Bucharest, 1990
- Scientific secretary, Romanian Academy, Section of Mathematical Sciences, December 1990 – September 2017 (part time)
- Senior researcher II (May 1991-February 1998), Institute of Applied Mathematics of the Romanian Academy
- Senior researcher I (February 1998-December 2001), Institute of Applied Mathematics of the Romanian Academy
- Senior researcher I (December 2001-present), Gheorghe Mihoc-Caius Iacob Institute of Statistical Mathematics and Applied Mathematics of the Romanian Academy (ISMMA) (former Institute of Applied Mathematics between 1991-2001)

Positions abroad :

- NATO research fellowship: University of Athens, Greece April-June 1994
- Researcher, Forschungszentrum Jülich, Germany, September-October 1994
- Visiting professor, Center of Optimal Control, and Discrete Mathematics, Central China Normal University, November-December 2003, May-June 2004
- Visiting professor CIRM-Fondazione Bruno-Kessler Italy, November 2008, November 2012

Visiting appointments abroad :**Visiting researcher:**

- Forschungszentrum Jülich, Germany: July 1995, May 1997, November 1999, November 2000, October 2001
- Center of Atmosphere Physics and Climatology of the Academy of Athens, Greece: July 1996, August 1998, August 1999, September 2000
- Technical University of Athens: March 2000
- University of Trento, Department of Mathematics: April 2003, October 2003, April 2004, October 2004, April 2005, November 2005, March-April 2006, March 2007, October 2007,

May 2008; October 2009, November 2011, November 2013, October 2014, October 2015,
September 2016

- Institute for Analysis of Systems and Informatics, CNR, Rome, May 2014
- University of Pavia; May 2014, December 2014, March 2015, November 2015, April 2016

Visiting professor:

- University of Bologna: July 2005, September 2006, April 2008, April 2009, June 2009, October 2009, April-May 2010, November 2010, May 2011, November 2011, October 2012, May, October 2013, September 2014, September 2016
- University of Bari: May-June 2013, May 2015

Teaching experience :

- Assistant professor, University of Bucharest, Faculty of Mathematics, 1981-1984
- Assistant professor, University Politehnica of Bucharest, 1983-1984
- Professor, Central China Normal University: November-December 2003, May-June 2004
- Ph.D. advisor, since 2004, (O.M. no. 4629/7.09.2004) with ISMMA, between 2003-2013 and with the Simion Stoilow Institute of Mathematics, between 2013-present

Theses coordinated:

- Cornelia Ciutoreanu, Numerical methods for nonlinear diffusion equations, ISMMA, June 2010
- Roxana Sgarcea, Models of reaction-diffusion with chemotaxis, ISMMA, June 2012
- Felician Preda, Topological and Monotonicity Methods in the Study of Nonlinear Partial Differential Equations, ISMMA, October 2012
- Sergiu Lupu, Contributions to the study of orbit errors of GPS satellites due to non-gravitational perturbations, Simion Stoilow Institute of Mathematics, August 2014
- Ioana Boacă, Variational methods for diffusion-reaction problems and applications, Simion Stoilow Institute of Mathematics, January 2017

Jury member:

- Member of jury in about 20 Ph.D. thesis and habilitation thesis in Romania
- Jury member (Examinateur): Ph.D. thesis Diffusion and Age in Population Dynamics, by Caterina Cusulin, University of Trento 2006
- Jury member: Ph.D. thesis Stefano Melchionna, University of Vienna, 2018
- Jury member: Ph.D. thesis Michele Colturato, University of Pavia, 2018

Director of Project:

➤ International projects

- **EC contract No. EV5VCT 920214**, *Critical parameters governing the mobility and fate of pesticides in the soil/aquifer system*, with Forschungszentrum Jülich, **1994-1996**
- **Bilateral cooperation** *Analytical and numerical modelling of complex pollutant transport phenomena in surface waters*, with the Technical University of Athens, **1998-2000**
- **Bilateral agreement** between Romanian Academy and CNR, Italy, *Nonlinear partial differential equations (PDE) with applications in modeling cell growth, chemotaxis and phase transition*, **2014-2016**
- **Project LEA** ([Laboratoire Européen Associé Franco-Roumain](#)) between CNRS-France and Simion Stoilow Institute of Mathematics: *Analyse mathématique et control d'un modèle de sélection- mutation et division pour la modélisation de la leucémie chronique du ganglion*, with dr. Vuk Milisic, University Paris 13, **2014-2015**
- **Bilateral agreement** between Romanian Academy and CNR, Italy, *Control and stabilization problems for phase field and biological systems*, **2017-2019**
- **Bilateral agreement** between Romanian Academy and CNR, Italy, *Analysis and optimization of mathematical models ranging from bio-medicine to engineering*, **2020-2022**

➤ National projects

- **RD- project of excellency**, Contract CEEEX-05-D11-25 / 2005-2007 (director of project)
- **RD- project of excellency**, Contract CEEEX-05-D11-36 / 2005-2008 (partner-responsible of project)
- **RD- project of excellency**, Contract 2-CEX-06-D11-97/ 2006-2008 (partner-responsible of project)
- **Advanced IDEAS Project**, PN-IDEI ID_70, 2008-2011 (director of project)

➤ About 10 Grants financed by

- Romanian Academy: 1996, 1997, 2003-2004, 2005-2006
- Ministry of Research : 1998, 1998-1999, 1999-2001, 2001-2002
- Ministry of Education and Research (CNCSIS): 2002, 2004 – 2005

➤ **Research contracts :**

- Annual several contracts concerning research and operative hydrological prognosis within the Institute of Meteorology and Hydrology, between 1981-1990
- Several contracts within IMA with the Institute of Meteorology and Hydrology, 1992-1994

Participant in other projects :

➤ **International projects :**

- **MIUR-PRIN Italy**, “Teoria Matematica delle Popolazioni: metodi, modelli, confronto con i dati”, led by Prof. M. Iannelli, 2007-2010
- **MIUR-PRIN Italy**, PRIN 2009 - 2009RNH97Z_001, “Interacting structures in population dynamics”, led by Prof. M. Iannelli, 2011-2013
- Member of the management committee of **COST MP0701**, Composites with novel functional and structural properties by nanoscale materials (NANO COMPOSITE MATERIALS - NCM), 2008-2012

➤ **National projects :**

- Advanced IDEAS Project, PN-IDEI ID_404, 2007-2010
- Complex Advanced IDEAS Project, PCCE-55, Differential systems and applications, led by University of Craiova, 2008-2012
- PN-II-ID-PCE-2011-3-0027, Analysis and Control of Deterministic and Stochastic Diffusion Equations, 2011-2016, led by Romanian Academy, Iasi Branch, Inst. Mathematics Octav Mayer, Iasi
- PN-II-ID-PCE-2011-3-0045, Mathematical modeling of ductile rupture, 2011-2016, led by Inst. Mathematics S. Stoilow
- PN-III-P4-ID-PCE- 2016-0011, Analysis and control of Schrodinger stochastic equations and of some nonlinear diffusion models, 2017-2019, led by Romanian Academy, Iasi branch
- PN-III-P4-ID-PCE- 2016-0372, Stochastic analysis and nonlinear equations for fragmentation processes, 2017-2019, led by Inst. Mathematics S. Stoilow

Participation in international meetings as invited or plenary speaker

- 7-ème Colloque Franco-Roumain de Mathématiques Appliquées, Craiova, Romania, August 30- September 3, 2004
- 8th International Symposium on Automatic Control and Computer Science, Iasi, Romania, October 22 - 23, 2004
- International Conference Inverse Problems, June 19-24, 2005, Cortona, Italia
- International workshop “Functional methods in biomathematics”, August 10-16, 2005 Galanesti, Romania
- Conférence Francophone sur la Modélisation Mathématique en Biologie et en Médecine, Craiova, July 12-14, 2006 (**plenary conference**)
- 8-ième Colloque Franco-Roumain de Mathématiques Appliquées, Chambéry, August 28 – September 1, 2006
- International Conference on Applied Analysis and Differential Equations, ICAADE, Iasi September 4-9, 2006 (**plenary conference**)
- Conference Matematica Oggi per l’Uomo e l’Ambiente, Montecatini March 26-29, 2007
- Evolution Equations: Direct and Inverse Problems, University of Bologna, September 18-20
- Direct, Inverse and Control Problems, University of Rome, La Sapienza, June 23-28
- 6th Congress of Romanian Mathematicians, Bucharest, June 28-July 4, 2007 (**plenary conference on sections**)
- Conference Mathematical Models for Complex Systems, Cortona, September 25-29, 2007
- 9-ième Colloque Franco-Roumain de Mathématiques Appliquées, Brasov, August 27 – September 2, 2008
- Exploratory Workshop "Differential Equations and Applications in Life Sciences", Iasi, September 3-7, 2008
- Direct, Inverse and Control Problems, Cortona, September 22-26 2008.
- Recent challenges in medical mathematics and cancerology : modeling and mathematical analysis", February 23-27, 2009, CIRM, Marseille, France
- The 5th International Conference "Dynamical Systems and Applications", Constanta, Romania, June 15-18, 2009 (**plenary conference**)
- EEMMAS Conference, Taranto, Italy, June 29- July 3, 2009
- "A. Myller" Mathematical Seminar Centennial Conference, June 21-26, 2010, Iasi

- 10-ème Colloque Franco-Roumain, august 26-31 2010, Poitiers, France (**plenary conference**)
- "Diaspora în cercetarea stiintifica si învatamântul superior din România" Bucuresti, September 21-24 2010 (**plenary conference**)
- 8th Workshop on Mathematical Modelling of Environmental and Life Problems, Constanta, October 21-24, 2010
- 33th Caius Iacob Conference on Fluid Mechanics, Bucharest, Sept. 29-30, 2011
- Conference MIMMO-BIO, December 19-21 2011, Trento, Italy
- Conference MathProSpeM2012, April 16-21, 2012, Roma, Italy
- Workshop "Evolution Problems and Applications", July 13, 2012, Bari, Italy
- Conference PDEs, Inverse Problems and Control Theory, July 16-20, 2012, Bologna, Italy
- Conference ADMAT 2012, Cortona, September 17-21, 2012
- Conference PDEs and Stochastic Processes, The 5th Workshop Series on Mathematics, October 12-14, 2012, Pitești, Romania
- Conference Diff. Eq., Inverse Problems and Control Theory, Cortona, Italia, 16-22.06.2013
- AMS Conference, Nonlinear Evolution Equations, June 26-30, 2013, Alba Iulia
- Conference Faculty of Sciences - 150 years, 29.08-1.09.2013, Bucharest
- Diffuse Interface Models - DIMO2013, Levico Terme, Italia, 9.09-14.09.2013
- AIMS conference, Madrid, 7-11.07.2014
- 12e Colloque Franco-Roumain de Mathématiques Appliquées, Lyon, France, 25-30.08.2014
- PDE's, Inverse Problems and Control Theory, September 15-19, 2014, Bologna, Italy
- New advances in PDE's, Inverse Problems and Control Theory, Parma, July 6-11, 2015
- The 36th Conference Caius Iacob, Fluid Mechanics, Bucharest, November 29-30, 2015
- Session Analyse et Contrôle des EDP, XIII-ème Colloque Franco-Roumain de Mathématiques Pures et Appliquées, Iasi, 25-29.08.2016
- Partial Differential Equations and Applications, Bologna, May 22-26, 2017
- Atelier de travail en stochastique et interférences avec EDP, 13-14.09.2017, Bucarest
- Joint International Meeting of the German Mathematical Society and the Romanian Mathematical Society, 16-19.09.2017, Constanta
- Current Trends in Applied Mathematics, 27-28.10.2017, Iasi

- Dynamical Systems Applied to Biology and Natural Sciences (DSABNS2018), Torino, 7-9.02.2018
- Oberwolfach workshop, Challenges in optimal control of nonlinear PDE systems, 8-14 April, 2018
- At elier “Analyse, analyse numerique et controle des milieux continus”, 23-27 May 2018, Bucharest
- SMACS 2018, 17-19 June 2018, Gargnano, Italy
- Workshop Geometry and PDEs, UVT, Timi oara, 12-14.10, 2018
- Italian-Romanian Colloquium on Differential Equations and Applications, Udine, Italy, 10-12.04.2019
- Recent advances in Phase-Field modeling: from Engineering to Biology, 8-10.05.2019, Pavia
- International Conference on Applied and Pure Mathematics (ICAPM 2019) Iasi, 31.10-1.11.2019
- RICAM Special Semester Optimization, Feedback Control, Linz, Austria, 28-30.11.2019

Invited conferences at foreign universities and institutes:

- Forschungszentrum J lich, Germany: September 1994, May 1997, October 2001
- University of Trento: April 2003, April 2005
- Institute of Mathematics of the Chinese Academy of Sciences, Wuhan, China: November 2003
- Center of Optimal Control, and Discrete Mathematics, Central China Normal University: June 2004
- Department of Mathematics, University of Bologna: September 2004, July 2005, April 2008, May 2010, October 2013, September 2016
- Department of Mathematics, University of Bari, July 2012
- IMAR Monthly Conferences, January 9, 2013
- University of Bari (three conferences, May 2013)
- Department of Mathematics , University of Pavia, May 2014, March 2015, November 2015
- Department of Mathematics , University of Bari, May 2015

Other talks:

- 1st European Conference of Fluid Mechanics, Cambridge, UK, September 1991
- ECMI Workshop, Bucharest, July 1995
- ICIAM Congress, Hamburg, 1995
- 9th ECMI Congress, Lyngby, Denmark, July 1995
- The 29th ESGI (European Study Group in Industry) meeting, Oxford, UK, March 1996
- VIIth Conference on Nonlinear Analysis, Numerical Analysis, Applied Mathematics and Informatics, Constanta, May 1999
- 1st Workshop on Mathematical Modelling of Environmental Problems, Bucharest, Romania, July 2003
- 2nd Workshop on Mathematical Modelling of Environmental and Life Science Problems, Bucharest, Romania, July 2003
- GAMM Conference, Abano Terme, Italy, March 24-28, 2003
- NPDE2003, Alushta, Ukraine, September 15-21, 2003
- Conference “New Trends in Continuum Mechanics”, Constanta, Romania, September 8-12, 2003
- 4th Workshop on Mathematical Modelling of Environmental and Life Science Problems, Constanta, Romania, September 2005
- 5th Workshop on Mathematical Modelling of Environmental and Life Science Problems, Constanta, Romania, September 2006
- Conference “Colocvii Matematice”, Romanian Academy, November 2013
- Conference “Colocvii Matematice”, Romanian Academy, April 2016

Organization of scientific meetings :

- 1st Workshop on Mathematical Modelling of Environmental Problems, Bucharest, June 17-21, 2002 (main organizer)
- Vth Congress of Romanian Mathematicians (member of the organization committee), Pitesti, June 2003

- 2nd Workshop on Mathematical Modelling of Environmental and Life Problems, Bucharest, July 2003 (main organizer)
- 4th Workshop on Mathematical Modelling of Environmental and Life Problems, Constanta, September 2005 (member of the organization committee)
- International workshop “Functional methods in biomathematics”, August 10-16, 2005 Galanesti, Romania (member of the organization committee)
- Franco-Roumaine Conference de Biomathématique, Craiova, July 2006 (member in the scientific board)
- 8-ième Colloque Franco-Roumain de Mathématiques Appliquées, Chambéry, 28 aug-1 sept. 2006 (co-organizer of the minisymposium Biomathématiques)
- 5th Workshop on Mathematical Modelling of Environmental and Life Problems, Constanta, September 2006 (member of the organization committee)
- 6th Workshop on Mathematical Modelling of Environmental and Life Problems, Constanta, September 2006 (member of the organization committee)
- 6th Congress of Romanian Mathematicians, Bucharest, June 28-July 4, 2007 (member of the organization committee)
- 9-ième Colloque Franco-Roumain de Mathématiques Appliquées, Brasov, August 28 – Sept. 2, 2008 (co-organizer of the minisymposium Nonlinear PDE in applied sciences)
- International workshop “Differential Equations and Applications in Life Sciences”, September 3-7 2008, Iasi
- 7th Workshop on Mathematical Modelling of Environmental and Life Problems, Constanta, 2007 (member of the organization committee)
- 8th Workshop on Mathematical Modelling of Environmental and Life Problems, Constanta, October 21-24, 2010 (member of the organization committee)
- 7th Congress of Romanian Mathematicians, Bucharest, June 20-July 5, 2011 (member of the organization committee)
- 9th Workshop on Mathematical Modelling of Environmental and Life Problems, Constanta, 2012 (member of the organization committee)
- Conference Caius Iacob, Bucharest, October 10-12, 2013 (member of the organization committee)

- PDEs and Stochastic Processes, The 5th Workshop Series on Mathematics, October 12-14, 2012, Pitești, Romania (member of the organization committee)
- Special session Mathematical models in life and environment, AMS Conference, 26-30.06.2013, Alba Iulia
- 10th Workshop on Mathematical Modelling of Environmental and Life Problems, Constanta, October 16-19, 2014 (member of the organization committee)
- 8th Congress of Romanian Mathematicians, Bucharest, June 26-July 1, 2015 (member of the organization committee)
- Current Issues in PDEs and Stochastics, Bucharest, June 1, 2016
- Session Maths et Planète Terre, XIII-ème Colloque Franco-Roumain de Mathématiques Pures et Appliquées, Iasi, 25-29.08.2016
- 11th Workshop on Mathematical Modelling of Environmental and Life Problems, Constanta, October 12-16, 2016 (member of the scientific committee)
- Current Trends in Applied Mathematics, Iasi, 24-26 October 2017
- Current Trends in Applied Mathematics, Iasi, 10-12 September 2018
- Second Workshop on Analysis, PDEs and Mechanics, 30.05.2019, Bucharest
- 9th Congress of Romanian Mathematicians, Bucharest, June 28-July 3, 2019 (member of the organization committee)
- Organization of about 50 meetings and conferences within the annual scientific programs of the Section of Mathematical Sciences (between 1991-2016)

Editorial activity :

- Topical Editor for Mathematics Proceedings of the Romanian Academy - Series A <https://acad.ro/proceedings.htm>, since 2019
- Member of the editorial board of [Mathematical Reports](#), since 2013
- Member of the editorial board of [Revue Roumaine de Mathématiques Pures et Appliquées](#), since 2013
- Member of the editorial board of [Journal of Numerical Analysis and Approximation Theory](#), since 2013

- Scientific secretary of the editorial board of the Romanian Academy journal [Mathematical Reports](#) 2000-2012
- Reviewer for Mathematical Reviews, Zentralblatt
- Reviewer for international journals (e.g., AIMS journals, Transport in Porous Media, NODEA, Abstract and Applied Analysis, Nonlinear Analysis, J. Math. Anal. Appl., SIAM journals, Math. Methods. Appl. Sci., Appl. Math. Comput., Appl. Math. Modeling, J. Optimiz. Theory Appl., Nonlinearity etc.)

Administration, professional membership and offices held :

- Member of the Commission of Litigation of CNADTCU - Ministry of Education, 2016-2020
- Vicepresident of the Commission of Litigation of CNADTCU - Ministry of Education, 2012-2016
- Vicepresident of the Commission of Mathematics of CNADTCU – Ministry of Education and Research, 2011-2012
- Member of the leading board of the Excellence Research Programme CEEX, 2005-2009
- Member of the Council of Mathematics Doctoral School, Faculty of Mathematics, Bucharest
- Responsible with administrative activities regarding the evaluation of the institutes of the Romanian Academy, 1999-2004
- Secretary of the Romanian Section of GAMM since 2001
- Scientific secretary of the Romanian National Committee of Mathematics, since 1994
- GAMM member since 1991
- Secretary of the Romanian Section of GAMM since 2001
- IFNA member 2007-2009
- Member of the Scientific Council of ISMMA
- Leader of the ISMMA team “PDEs in life and environmental sciences”

Awards :

- Spiru Haret Prize of the Romanian Academy in the domain of Mathematical Sciences, 1992
- Cultural Distinction of the Romanian Academy, 2002
- Chevalier of the National Order “For Merit”, 2004 (presidential award)