Loredana Bălilescu

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Citizenship:	Romanian, Chilean Permanent Residence (2006-2021), Brazilian Temporary Residence (2014-2018)
Languages:	English (fluent), French (conversational), Portuguese (fluent), Romanian (native), Spanish (fluent with "Diploma de Español como Lengua Extranjera", the highest level C2–Maestría)
Homepage:	http://www.dim.uchile.cl/∼smaranda
CV Lattes:	http://lattes.cnpq.br/7292417866186744
UEFISCDI:	http://www.brainmap.ro/loredana-balilescu/
ORCID:	http://orcid.org/0000-0003-4561-771X/
Web of Science:	ResearcherID: F-5570-2010

Education

May 2019 — **Habilitation in Mathematics, University of Piteşti, Romania**
Title: Bloch waves homogenization and analysis of fluid-structure interactions. (in English)

September 2006 — **Ph.D. in Mathematics, University of Piteşti, Romania**
Title: Applications on homogenization theory. (in Romanian)

April 2006 — **Ph.D. in Engineering Science-Mathematical Modelling, University of Chile, Chile**
Title: Bloch-Fourier method in homogenization and convergence analysis of the ALE method. (in Spanish)

June 1998 — **B.S. in Mathematics and Computer Science, University of Piteşti, Romania**
Title: Differential calculus on Banach spaces: application to Newton-Kantorovici method. (in Romanian)

Academic Experience

Employment

August 2023 –the present — **Full Professor**
National University of Science and Technology Politehnica Bucharest, Piteşti University Center, Department of Mathematics and Computer Science, Romania

February 2020 –Iulie 2023	**Full Professor** University of Piteşti, Department of Mathematics and Computer Science, Romania
October 2011 –January 2020	**Associate Professor** University of Piteşti, Department of Mathematics and Computer Science, Romania
October 2014 –September 2018	**Visiting Professor** Federal University of Santa Catarina, Department of Mathematics, Brazil
July 2009 –October 2014	**Researcher** University of Piteşti, Department of Mathematics and Computer Science, Romania
October 2008 –September 2011	**Lecturer** University of Piteşti, Department of Mathematics and Computer Science, Romania
April 2006 –January 2009	**Postdoctoral Researcher** University of Chile, Center for Mathematical Modelling, Chile
August 2004 –December 2004	**Teaching Assistant** University of Chile, Department of Mathematical Engineering, Chile
October 1998 –September 2008	**Assistant Professor** University of Piteşti, Department of Mathematics and Computer Science, Romania

Short–term visiting

April-May 2026	**Visiting Researcher** University of Chile, Center for Mathematical Modelling, Chile
July 2018	**Visiting Researcher** University of Chile, Center for Mathematical Modelling, Chile
August and December 2017	**Visiting Researcher** University of Chile, Center for Mathematical Modelling, Chile
October 2016	**Visiting Researcher** University of Chile, Center for Mathematical Modelling, Chile
January and October 2015	**Visiting Researcher** University of Chile, Center for Mathematical Modelling, Chile
June–July 2014	**Visiting Researcher** University of Chile, Center for Mathematical Modelling, Chile
November –December 2013	**Visiting Researcher** University Paris 13, The Laboratory of Science of Processes and Materials, France
August –September 2013	**Visiting Researcher** University of Chile, Center for Mathematical Modelling, Chile
November 2012	**Visiting Researcher** Federal University of Santa Catarina, Department of Mathematics, Brazil
October –November 2012	**Visiting Researcher** University of Chile, Center for Mathematical Modelling, Chile
September –December 2011	**Visiting Researcher** University of Chile, Center for Mathematical Modelling, Chile
June 2011	**Visiting Researcher** University Henri Poincaré Nancy 1, Élie Cartan Institute, France

May–June 2011	**Visiting Researcher** University of Chile, Center for Mathematical Modelling, Chile
May 2010	**Visiting Researcher** University of Chile, Center for Mathematical Modelling, Chile
October 2009	**Visiting Researcher** Federal University of Santa Catarina, Department of Mathematics, Brazil
September –November 2009	**Visiting Researcher** University of Chile, Center for Mathematical Modelling, Chile
June 2007	**Visiting Researcher** University Henri Poincaré Nancy 1, Élie Cartan Institute, France

Research Interests

General	Partial differential equations
Specialized	Homogenization theory
Specialized	Bloch waves
Specialized	Existence and uniqueness of solutions
Specialized	Fluid-structure interaction theory
Specialized	Variational methods
General	Numerical analysis

Publications

ISI Papers

[1] **L. Bălilescu**, T. Ghosh, J. San Martín, *Burnett coefficients in periodically perforated domains*, in preparation (2026).

[2] **L. Bălilescu**, J. San Martín, J.-F. Scheid, *Convergence of a Lagrange–Galerkin method for the equations modelling of fish–like swimming*, work in progress (2026).

[3] **L. Bălilescu**, C. Conca, J. San Martín, *Bloch waves homogenization in the graphene*, to appear in SIAM Journal on Mathematical Analysis (2026).

[4] **L. Bălilescu**, C. Conca, T. Ghosh, J. San Martín, M. Vanninathan, *Bloch wave spectral analysis in the class of generalized Hashin-Shtrikman micro-structures*, Mathematical Models and Methods in Applied Sciences (2022), 32 (3), pp. 497-532.

[5] **L. Bălilescu**, A. Ghosh, T. Ghosh, *H-convergence and homogenization of non-local elliptic operators in both perforated and non-perforated domains*, Zeitschrift für Angewandte Mathematik und Physik (2019) 70:171.

[6] **L. Bălilescu**, C. Conca, T. Ghosh, J. San Martín, M. Vanninathan, *Dispersion tensor and its unique minimizer in Hashin-Shtrikman micro-structures*, Archive for Rational Mechanics and Analysis (2018), 230(2), pp. 665–700.

[7] **L. Bălilescu**, J. San Martín, T. Takahashi, *Fluid–rigid structure interaction system with Coulomb's law*, SIAM Journal on Mathematical Analysis (2017), 49(6), 4625–4657.

[8] **L. Bălilescu**, J. San Martín, T. Takahashi, *On the Navier–Stokes equation with Coulomb friction law boundary condition*, Zeitschrift für Angewandte Mathematik und Physik (2017) 68:3.

[9] J. San Martín, J.-F. Scheid, **L. Smaranda**[1], *The Lagrange–Galerkin method in fluid–structure interaction problems*, Boundary Value Problems 2013:246, doi:10.1186/1687-2770-2013-246 (2013).

[10] J. San Martín, J.-F. Scheid, **L. Smaranda**, *A modified Lagrange–Galerkin method for a fluid–rigid system with discontinuous density*, Numerische Mathematik 122, No. 2 (2012), pp. 341-382.

[11] C. Conca, J. San Martín, **L. Smaranda**, M. Vanninathan, *Burnett coefficients and laminates*, Applicable Analysis 91, Issue 6 (2011), pp. 1155-1176.

[12] J. San Martín, J.-F. Scheid, **L. Smaranda**, *A time discretization scheme of a characteristics method for a fluid–rigid system with discontinuous density*, Comptes Rendus de l'Académie de Sciences de Paris, Série Mathématique 348, No. 15-16 (2010), pp. 935-939.

[13] J. San Martín, **L. Smaranda**, *Asymptotics for eigenvalues of the Laplacian in higher dimensional periodically perforated domains*, Zeitschrift für Angewandte Mathematik und Physik 61, No. 3 (2010), pp. 401-424.

[14] C. Conca, J. San Martín, **L. Smaranda**, M. Vanninathan, *Optimal bounds on Burnett coefficients in one–dimensional periodic media*, Mathematical Models and Methods in Applied Sciences 19, No. 9 (2009), pp. 1743-1764.

[15] D. Dupuy, R. Orive, **L. Smaranda**, *Bloch waves homogenization of a Dirichlet problem in a periodically perforated domain*, Asymptotic Analysis 61, No. 3-4 (2009), pp. 229-250.

[16] J. San Martín, **L. Smaranda**, T. Takahashi, *Convergence of a finite element/ALE method for the Stokes equations in a domain depending on time*, Journal of Computational and Applied Mathematics 230, Issue 2 (2009), pp. 521-545.

[17] C. Conca, J. San Martín, **L. Smaranda**, M. Vanninathan *On Burnett coefficients in periodic media in low contrast regime*, Journal of Mathematical Physics 49 (2008), pp. 053514(23).

[18] J. Ortega, J. San Martín, **L. Smaranda**, *On the homogenization of a non–homogeneous Neumann problem via Bloch wave method*, Zeitschrift für Angewandte Mathematik und Physik 58, No. 6 (2007), pp. 969–993.

[19] J. Ortega, J. San Martín, **L. Smaranda**, *Bloch wave homogenization in a medium perforated by critical holes*, Comptes Rendus Mécanique Acad. Sci. Paris 335, No. 2 (2007), pp. 75–80.

Books and Chapters books

[1] **L. Bălilescu**, C. Conca, T. Ghosh, J. San Martín, M. Vanninathan, *Bloch spectral analysis in the class of non-periodic laminates*, ITM Web of Conferences 49, 02001 (2022), DOI 10.1051/itmconf/20224902001, e-ISSN 2271-2097.

[2] C. Conca, J. San Martín, **L. Smaranda**, M. Vanninathan, *Higher Order Macro Coefficients in Periodic Homogenization*, Journal of Physics: Conference Series, Vol. 319, 012020, 2011, DOI:10.1088/1742-6596/319/1/0120202011.

[3] J. San Martín, J.-F. Scheid, **L. Smaranda**, *Convergence of a discretization scheme based on characteristics method for a fluid–rigid system*, Integral Methods in Science and Engineering, Computational and Analytic Aspects, chapter 31, Birkhauser-Boston, 2011, ISBN 978-0-8176-8237-8.

[4] **L. Smaranda**, *Bloch waves in homogenization theory* (in romanian), Romanian Academy Publishing House, Bucharest, 2010, ISBN 978-973-27-1955-8.

[1] Loredana Smaranda is my previous name.

[5] C. Conca, J. San Martín, **L. Smaranda**, M. Vanninathan, *On Burnett coefficients in periodic media with two–phases*, Integral Methods in Science and Engineering, Volume 1: Analytic Methods, pp. 123-133, Birkhauser-Boston, 2010, ISBN 978-0-8176-4898-5.

[6] J. San Martín, **L. Smaranda**, *On Bloch waves homogenization in periodically perforated media*, Proceedings of the 6th Congress of Romanian Mathematicians, Romanian Academy, vol. 1 (2009), pp. 533-544.

Conferences, Seminars/Colloquium, Summer Schools

Plenary/Invited talks

May 23, 2024 — *Bloch waves homogenization in the graphene*, to the International Conference on Elliptic and Parabolic Problems: GAETA 2024, Gaeta, Italy.

July 01, 2023 — *Higher order coefficients in some different classes of microstructures*, to The Tenth Congress of Romanian Mathematicians, Section "Ordinary and Partial Differential Equations, Controlled Differential Systems", Piteşti, Romania.

June 27, 2023 — *The dispersion tensor in some different classes of microstructures*, to Workshop on PDEs - Research in Pairs in Bucharest, Simion Stoilow Institute of Mathematics of the Romanian Academy (IMAR) and Politehnica University of Bucharest (UPB), Bucharest, Romania.

August 29, 2022 — *Burnett coefficients in a non-periodic class of microstructures*, Special Session "Méthodes asymptotiques pour les équations aux dérivées partielles", the 15th French-Romanian Colloquium in Applied Mathematics, Paul Sabatier University, Toulouse, France.

July 13, 2022 — *Bloch waves spectral analysis and Burnett coefficients*, Session on "Asymptotic Analysis: Homogenization and Thin Structures", the 16th International Conference on Integral Methods in Science and Engineering, Virtual Event (previously scheduled to be held in Saint Petersburg, Russia).

July 01, 2022 — *Bloch waves homogenization in a non-periodic class of microstructures*, International Conference on Applied Mathematics and Numerical Methods (ICAMNM)-fourth edition, Virtual Event, Craiova, Romania.

September 03, 2019 — *The dispersion tensor and its unique minimizer*, 7th International Conference on Mathematics and Informatics, Sapientia Hungarian University of Transylvania, Târgu Mureş, Romania.

December 14, 2018 — *On fluid-structure interactions with the Coulomb friction law boundary condition*, "Atelier de travail en Equations aux Dérivées Partielles", Simion Stoilow Institute of Mathematics of the Romanian Academy, Bucharest, Romania.

December 12, 2014 — *Burnett coefficients and laminates*, Conca60 Congress, Basque Center for Applied Mathematics, Bilbao, Spain.

August 29, 2014 — *Burnett coefficients and laminates*, Special Session "Mécanique", the 12th French-Romanian Colloquium in Applied Mathematics, University of Lyon, Lyon, France.

July 22, 2014 — *Burnett coefficients and laminates*, Minisymposium "Asymptotic analysis: homogenization and thin structures" at The thirteenth International Conferenece on Integral Methods in Science and Engineering, Karlsruhe Institute of Technology, Karlsruhe, Germany.

August 9, 2013 — *Convergence of the Lagrange-Galerkin method for fluid-structure interaction problems*, Special Session "PDE and Incompressible Fluid Flow", the Mathematical Congress of the Americas, Guanajuato, Mexic.

June 27, 2013 — *On numerical discretization for the motion of a self-propelled deformable structure in a viscous incompressible fluid*, AMS Special Session on "Mathematical Models in Materials Science and Engineering", the Joint International Meeting of the AMS and the Romanian Mathematical Society, Alba Iulia, Romania.

May 10, 2013 — *Numerical analysis in fluid-structure interaction problems*, Workshop for Young Researchers in Mathematics, Ovidius University of Constanţa, Constanţa, Romania.

August 25, 2012 — *Convergence of the Lagrange-Galerkin method for the equations modelling of fish-like swimming*, Special Session "Modéles mathématiques et numériques en mécanique des solides", the 11th French-Romanian Colloquium in Applied Mathematics, Bucharest, Romania.

November 26, 2010 — *Bounds on Burnett coefficient in periodic media*, Workshop on Partial Differential Equations, Simion Stoilow Institute of Mathematics of the Romanian Academy, Bucharest, Romania.

August 30, 2010 — *A modified Lagrange-Galerkin method for a fluid-rigid system with discontinuous density*, Session "Analyse, controle et approche numérique en mécanique des solides", the 10th French-Romanian Colloquium in Applied Mathematics, Poitiers, France.

August 29, 2010 — *Bounds on dispersion coefficient in periodic media*, Session "Multiscale problems", the 10th French-Romanian Colloquium in Applied Mathematics, Poitiers, France.

August 15, 2010 — *Bounds on dispersion tensor in periodic media*, ICM Satellite Conference on PDE and Related Topics, Bangalore, India.

August 29, 2008 — *On Burnett coefficients in periodic media*, Mini Symposium "Asymptotic Analysis", The 9th French-Romanian Colloquium in Applied Mathematics, Braşov, Romania.

July 9, 2008 — *On Burnett coefficients in periodic media of two-phases*, The Tenth International Conference on Integral Methods in Science and Engineering, Santander, Spain.

December 9, 2007 — *On Bloch waves homogenization in periodically perforated domains*, Fourth Pacific Rim Conference on Mathematics, City University of Hong Kong, Hong Kong.

September 7, 2007 — *Homogeneización usando ondas de Bloch*, "Puerto Matemático III", Valparaíso, Chile.

Seminar/Colloquium talks

July 12, 2021 — *Homogenization theory and fluid-structure interaction* (in Portuguese), to Seminars II of "Curso de Licenciatura em Matemática" (online), in Department of Mathematics, Federal University of Santa Catarina, Florianópolis, Brazil.

March 25, 2021 — *The dispersion tensor and its unique minimizer*, Scientific Seminar of Mathematics (online), in "Departamento de Matemática Aplicada, Ciencia e Ingeniería de los Materiales y Tecnología Electrónica – Campus de Móstoles", Rey Juan Carlos University, Madrid, Spain.

October 2, 2017 — *Interação fluido-estrutura e teoria de homogeneização*, to Seminars II of "Curso de Licenciatura em Matemática", in Department of Mathematics, Federal University of Santa Catarina, Florianópolis, Brazil.

September 27, 2013 — *Convergence of the Lagrange-Galerkin method for fluid-structure interaction problems*, to Weekly Scientific Seminar "Caleta Numérica", Mathematical Institute, Catholic University of Valparaíso, Chile.

November 6, 2012 — *Convergence of the Lagrange-Galerkin method for fluid-structure interaction problems*, Scientific Seminar in Department of Mathematics, Federal University of Santa Catarina, Florianópolis, Brazil.

October 19, 2009 — *Optimal bounds on dispersion coefficient in periodic media*, Scientific Seminar in Department of Mathematics, Federal University of Santa Catarina, Florianópolis, Brazil.

November 19, 2008 — *On Burnett coefficients in periodic media*, Colloquium Series in Department of Mathematical Engineering, University of Concepción, Concepción, Chile.

June 1, 2006 — *Convergence and numerical simulations of a finite element/ALE method for the Stokes equations in a domain depending on time*, Mathematical Mechanics Scientific Seminar, Center for Mathematical Modelling, University of Chile, Santiago, Chile.

December 16, 2004 — *On the homogenization of a non-homogeneous Neumann problem via Bloch wave method*, Mathematical Mechanics Scientific Seminar, Center for Mathematical Modelling, University of Chile, Santiago, Chile.

Contributed talks

August 25, 2023 — *On fluid–structure interactions with the Coulomb friction law boundary condition*, Research Poster to 10th International Congress on Industrial and Applied Mathematics (ICIAM2023), Waseda University, Tokyo, Japan.

October 11, 2019 — *Contributions in fluid-structure interaction theory*, 13th Annual Conference of the Romanian Mathematical Society, University of Piteşti, Romania.

August 02, 2018 — *Fluid-structure interaction system with Coulomb's friction law*, International Congress of Mathematicians (ICM 2018), Rio de Janeiro, Brazil.

July 31, 2018 — *On fluid–structure interactions with the Coulomb friction law boundary condition*, Research Poster to World Meeting for Women in Mathematics (WM2), Rio de Janeiro, Brazil.

August 02, 2017 — *On the fluid-structure interaction systems with Coulomb's friction law*, Research Poster to "31 Colóquio Brasileiro de Matemática", IMPA-Instituto Nacional de Matemática Pura e Aplicada, Rio de Janeiro, Brazil.

August 16, 2014 — *Numerical analysis for the motion of a self-propelled deformable structure in a fluid*, Research Poster to International Congress of Mathematicians (ICM), Seoul, South Korea.

August 12, 2014 — *Convergence of a discretization scheme for the motion of a self-propelled deformable structure in a fluid*, Research Poster to International Congress of Woman Mathematicians (ICWM), Seoul, South Korea.

August 27, 2013 — *Bounds on dispersion tensor in periodic media*, to International Conference on Applied Mathematics, Modelling and Computational Science, Wilfrid Laurier University, Waterloo, Ontario, Canada.

August 27, 2013 — *Convergence of the Lagrange-Galerkin method for the equations modelling of fish-like swimming*, to International Conference on Applied Mathematics, Modelling and Computational Science, Wilfrid Laurier University, Waterloo, Ontario, Canada.

December 17, 2012	*Convergence of the Lagrange-Galerkin method for the equations modelling of fish-like swimming*, International Conference on the Theory, Methods and Applications of Nonlinear Equations, Kingsville Texas, USA.
July 3-4, 2012	*Convergence of a discretization scheme based on characteristics method for a fluid-rigid system with variable density*, Research Poster to 6th European Congress of Mathematics, Krakow, Poland.
June 30, 2011	*A modified Lagrange-Galerkin method for a fluid-rigid system with discontinuous density*, to The Seventh Congress of Romanian Mathematicians, Section "Mechanics and Applied Mathematics", Braşov, Romania.
August 20, 2010	*Optimal bounds on dispersion coefficient in periodic media*, International Congress of Mathematicians 2010, Hyderabad, India.
July 12, 2010	*Convergence of a discretization scheme based on characteristics method for a fluid-rigid system with variable density*, The Eleventh International Conference on Integral Methods in Science and Engineering, Brighton, England.
September 5, 2009	*On Burnett coefficients in periodic media with two-phases*, International Conference on Modern Mathematical Methods in Science and Technology, Poros, Greece.
July 2, 2007	*Bloch waves homogenization of a Dirichlet problem in a periodically perforated domain*, 6th Congress of Romanian Mathematicians, Bucharest, Romania.
June 25, 2007	*Bloch waves homogenization of a Dirichlet problem in a periodically perforated domain*, International Workshop on Analysis and Control of Partial Differential Equations, Pont-a-Mousson, France.
August 29, 2006	*On the homogenization of a non-homogeneous Neumann problem via Bloch waves method*, The 8th French-Romanian Colloquium in Applied Mathematics, Chambéry, France.
December 7, 2005	*Convergence of a finite element/ALE method for the Stokes equations in a domain depending on time*, International Workshop on Numerical Analysis and Control of Fluid-Structure Interactions, Chillán, Chile.

Attendance

July 6-14, 2022	International Congress of Mathematicians 2022 (ICM 2022), Virtual event (previously scheduled to be held in Saint Petersburg, Russia).
July 1-2, 2022	World Meeting for Women in Mathematics $(WM)^2$, Satellite Event of the International Congress of Mathematicians (ICM 2022), Virtual event (previously scheduled to be held in Saint Petersburg, Russia).
September 2010	Diaspora Conference in Scientific Research and Superior Education in Romania, Workshop on Current Topics in Applied Mathematics, Bucharest, Romania.
September 2005	Workshop on Partial Differential Equations, Optimal Design and Numerics, Benasque Center for Science, Spain.
September 2004	Homogenization and Shape Optimization Summer School, Department of Mathematics, University of Lisbon, Portugal.
June 2001	International School and Conference on Homogenization, Universitá degli Studi di Napoli Federico II, Naples, Italy.
May 2001	Congress "Journéss de Metz - Écoulements de Fluides Non Newtoniens. Modélisation aspects théoriques et numériques", University of Metz, France.

October 1998–2001 | Conference on Applied and Industrial Mathematics, University of Piteşti, Romania.

Grants

Principal investigator

2011–2014 **Grant CNCS–UEFISCDI TE, no. 102/05.10.2011**

Title: Higher order macro coefficients in homogenization and numerical analysis of aquatic organisms in viscous fluid.

Funding Institution: National Research Council (CNCS), Ministry of Education and Research, Romania.

Total amount assigned: 750 000 Romanian Lei (aprox. 210.000,00 Euro).

Position in competition: 11 of 37 applicants.

2009–2011 **Grant CNCSIS RP-2, no. 6/01.07.2009**

Title: On mathematical modelling of composite materials using Bloch waves and fluid-structure interactions.

Funding Institution: The National University Research Council (CNCSIS), Ministry of Education and Research, Romania.

Total amount assigned: 510 000 Romanian Lei (aprox. 140.000,00 Euro).

Annual score: The maximum score of 50 points at each annual monitoring.

2007–2008 **Grant FONDECYT Postdoctorado no. 3070029**

Title: Numerical analysis of fluid structure interaction schemes on moving domains and Bloch waves method in periodically perforated domains.

Funding Institution: National Commission for Scientific and Technological Research (CONICYT), Government of Chile.

Total amount assigned: 27 644 000 Chilean Pesos (aprox. 50.000,00 Euro).

Cooperation

2022–2024 **Grant PED no. 693/2022**

Title: Modular symmetric cryptosystem for traffic security in telecommunications networks (Criptosistem simetric modular pentru securizarea traficului în reţelele de telecomunicaţii).

Funding Institution: National Research Council (CNCS)- Executive Unit for the Financing of Higher Education, Research, Development and Innovation (UEFISCDI), Ministry of Education and Research, Romania.

2008–2011 **Grant CNMP no. 12099/1.10.2008**

Title: Techniques for digital content management.

Funding Institution: The National Center for Management Programs (CNMP), Ministry of Education and Research, Romania.

2007–2009 **Grant ECOS-CONICYT no. C07E05**

Title: Analysis and control of fluid structure interactions.

Institutions: University of Chile, Chile and Élie Cartan Mathematics Institute, Henri Poincaré University, Nancy 1, France.

2006–2007 **Grant CNCSIS no. 1059/2006**

Title: Mathematical models for the asymptotic study of nonhomogeneous media.

Funding Institution: The National University Research Council (CNCSIS), Ministry of Education and Research, Romania.

2004–2006 **Grant ECOS-CONICYT no. C04E07**

Title: Homogenization and asymptotic representation formulas.

Institutions: University of Chile, Chile and Centre of Applied Mathematics, École Polytechnique, France.

2001–2002 **Grant INFOSOC no. 26/26.10.2001**

Title: The analysis, organization and improvement in the function of computer networks connected to the Internet.

Funding Institution: Ministry of Education and Research, Romania.

Honors, Awards & Fellowships

March 2026 **Erasmus+ teaching mobility** at Federal University of Santa Catarina, Florianopolis, Brazil.

March 2026 **Erasmus+ teaching mobility** at University of Chile, Santiago, Chile.

February 2025 **Erasmus+ training mobility** at Astana IT University, Astana, Kazakhstan.

September 2024 **Erasmus+ teaching mobility** at Middle East Technical University, Ankara, Türkiye.

September 2023 **Erasmus+ teaching mobility** at Firat University, Türkiye.

August 2023 **Financial support for travel expenses** to attend at ICIAM 2023, Tokyo, Japan.

May 2023 **Erasmus+ training mobility** at Vilnius University, Lithuania.

July 2022 **CHEBYSHEV grant** to attent at ICM 2022, Saint Petersburg, Russia - finally the event was virtual.

June 2022 **Erasmus+ teaching mobility** at University of Elbasan Aleksander Xhuvani, Albania.

May 2022 **Erasmus+ training mobility** at "Angel Kanchev" University of Ruse, Bulgaria.

May 2021 **Erasmus+ teaching mobility** at Mansoura University, Egypt.

May 2019 **Erasmus+ teaching mobility** at School of Mathematics, Aristotle University of Thessaloniki, Greece.

August 2018 **OPEN ARMS travel grant** to attend at ICM and WM2 2018 Rio de Janeiro, Brazil.

August 2014 **TOGETHER 2014 travel grant** to attend at ICM and ICWM 2014 Seoul, South Korea.

July 2012	**The Best Research Poster Award** 6th European Congress of Mathematics, Krakow, Poland.
December 2006	**Doctoral Medal** University of Chile, Chile.
June –December 2006	**Postdoctoral Fellowship** Center for Mathematical Modelling, University of Chile, Chile.
September 2005	**MECESUP Fellowship** to attend at workshop "Partial Differential Equations, Optimal Design and Numerics" Benasque Center for Science, Spain.
July –September 2005	**INRIA Fellowship** Élie Cartan Institute, Henri Poincaré University, Nancy 1, France.
September 2004	**MECESUP Fellowship** to attend at "Homogenization and Shape Optimization Summer School" University of Lisbon, Portugal.
April 2002 –April 2006	**Ph.D. Scholarship** Center for Mathematical Modelling, University of Chile, Chile.
April–June 2001	**Socrates–Erasmus Fellowship** Laboratoire de Mathématiques et Applications de Metz, University of Metz, France.
December 2000 –December 2004	**Ph.D. Scholarship** Ministry of Education and Research, Romania.
October 1994 –July 1998	**Romanian Honor Scholarship** Ministry of Education and Research, Romania.

Teaching experience

Federal University of Santa Catarina, Brazil

2018	Calculus IV (for Degree in Mechanical Engineering) - teaching in Portuguese. Calculus I (for Degree in Oceanography) - teaching in Portuguese. Analytic geometry (for Degree in Mechanical and Electrical Engineering) - teaching in Portuguese.
2017	Topics in homogenization theory (for Postgraduate Degree in Pure and Applied Mathematics) - teaching in English. Seminars I and II (for Degree in Mathematics) - teaching in Portuguese.
2016	Calculus I (for Degree in Mechanical Engineering) - teaching in Portuguese. Calculus II (for Degree in Civil Engineering) - teaching in Portuguese.
2015	Calculus II (for Degree in Mechanical Engineering and Civil Engineering) - teaching in Portuguese.
2014	Calculus IV (for Degree in Mechanical Engineering) - teaching in Portuguese. Calculus III (for Degree in Oceanography) - teaching in Portuguese.

University of Chile, Chile

2004	Calculus I (for Degree in all Engineering and Mathematics) - teaching in Spanish.

National University of Science and Technology POLITEHNICA Bucharest, Piteşti University Center, Romania

2025–2026	Applied mathematics I and II (for Master Degree in Mathematics) – teaching in Romanian.
	Optimization theory (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Didactic information technology (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Measure theory (for Degree in Mathematics) – teaching in Romanian.
	Partial differential equations (for Degree in Mathematics) – teaching in Romanian.
	Differential geometry (for Degree in Mathematics) – teaching in Romanian.
	Differential and integral calculus (for Degree in Computer Science) – teaching in Romanian.
2024–2025	Complement of mathematical analysis (for Master Degree in Mathematics) – teaching in Romanian.
	Optimization theory (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Economic modelling processes (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Measure theory (for Degree in Mathematics) – teaching in Romanian.
	Partial differential equations (for Degree in Mathematics) – teaching in Romanian.
	Differential geometry (for Degree in Mathematics) – teaching in Romanian.
	Differential and integral calculus (for Degree in Computer Science) – teaching in Romanian.
2023–2024	Applied mathematics I and II (for Master Degree in Mathematics) – teaching in Romanian.
	Optimization theory (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Economic modelling processes (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Measure theory (for Degree in Mathematics) – teaching in Romanian.
	Partial differential equations (for Degree in Mathematics) – teaching in Romanian.
	Differential geometry (for Degree in Mathematics) – teaching in Romanian.
	Differential and integral calculus (for Degree in Computer Science) – teaching in Romanian.

University of Piteşti, Romania

2022–2023	Complement of mathematical analysis (for Master Degree in Mathematics) – teaching in Romanian.
	Optimization theory (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Didactic information technology (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Measure theory (for Degree in Mathematics) – teaching in Romanian.
	Partial differential equations (for Degree in Mathematics) – teaching in Romanian.
	Differential geometry (for Degree in Mathematics) – teaching in Romanian.

2021–2022	Applied mathematics I and II (for Master Degree in Mathematics) – teaching in Romanian.
	Optimization theory (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Economic modelling processes (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Measure theory (for Degree in Mathematics) – teaching in Romanian.
	Partial differential equations (for Degree in Mathematics) – teaching in Romanian.
	Differential geometry (for Degree in Mathematics) – teaching in Romanian.
2020–2021	Complement of mathematical analysis (for Master Degree in Mathematics) – teaching in Romanian.
	Optimization theory (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Economic modelling processes (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Measure theory (for Degree in Mathematics) – teaching in Romanian.
	Partial differential equations (for Degree in Mathematics) – teaching in Romanian.
	Differential geometry (for Degree in Mathematics) – teaching in Romanian.
	Mathematics in biology (for Degree in Biology) – teaching in Romanian.
2019–2020	Applied mathematics I (for Master Degree in Mathematics) – teaching in Romanian.
	Economic modelling processes (for Master Degree in Modeling, design and management software systems) – teaching in English.
	Measure theory (for Degree in Mathematics) – teaching in Romanian.
	Mathematics in biology (for Degree in Biology and Horticulture) – teaching in Romanian.
	Partial differential equations (for Degree in Mathematics) – teaching in Romanian.
	Differential geometry (for Degree in Mathematics) – teaching in Romanian.
2018–2019	Numerical analysis in fluid structure interaction problems (for Master Degree in Automotive Engineering for a Sustainable Mobility) – teaching in English.
	Economic modelling processes (for Master Degree in Modeling, design and management software systems) - teaching in English.
	Complement of mathematical analysis (for Master Degree in Mathematics) – teaching in Romanian.
	Partial differential equations (for Degree in Mathematics) – teaching in Romanian.
	Differential geometry (for Degree in Mathematics) – teaching in Romanian.
2013–2014	Applied mathematics (for Master Degree in Applied Mathematics) – teaching in Romanian.
	Differential geometry (for Degree in Mathematics) – teaching in Romanian.
	Numerical analysis in fluid structure interaction problems (for Master Degree in Automotive Engineering for a Sustainable Mobility) – teaching in English.
	Project management (for Degree in Computer Science) – teaching in Romanian.
	Systems of differential equations with applications in economy (for Master Degree in Modeling, design and management software systems) – teaching in Romanian.

2012–2013	Applied mathematics (for Master Degree in Applied Mathematics) – teaching in Romanian. Differential geometry (for Degree in Mathematics) – teaching in Romanian. Numerical analysis in fluid structure interaction problems (for Master Degree in Automotive Engineering for a Sustainable Mobility) – teaching in English.
2011–2012	Homogenization theory (for Master Degree in Mathematics) – teaching in Romanian. Numerical methods for PDE (for Master Degree in Mathematics) – teaching in Romanian.
2010–2011	Homogenization theory (for Master Degree in Mathematics) – teaching in Romanian. Differential geometry (for Degree in Mathematics) – teaching in Romanian. Applied mathematics for engineers (for Automotive Engineering Degree) – teaching in Romanian.
2009–2010	Differential geometry (for Degree in Mathematics) – teaching in Romanian. Teaching assistant: Calculus, Multivariable calculus, Linear algebra, Mathematics in biology – teaching in Romanian.
1998–2002	Teaching assistant: Calculus, Multivariable calculus, Complex analysis, Applied mathematics for engineers – teaching in Romanian.

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