

CURRICULUM VITAE

Loredana Bălilescu



Loredana Bălilescu was born in Pitești, Romania, in 1975. Her first steps towards an academic career were taken back in 1998, when she obtained the B.Sc. degree in Mathematics and Informatics at the University of Pitești, Romania, with the thesis "Differential calculus on Banach spaces: application to Newton-Kantorovici method", under the supervision of professor dr. Ion Chițescu from the University of Bucharest. In March 1999, Loredana got an assistant professor position at the Department of Mathematics and Informatics, University of Pitești. Afterwards, to the end of 2000, Loredana started a Ph.D. program at the University of Pitești, Romania, under the supervision of professor dr. Horia Ene. Meanwhile,

Loredana moved to Santiago de Chile in April 2002, where she started a new Ph.D. program at the University of Chile, under the supervision of professor dr. Carlos Conca. She defended her two Ph.D. theses in 2006. The thesis "Bloch-Fourier method in homogenization and convergence analysis of the ALE method" was defended at the University of Chile in April 2006 and Loredana got the academic title of *Doctor in Engineering Science-Mathematical Modeling*. She also defended the thesis "Applications on homogenization theory" at the University of Pitești in September 2006 and she obtained the academic title of *Doctor in Mathematics*. Loredana prepared her Ph.D. theses in the leading research institutions in Chile, the Center for Mathematical Modeling (CMM, <http://www.cmm.uchile.cl/>) and the Department of Mathematical Engineering (DIM, <http://www.dim.uchile.cl/>) from the University of Chile. The CMM is an International Mixed Unit (CNRS-UMI) of the French "Centre National de la Recherche Scientifique" (CNRS, <https://www.cnrs.fr/>), being the first CNRS unit outside France.

Between April 2006 and December 2006, Loredana benefited from one postdoctoral fellowship at CMM-University of Chile obtained by competition, under the supervision of professor dr. Jorge San Martín. In January 2007, she got by competition a postdoctoral grant entitled "Numerical analysis of fluid structure interaction schemes on moving domains and Bloch waves method in periodically perforated domains" from National Commission for Scientific and Technological Research (Conicyt, <https://www.conicyt.cl/>), the Ministry of Education, Chile, for two years (2007-2009), under the supervision of professor dr. Rafael Correa at the University of Chile.

Loredana returned to Romania in 2009, where she got a lecturer position at the Department of Mathematics and Informatics, University of Pitești and she successfully continued to develop her research activity. She won two important research projects from the National Research Council (CNCS, <http://www.cncs-nrc.ro/>), Ministry of Education and Research, Romania: grant "On mathematical modelling of composite materials using Bloch waves and fluid-structure interactions" (2009-2011) and grant "Higher order macro coefficients in homogenization and numerical analysis of aquatic organisms in viscous fluid" (2011-2014), both developed at the University of Pitești. In 2011, Loredana Bălilescu was appointed associate professor at the Department of Mathematics and Informatics, University of Pitești and, in February 2020, she got the full profession position at the same university.

Loredana held a visiting professor position at the Department of Mathematics, Federal University of Santa Catarina (UFSC, <https://ufsc.br/>), in Florianópolis, Brazil, from October 2014 to September 2018, where she performed research, gave seminars on her research interests and results, as well as, she taught different courses for postgraduate students in mathematics (in English) and for undergraduate students in mathematics and engineering (in Portuguese).

In March 2019, Loredana Bălilescu defended her *Habilitation thesis in Mathematics*, entitled "Bloch waves homogenization and analysis of fluid-structure interactions" at the University of Pitești, Romania.

Loredana's research interests include partial differential equations, homogenization theory, fluid-structure interaction theory, variational methods, numerical analysis. She achieved important results in homogenization theory using the spectral method of Bloch waves and in theoretical and numerical problems in fluid-structure interaction theory publishing fifteen papers in journals such as Archive Rational Mechanics and Analysis, Mathematical Models and Methods in Applied Sciences, Numerische Mathematik, Zeitschrift für Angewandte Mathematik und Physik, one book at the Romanian Academy Publishing House, four international proceedings papers and two papers are in advance stage of preparation. Loredana's papers have a good visibility at the international level, fact proved by their citations in prestigious international journals, among them we mention: Journal of Functional Analysis, Mathematical Modelling and Numerical Analysis, Electronic Transactions on Numerical Analysis, International Journal for Numerical Methods in Fluids, Journal of Fluids and Structures, Computer Methods in Applied Mechanics and Engineering.

Loredana was invited to perform several research visits at Federal University of Santa Catarina in Brazil, University of Chile and University of Concepción in Chile, University of Lorraine and University Paris 13 in France. She gave many talks at several prestigious international conferences as invited speaker, contributed speaker and various seminars at foreign universities in countries like Brazil, Canada, Chile, England, France, Germany, Greece, Hong Kong, Italy, India, Mexico, Poland, Romania, Spain, South Korea, USA. Loredana has been awarded with several fellowships and awards, for instance "The Best Research Poster Award" at the 6th European Congress of Mathematics, in Krakow, Poland, Doctoral Medal at University of Chile, Chile, Open Arms travel grant to participate at ICM and WM2 in Rio de Janeiro, Brazil, Together 2014 travel grant to participate at ICM and ICWM Seoul, South Korea, among others. All these visits helped her to enlarge the horizon and to establish solid international collaborations with outstanding researchers: Carlos Conca (Chile), Delphine Dupuy (France), Tuhin Ghosh (USA), Amrita Ghosh (France), Jaime Ortega (Chile), Rafael Orive (Spain), Jorge San Martín (Chile), Jean-François Scheid (France), Takéo Takahashi (France), and Muthusamy Vanninathan (India).

Personal information

Name	LOREDANA BĂLILESCU
Previous Name	LOREDANA SMARANDA (2000-2014)
Birth	August 30th, 1975, Pitești, Argeș, Romania
Citizenship	Romanian, Chilean Permanent Residence (since 2006), 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)
Mailing Address	University of Pitești Department of Mathematics and Informatics 110040 Pitești, Str. Târgu din Vale, Nr. 1 Romania
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Homepage	http://www.dim.uchile.cl/~smaranda
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ResearcherID	F-5570-2010
ORCID number	0000-0003-4561-771X

Education

May 2019	Habilitation in Mathematics, University of Pitești, Romania <i>Title:</i> Bloch waves homogenization and analysis of fluid-structure interactions. (in English) <i>Comission:</i> Dr. Marin MARIN - Transilvania University of Brașov, Dr. Dan POLIȘEVSKI - Simion Stoilow Institute of Mathematics of the Romanian Academy, Dr. Claudia TIMOFTE - University of Bucharest
September 2006	Ph.D. in Mathematics, University of Pitești, Romania <i>Title:</i> Applications on homogenization theory. (in Romanian) <i>Advisor:</i> Dr. Horia ENE

April 2006	Ph.D. in Engineering Science-Mathematical Modelling, University of Chile, Chile <i>Title:</i> Bloch-Fourier method in homogenization and convergence analysis of the ALE method. (in Spanish) <i>Advisors:</i> Dr. Carlos CONCA and Dr. Jorge SAN MARTÍN
June 1998	B.S. in Mathematics and Informatics, University of Pitești, Romania <i>Title:</i> Differential calculus on Banach spaces: application to Newton-Kantorovici method. (in Romanian) <i>Advisor:</i> Dr. Ion CHIȚESCU - University of Bucharest

Academic Experience

Employment

February 2020 –the present	Full Professor University of Pitești, Department of Mathematics and Informatics, Romania
October 2011 –January 2020	Associate Professor University of Pitești, Department of Mathematics and Informatics, Romania
October 2014 –September 2018	Visiting Professor Federal University of Santa Catarina, Department of Mathematics, Brazil
July 2009 –October 2014	Researcher University of Pitești, Department of Mathematics and Informatics, Romania
October 2008 –September 2011	Lecturer University of Pitești, Department of Mathematics and Informatics, 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 Pitești, Department of Mathematics and Informatics, Romania

Short-term visiting

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. Băilescu**, J. San Martín, J.-F. Scheid, *Convergence of a Lagrange–Galerkin method for the equations modelling of fish-like swimming*, work in progress (2020).
- [2] **L. Băilescu**, C. Conca, T. Ghosh, J. San Martín, M. Vanninathan, *Bloch wave spectral analysis in the class of generalized Hashin-Shtrikman micro-structures*, arXiv:1608.07540, to be soon submitted (2020).
- [3] **L. Băilescu**, 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, DOI 10.1007/s00033-019-1213-0.
- [4] **L. Băilescu**, 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.
- [5] **L. Băilescu**, J. San Martín, T. Takahashi, *Fluid–rigid structure interaction system with Coulomb’s law*, SIAM Journal on Mathematical Analysis (2017), 49(6), 4625–4657.
- [6] **L. Băilescu**, 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.
- [7] 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).

¹Loredana Smaranda is my previous name.

- [8] 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.
- [9] C. Conca, J. San Martín, **L. Smaranda**, M. Vanninathan, *Burnett coefficients and laminates*, Applicable Analysis 91, Issue 6 (2011), pp. 1155–1176.
- [10] 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.
- [11] 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.
- [12] 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.
- [13] 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.
- [14] 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.
- [15] 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).
- [16] 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.
- [17] 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] 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.
- [2] 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.
- [3] **L. Smaranda**, *Bloch waves in homogenization theory* (in romanian), Romanian Academy Publishing House, Bucharest, 2010, ISBN 978-973-27-1955-8.
- [4] 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.
- [5] 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

- 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	<i>Burnett coefficients and laminates</i> , Conca60 Congress, Basque Center for Applied Mathematics, Bilbao, Spain.
August 29, 2014	<i>Burnett coefficients and laminates</i> , Special Session "Mécanique", the the 12th French-Romanian Colloquium in Applied Mathematics, University of Lyon, Lyon, France.
July 22, 2014	<i>Burnett coefficients and laminates</i> , Minisymposium "Asymptotic analysis: homogenization and thin structures" at The thirteenth International Conference on Integral Methods in Science and Engineering, Karlsruhe Institute of Technology, Karlsruhe, Germany.
August 9, 2013	<i>Convergence of the Lagrange-Galerkin method for fluid-structure interaction problems</i> , Special Session "PDE and Incompressible Fluid Flow", the Mathematical Congress of the Americas, Guanajuato, Mexic.
June 27, 2013	<i>On numerical discretization for the motion of a self-propelled deformable structure in a viscous incompressible fluid</i> , 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	<i>Numerical analysis in fluid-structure interaction problems</i> , Workshop for Young Researchers in Mathematics, Ovidius University of Constanța, Constanța, Romania.
August 25, 2012	<i>Convergence of the Lagrange-Galerkin method for the equations modelling of fish-like swimming</i> , Special Session "Modèles mathématiques et numériques en mécanique des solides", the 11th French-Romanian Colloquium in Applied Mathematics, Bucharest, Romania.
November 26, 2010	<i>Bounds on Burnett coefficient in periodic media</i> , Workshop on Partial Differential Equations, Simion Stoilow Institute of Mathematics of the Romanian Academy, Bucharest, Romania.
August 30, 2010	<i>A modified Lagrange-Galerkin method for a fluid-rigid system with discontinuous density</i> , Session "Analyse, controle et approche numérique en mécanique des solides", the 10th French-Romanian Colloquium in Applied Mathematics, Poitiers, France.
August 29, 2010	<i>Bounds on dispersion coefficient in periodic media</i> , Session "Multiscale problems", the 10th French-Romanian Colloquium in Applied Mathematics, Poitiers, France.
August 15, 2010	<i>Bounds on dispersion tensor in periodic media</i> , ICM Satellite Conference on PDE and Related Topics, Bangalore, India.
August 29, 2008	<i>On Burnett coefficients in periodic media</i> , Mini Symposium "Asymptotic Analysis", The 9th French-Romanian Colloquium in Applied Mathematics, Brașov, Romania.
July 9, 2008	<i>On Burnett coefficients in periodic media of two-phases</i> , The Tenth International Conference on Integral Methods in Science and Engineering, Santander, Spain.
December 9, 2007	<i>On Bloch waves homogenization in periodically perforated domains</i> , Fourth Pacific Rim Conference on Mathematics, City University of Hong Kong, Hong Kong.
September 7, 2007	<i>Homogeneización usando ondas de Bloch</i> , "Puerto Matemático III", Valparaíso, Chile.

Seminar/Colloquium talks

October 2, 2017	<i>Interação fluido-estrutura e teoria de homogeneização</i> , to Seminars II of "Curso de Licenciatura em Matemática", in Department of Mathematics, Federal University of Santa Catarina, Florianópolis, Brazil.
September 27, 2013	<i>Convergence of the Lagrange-Galerkin method for fluid-structure interaction problems</i> , to Weekly Scientific Seminar "Caleta Numérica", Mathematical Institute, Catholic University of Valparaíso, Chile.
November 6, 2012	<i>Convergence of the Lagrange-Galerkin method for fluid-structure interaction problems</i> , Scientific Seminar in Department of Mathematics, Federal University of Santa Catarina, Florianópolis, Brazil.
October 19, 2009	<i>Optimal bounds on dispersion coefficient in periodic media</i> , 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

- October 11, 2019 *Contributions in fluid-structure interaction theory*, 13th Annual Conference of the Romanian Mathematical Society, University of Pitesti, Romania.
- August 02, 2018 *Fluid-structure interaction system with Coulombs friction law*, International Congress of Mathematicians (ICM2018), 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 Non-linear 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	<i>Bloch waves homogenization of a Dirichlet problem in a periodically perforated domain</i> , International Workshop on Analysis and Control of Partial Differential Equations, Pont-a-Mousson, France.
August 29, 2006	<i>On the homogenization of a non-homogeneous Neumann problem via Bloch waves method</i> , The 8th French-Romanian Colloquium in Applied Mathematics, Chambéry, France.
December 7, 2005	<i>Convergence of a finite element/ALE method for the Stokes equations in a domain depending on time</i> , International Workshop on Numerical Analysis and Control of Fluid-Structure Interactions, Chillán, Chile.

Attendance

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, Università degli Studi di Napoli Federico II, Naples, Italy.
May 2001	Congress "Journées 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 Pitești, Romania.

Grants

Principal investigator

2011–2014	Grant CNCS–UEFISCDI TE, no. 102/05.10.2011 <i>Title:</i> Higher order macro coefficients in homogenization and numerical analysis of aquatic organisms in viscous fluid. <i>Funding Institution:</i> National Research Council (CNCS), Ministry of Education and Research, Romania. <i>Total amount assigned:</i> 750 000 Romanian Lei (aprox. 210.000,00 Euro). <i>Position in competition:</i> 11 of 37 applicants.
2009–2011	Grant CNCSIS RP-2, no. 6/01.07.2009 <i>Title:</i> On mathematical modelling of composite materials using Bloch waves and fluid-structure interactions. <i>Funding Institution:</i> The National University Research Council (CNCSIS), Ministry of Education and Research, Romania. <i>Total amount assigned:</i> 510 000 Romanian Lei (aprox. 140.000,00 Euro). <i>Annual score:</i> I have obtained the maximum score of 50 points at each annual monitoring.
2007–2008	Grant FONDECYT Postdoctorado no. 3070029 <i>Title:</i> Numerical analysis of fluid structure interaction schemes on moving domains and Bloch waves method in periodically perforated domains. <i>Funding Institution:</i> National Commission for Scientific and Technological Research (CONICYT), Government of Chile. <i>Total amount assigned:</i> 27 644 000 Chilean Pesos (aprox. 50.000,00 Euro).

Cooperation

2008–2011	Grant CNMP no. 12099/1.10.2008 <i>Title:</i> Techniques for digital content management. <i>Funding Institution:</i> The National Center for Management Programs (CNMP), Ministry of Education and Research, Romania.
2007–2009	Grant ECOS-CONICYT no. C07E05 <i>Title:</i> Analysis and control of fluid structure interactions. <i>Institutions:</i> University of Chile, Chile and Élie Cartan Mathematics Institute, Henri Poincaré University, Nancy 1, France.
2006–2007	Grant CNCSIS no. 1059/2006 <i>Title:</i> Mathematical models for the asymptotic study of nonhomogeneous media. <i>Funding Institution:</i> The National University Research Council (CNCSIS), Ministry of Education and Research, Romania.
2004–2006	Grant ECOS-CONICYT no. C04E07 <i>Title:</i> Homogenization and asymptotic representation formulas. <i>Institutions:</i> University of Chile, Chile and Centre of Applied Mathematics, École Polytechnique, France.
2001–2002	Grant INFOSOC no. 26/26.10.2001 <i>Title:</i> The analysis, organization and improvement in the function of computer networks connected to the Internet. <i>Funding Institution:</i> Ministry of Education and Research, Romania.

Honors, Awards & Fellowships

May 2019	Erasmus+ teaching mobility at School of Mathematics, Aristotle University of Thessaloniki, Greece.
August 2018	OPEN ARMS travel grant to participate at ICM and WM2 2018 Rio de Janeiro, Brazil.
August 2014	TOGETHER 2014 travel grant to participate 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 participate 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 participate 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.
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University of Pitești, Romania

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.

Supervision of students

Federal University of Santa Catarina, Brazil

2017–2018	Scientific co-advisor for the following Ph.D. student: Juan Carlos TORRES ESPINOZA Ph.D. in Pure and Applied Mathematics
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University of Pitești, Romania

2019–2020	Scientific advisor for the following postgraduate student: Mihăiță-Cristian MIRICĂ Master Degree in Informatics.
2016–2017	Scientific advisor for the following postgraduate student: Sandra DUMITRESCU Master Degree in Mathematics.
2014–2015	Scientific advisor for the following graduate student: Sandra DUMITRESCU Degree in Mathematics.
2013–2014	Scientific advisor for the following postgraduate student: Florina CIOBANU Master Degree in Mathematics.
2013	Referee of Ph.D. thesis for the following Ph.D. students: Marius MACARIE Thesis title: "Integral operators on spaces of univalent functions". Laura STANCIU Thesis title: "Study of some classes of analytic functions with integral operators". Irina DORCA Thesis title: "Study of properties for special classes of univalent functions".
2011–2012	Scientific advisor for the following graduate/postgraduate students: Florina CIOBANU Degree in Mathematics. Alina ANGELESCU Master Degree in Applied Mathematics. Alina CATINCA Master Degree in Applied Mathematics. Maria POPA Master Degree in Applied Mathematics.
2011–2012	Scientific advisor for the following secondary school teacher: Luciana DOINARU - she got the first degree certification to teach.

2010–2011	<p>Scientific advisor for the following graduate/postgraduate students:</p> <p>Andreea VOICU Degree in Mathematics.</p> <p>Estera SIMA Master Degree in Applied Mathematics.</p> <p>Iuliana TOMA Master Degree in Applied Mathematics.</p>
2010–2011	<p>Scientific advisor for the following secondary school teacher:</p> <p>Diana TĂBÎRCĂ (VĂCARU) - she got the first degree certification to teach.</p>

May 15th, 2020