

CURRICULUM VITAE

University Education

- Licenciada en Ciencias Matemáticas (1987), Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (with Gold Medal)
- Computadora Científica (1988), Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (with Honor Diploma)
- Doctora en Ciencias Matemáticas (1993), Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (Advisors: Luis Caffarelli – Enrique Lami Dozo)

Present Positions

- Associate Professor, Full time, Departamento de Matemática, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, since 2006
- Researcher of CONICET (National Research Council of Argentina), since 1998

Fellowships

- Universidad de Buenos Aires - Undergraduate Fellowship (1983-1987)
- CONICET - Graduate Fellowship (1987-1989)
- CONICET - Doctoral Fellowship (1989-1992)
- Organization of American States - Research Fellowship at the Institute for Advanced Study, Princeton, USA (1992)

Previous Positions

- Ayudante de Primera, Departamento de Matemática, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (1991-1993)
- Jefe de Trabajos Prácticos, Departamento de Matemática, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (1993-1998)
- Assistant Professor, Departamento de Matemática, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (1998-2006)

Publications

- C. Lederman, “*Un problema de frontera libre en elasticidad*”. Cuader. Inst. Mat. Beppo Levi 24 (1993), 89-96. Universidad Nacional de Rosario, Rosario, (ISSN 0326-0690). MR1290801 (95h:73057).
- C. Lederman, N. Wolanski, “*Un problema de frontera libre de la teoría de combustión I*”. Cuader. Inst. Mat. Beppo Levi 26 (1995), 1-13. Universidad Nacional de Rosario, Rosario, (ISSN 0326-0690). MR1456233 (98b: 80012).
- C. Lederman, N. Wolanski, “*Un problema de frontera libre de la teoría de combustión II*”. Cuader. Inst. Mat. Beppo Levi 26 (1995), 15-25. Universidad Nacional de Rosario, Rosario, (ISSN 0326-0690). MR1456233 (98b: 80012).
- C. Lederman, “*An optimization problem in elasticity*”. Differential and Integral Equations 8 (8) (1995), 2025-2044. Khayyam, Athens, OH., USA, (ISSN 0893-4983). MR1348963 (97a:73063).
- C. Lederman, “*A free boundary problem with a volume penalization*”. Annali della Scuola Normale Superiore di Pisa, Classe di Scienze, Serie IV, 23 (2) (1996), 249-300. Scuola Normale Superiore, Pisa, Italy, (ISSN 0391-173X). MR1433424 (98a:35145).
- L. A. Caffarelli, C. Lederman, N. Wolanski, “*Uniform estimates and limits for a two phase parabolic singular perturbation problem*”. Indiana University Mathematics Journal 46 (2) (1997), 453-490. Indiana University, Bloomington, IN., USA, (ISSN 0022 - 2518). MR1481599 (98i:35099).
- L. A. Caffarelli, C. Lederman, N. Wolanski, “*Pointwise and viscosity solutions for the limit of a two phase parabolic singular perturbation problem*”. Indiana University Mathematics Journal 46 (3) (1997), 719-740. Indiana University, Bloomington, IN., USA, (ISSN 0022 - 2518). MR1488334 (99c:35116).
- C. Lederman, N. Wolanski, “*Viscosity solutions and regularity of the free boundary for the limit of an elliptic two phase singular perturbation problem*”. Annali della Scuola Normale Superiore di Pisa, Classe di Scienze, Serie IV, 27 (2) (1998), 253-288. Scuola Normale Superiore, Pisa, Italy, (ISSN 0391-173X). MR1664689 (99m:35274).
- C. Lederman, “*A free boundary problem of interest in combustion*”. Anales de la Reunión de Análisis y Ecuaciones no Lineales (Buenos Aires, 1997), UBA- CONICET, (1998), 29-33.
- C. Lederman, N. Wolanski, “*Limit, pointwise, viscosity and classical solutions to a free boundary problem in combustion*”. Free Boundary Problems. Theory and Applications. I. Athanassopoulos, G. Makrakis and J.F. Rodrigues, eds., (ISBN 1-58488-018-X) Chapman &

Hall / CRC Research Notes in Mathematics, Boca Raton, FL., USA, Vol. 409, (1999), 164-173. MR1708469 (2000j:35281).

- C. Lederman, J. L. Vázquez, N. Wolanski, "*A two phase free boundary problem from combustion: Uniqueness and agreement of solution*". Free Boundary Problems: Theory and Applications I. N. Kenmochi, ed., (ISBN 4-7625-0423-8/hbk) Gakuto International Series, Mathematical Sciences and Applications, Gakkotosho, Tokyo, Japan, Vol. 13, (2000), 180-189. MR1793033.

- C. Lederman, J. L. Vázquez, N. Wolanski, "*Uniqueness of solution to a free boundary problem from combustion*". Transactions of the American Mathematical Society 353 (2), (2001), 655-692. American Mathematical Society, Providence, RI., USA, (ISSN 0002-9947). MR1804512 (2001m:35327).

- C. Lederman, J. L. Vázquez, N. Wolanski, "*A mixed semilinear parabolic problem in a noncylindrical space-time domain*". Differential and Integral Equations 14 (4) (2001), 385-404. Khayyam, Athens, OH., USA, (ISSN 0893-4983). MR1799414 (2002c:35139).

- C. Lederman, J. L. Vázquez, N. Wolanski, "*A mixed semilinear parabolic problem from combustion theory*". Electronic Journal of Differential Equations, Conf. 06 (2001), 203-214. Southwest Texas State University, San Marcos, TX., USA, (ISSN 1072-6691). MR1804775 (2001k:35132).

- C. Lederman, J. L. Vázquez, N. Wolanski, "*Uniqueness in a two phase free boundary problem*". Advances in Differential Equations 6 (12) (2001), 1409-1442. Khayyam, Athens, OH., USA, (ISSN 1079-9389). MR1858427 (2002m:35233).

- C. Lederman, J. L. Vázquez, N. Wolanski, "*Uniqueness of solution to a free boundary problem from combustion with transport*". VI Seminario sobre problemas de frontera libre y sus aplicaciones, Tercera Parte, D.A. Tarzia, ed., MAT-Serie A, 5 (2001), 37-41. Universidad Austral, Rosario, (ISSN 1515-4904). MR1924399 (2004c:80016).

- J. A. Carrillo, C. Lederman, P. A. Markowich, G. Toscani, "*Poincaré Inequalities for linearizations of very fast diffusion equations*". Nonlinearity 15 (3) (2002), 565-580. Institute of Physics Publishing, Bristol, United Kingdom, (ISSN 0951-7715). MR1901093 (2003b:35118).

- C. Lederman, J. M. Roquejoffre, N. Wolanski, "*Justification mathématique d'une équation intégral-différentielle non linéaire pour un modèle de flamme sphérique*". Comptes Rendus de l'Académie des Sciences Paris - Série I - Mathématique 334 (7) (2002), 569-574. Elsevier, Paris, France, (ISSN 0764-4442). MR1903765 (2003c:80004).

- C. Lederman, P. A. Markowich, "*On fast-diffusion equations with infinite equilibrium entropy and finite equilibrium mass*". Communications in Partial Differential Equations 28 (1&2) (2003), 301-332. Dekker, Monticello, NY., USA, (ISSN 0360-5302). MR1974458 (2004a:35125).

- C. Lederman, J. M. Roquejoffre, N. Wolanski, "*Mathematical justification of a nonlinear integro-differential equation for the propagation of spherical flames*". Annali di Matematica Pura ed Applicata (4) 183 (2) (2004), 173-239. Springer Verlag, Berlin, Germany, (ISSN 0373-3114). MR2075472 (2005h:80014).

- A. Arnold, J. A. Carrillo, L. Desvillettes, J. Dolbeault, A. Jüngel, C. Lederman, P. A. Markowich, G. Toscani, C. Villani, "*Entropies and equilibria of many-particle systems: An essay on recent research*". Monatshefte für Mathematik 142 (1&2) (2004), 35-43. Springer

Verlag, Wien, Austria, (ISSN 0026-9255). MR2065020 (2005a:35123). Also published in Nonlinear Differential Equation Models, Springer Verlag, Wien, Austria, 2004, (ISBN 3-211-20995-6). MR2105498.

- C. Lederman, N. Wolanski, "*Singular perturbation in a nonlocal diffusion problem*". Communications in Partial Differential Equations 31 (2) (2006), 195-241. Taylor & Francis, Philadelphia, PA., USA, (ISSN 0360-5302). MR2209752 (2007e:35166).

- C. Lederman, N. Wolanski, "*A two phase elliptic singular perturbation problem with a forcing term*". Journal de Mathématiques Pures et Appliquées 86 (6) (2006), 552-589. Elsevier, Amsterdam, Netherlands, (ISSN 0021-7824). MR2281453 (2007i:35251).

- C. Lederman, N. Wolanski, "*A local monotonicity formula for an inhomogenous singular perturbation problem and applications*". Annali di Matematica Pura ed Applicata 187 (2) (2008), 197-220. Springer Verlag, Berlin, Germany, (ISSN 0373-3114). MR2372799 (2008m:35113).

- C. Lederman, D. Oelz, "*A quasilinear parabolic singular perturbation problem*". Interfaces and Free Boundaries 10 (4) (2008), 447-482. European Mathematical Society Publishing House, Zürich, Switzerland, (ISSN 1463-9963). MR2465269 (2010b:35251).

- C. Lederman, N. Wolanski, "*A local monotonicity formula for an inhomogenous singular perturbation problem and applications. Part II*". Annali di Matematica Pura ed Applicata 189 (1) (2010), 25-46. Springer Verlag, Berlin, Germany, (ISSN 0373-3114). MR2556758 (2010j:35153).

- C. Lederman, N. Wolanski, "*A singular perturbation problem for the $p(x)$ -Laplacian*". Matemática Aplicada, Computacional e Industrial (MACI) 4 (2013), 485-488. Asociación Argentina de Matemática Aplicada, Computacional e Industrial, Santa Fe, Argentina, (ISSN 2314-3282).

- C. Lederman, N. Wolanski, "*An inhomogeneous minimization problem for the $p(x)$ -Laplacian with free boundary*". Matemática Aplicada, Computacional e Industrial (MACI) 5 (2015), 321-324. Asociación Argentina de Matemática Aplicada, Computacional e Industrial, Santa Fe, Argentina, (ISSN 2314-3282).

- C. Lederman, N. Wolanski, "*An inhomogeneous singular perturbation problem for the $p(x)$ -Laplacian*". Nonlinear Analysis: Theory, Methods & Applications 138 (2016), 300-325. Elsevier, Amsterdam, Netherlands, (ISSN 0362-546X). MR3485150.

- C. Lederman, N. Wolanski, "*Weak solutions and regularity of the interface in an inhomogeneous free boundary problem for the $p(x)$ -Laplacian*". Interfaces and Free Boundaries 19 (2) (2017), 201-241. European Mathematical Society Publishing House, Zürich, Switzerland, (ISSN 1463-9963). MR3667700.

- C. Lederman, N. Wolanski, "*Inhomogeneous minimization problems for the $p(x)$ -Laplacian*", Journal of Mathematical Analysis and Applications 475 (2019), 423-463. Elsevier, Amsterdam, Netherlands, (ISSN 0022-247X). MR3944328.

- C. Lederman, N. Wolanski, "*A minimum problem with free boundary for an inhomogeneous operator with non-standard growth*". Matemática Aplicada, Computacional e Industrial (MACI) 7 (2019), 361-364. Asociación Argentina de Matemática Aplicada, Computacional e Industrial, Santa Fe, Argentina, (ISSN 2314-3282).

- C. Lederman, N. Wolanski, “*An optimization problem with volume constraint for an inhomogeneous operator with nonstandard growth*”. Discrete and Continuous Dynamical Systems - Series A 41 (6) (2021), 2907-2946. American Institute of Mathematical Sciences, Springfield, Missouri, USA, (ISSN 1078-0947). MR4235634.
- C. Lederman, N. Wolanski, “*Lipschitz continuity of minimizers in a problem with nonstandard growth*”, Contemporary PDEs between theory and modeling, Mathematics in Engineering 3 (1) (2021), 1-39. doi: 10.3934/mine.2021009. AIMS Press, Springfield, Missouri, USA, (ISSN 2640-3501). MR4257513.
- C. Lederman, N. Wolanski, “*An optimization problem with volume constraint for the inhomogeneous $p(x)$ -Laplacian*”. Matemática Aplicada, Computacional e Industrial (MACI) 8 (2021), 285-288. Asociación Argentina de Matemática Aplicada, Computacional e Industrial, Santa Fe, Argentina, (ISSN 2314-3282).
- F. Ferrari, C. Lederman, “*Regularity of flat free boundaries for a $p(x)$ -Laplacian problem with right hand side*”. Nonlinear Analysis: Theory, Methods & Applications 212 (2021), Article ID 112444, 25 pp. Elsevier (Pergamon), Oxford, United Kingdom, (ISSN 0362-546X). <https://doi.org/10.1016/j.na.2021.112444>. MR4273843.
- F. Ferrari, C. Lederman, S. Salsa, “*Recent results on nonlinear elliptic free boundary problems*”. Vietnam Journal of Mathematics 50 (4) (2022), 977–996. Springer, Singapore, (ISSN 2305-221X). <https://doi.org/10.1007/s10013-022-00565-4>. MR4493776.
- F. Ferrari, C. Lederman, “*Regularity of Lipschitz free boundaries for a $p(x)$ -Laplacian problem with right hand side*”. Journal de Mathématiques Pures et Appliquées 171 (2023), 26-74. Gauthier-Villars / Editions Elsevier, Paris, France, (ISSN 0021-7824). <https://doi.org/10.1016/j.matpur.2022.12.009>. MR4545168.
- F. Ferrari, C. Lederman, “*Free boundary regularity for a one-phase problem with non-standard growth*”. Matemática Aplicada, Computacional e Industrial (MACI) 9 (2023), 211-214. Asociación Argentina de Matemática Aplicada, Computacional e Industrial, Santa Fe, Argentina, (ISSN 2314-3282).
- F. Ferrari, C. Lederman, “*Regularity of flat free boundaries for two-phase $p(x)$ -Laplacian problems with right hand side*”. Calculus of Variations and Partial Differential Equations 63 (2024), Article number 132, 43 p. Springer, Berlin, Germany, (ISSN 0944-2669). <https://doi.org/10.1007/s00526-024-02741-5>.

Main Academic Visits

- Institute for Advanced Study, Princeton, USA, January-June 1992.
- Institute for Advanced Study, Princeton, USA, March-May 1994.
- Universidad Autónoma de Madrid, Spain, September 1995.
- Universite Libre de Bruxelles, Faculte des Sciences, Belgium, January 1996.
- Universidad Autónoma de Madrid, Spain, January 1996.
- Ecole Normale Superieure, Paris, France, February 1996.
- Universidad Autónoma de Madrid, Spain, May 1997.

- University of Bonn, Institute for Applied Mathematics, Germany, July 1998.
- Universidad Autónoma de Madrid, Spain, July 1999.
- Erwin Schrodinger International Institute for Mathematical Physics, Vienna, Austria, March 2000.
- Institut Henri Poincaré, Centre International de Recherche Emile Borel, Paris, France, November 2002.
- Centro de Modelamiento Matemático, Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile, Chile, January 2003.
- Universidad Autónoma de Madrid, Spain, June 2003.
- University of Texas at Austin, USA, April 2005.
- INdAM - Istituto Nazionale di Alta Matematica Francesco Severi, Rome, Italy, May 2005.
- Institut für Mathematik, Universität Wien, Vienna, Austria, June 2005.
- University of Texas at Austin, USA, October 2008.
- Mathematical Sciences Research Institute (MSRI), Berkeley, USA, January 2011.
- University of Texas at Austin, Department of Mathematics, USA, January 2011.
- Mathematical Sciences Research Institute (MSRI), Berkeley, USA, March 2011.
- University of Chicago, Department of Mathematics, USA, March 2011.
- Universidad de Mar del Plata, Departamento de Matemática, Argentina, May 2011.
- University of Texas at Austin, Department of Mathematics, USA, October 2011.
- Universidad de Mar del Plata, Departamento de Matemática, Argentina, July 2012.
- Faculdade de Ciências da Universidade de Lisboa and Center of Mathematics, Fundamental Applications and Operations Research, Lisbon, Portugal, July 2019.
- Alma Mater Studiorum Università di Bologna, Dipartimento di Matematica, Bologna, Italy, October-November 2019.
- Alma Mater Studiorum Università di Bologna, Dipartimento di Matematica, Bologna, Italy, February-March 2022.
- Alma Mater Studiorum Università di Bologna, Dipartimento di Matematica, Bologna, Italy, July-August 2022.
- Alma Mater Studiorum Università di Bologna, Dipartimento di Matematica, Bologna, Italy, February-March 2023.
- Alma Mater Studiorum Università di Bologna, Dipartimento di Matematica, Bologna, Italy, July-August 2023.

- Alma Mater Studiorum Università di Bologna, Dipartimento di Matematica, Bologna, Italy, July 2024.

Main Lectures, Talks and Communications

- Title: "*A Free Boundary Problem in Elasticity*", in I International Symposium on Nonlinear PDEs and Free Boundary Problems. Academia Nacional de Ciencias Exactas Físicas y Naturales, Buenos Aires, Argentina, July 1994.

- Title: "*A Free Boundary Problem from Optimal Design*", in International School of Mathematics: Free Boundary Problems in Mathematics and Industry, Santander, Spain, August 1995.

- Title: "*A Two Phase Free Boundary Problem from Combustion*", in Workshop on Regularization Methods in Free Boundary Problems, Faro, Portugal, January 1996.

- Title: "*A Two Phase Free Boundary Problem from Combustion*", in Seminaire d'Analyse, Universite Libre de Bruxelles, Faculte des Sciences, Brussels, Belgium, February 1996.

- Title: "*Viscosity Solutions to a Free Boundary Problem arising in Flame Propagation*", in Ecole Normale Supérieure, Paris, France, February 1996.

- Title: "*Pointwise and Viscosity Solutions for the Limit of a Two Phase Parabolic Singular Perturbation Problem*", in FBP'97 - Free Boundary Problems: Theory and Applications, Crete, Greece, June 1997.

- Title: "*Regularity of the Free Boundary in a Problem from Combustion*", in Workshop on Geometric Analysis of Surfaces, Maps and Free Boundaries, University of Freiburg, Germany, July 1998.

- Title: "*A Free Boundary Problem from Combustion*", in University of Bonn, Institute for Applied Mathematics, Germany, July 1998.

-Title: "*Uniqueness in a Free Boundary Problem in Deflagration Flames*", in International Congress on Industrial and Applied Mathematics ICIAM'99, Edinburgh, Scotland, July 1999.

- Title: "*A Two Phase Free Boundary Problem from Combustion: Uniqueness and Agreement of Solution*", in International Congress FBP'99 - Free Boundary Problems, Chiba, Japan, November 1999.

- Title: "*A Mixed Semilinear Parabolic Problem in a Non-cylindrical Space-time Domain*", in USA-Chile, Workshop on Nonlinear Analysis, Viña del Mar - Valparaíso, Chile, January 2000.

- Title: "*Uniqueness and Agreement of Solution in a Two Phase Free Boundary Problem from Combustion*", in Symposium on Geometry and Regularity of Free Boundaries, Royal Institute of Technology (KTH), Stockholm, Sweden, February 2000.

- Title: "*Uniqueness and Agreement of Solution in a Two Phase Free Boundary Problem from Combustion*", in Symposium on Nonlinear Partial Differential Equations, Erwin Schrodinger International Institute for Mathematical Physics, Vienna, Austria, March 2000.

- Title: "*Regularity of the Free Boundary in a Two Phase Problem from Combustion*", in Fourth European Conference on Elliptic and Parabolic Problems: Theory and Applications, Gaeta, Italy, September 2001.

- Title: “*A Free Boundary Problem from Nonlocal Combustion*”, in Workshop in Geometric and Global Properties in Partial Differential Equations with Applications, Royal Institute of Technology (KTH), Stockholm, Sweden, June 2003.
- Title: “*A Free Boundary Problem from Nonlocal Combustion*”, in Joint Meeting between the American Mathematical Society and the Real Sociedad Matemática Española, Sevilla, Spain, June 2003.
- Title: “*A Free Boundary Problem from Nonlocal Combustion*”, in XXIV Coloquio Brasileiro de Matemática, Instituto Nacional de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, Brazil, August 2003.
- Title: “*A Two Phase Elliptic Singular Perturbation Problem with a Forcing Term*”, in Conference on Partial Differential Equations in Industry and Engineering, Quito, Ecuador, July 2004.
- Title: “*A Two Phase Elliptic Singular Perturbation Problem with a Forcing Term*”, in Workshop on Global and Geometric Aspects in Nonlinear PDE, Yerevan, Armenia, October 2004.
- Title: “*A Local Monotonicity Formula for an Inhomogeneous Singular Perturbation Problem and Applications*”, in I Congress on Applied, Computational and Industrial Mathematics MACI 2007 (SIAM), Córdoba, Argentina, October 2007.
- Title: “*Regularity of the Free Boundary for the Limit of an Inhomogeneous Singular Perturbation Problem*”, in University of Texas at Austin, USA, October 2008.
- Title: “*A Singular Perturbation Problem for the $p(x)$ -Laplacian*”, in IV Congress on Applied, Computational and Industrial Mathematics MACI 2013 (SIAM), Buenos Aires, Argentina, May 2013.
- Title: “*An Inhomogeneous Minimization Problem for the $p(x)$ -Laplacian with Free Boundary*”, in V Congress on Applied, Computational and Industrial Mathematics MACI 2015 (SIAM), Tandil, Argentina, May 2015.
- Title: “*An Inhomogeneous Minimization Problem for the $p(x)$ -Laplacian*”, in Congress SUMA 2016 - First Joint Meeting between the Sociedad de Matemática de Chile and the Unión Matemática Argentina, Valparaíso, Chile, December 2016.
- Title: “*A Free Boundary Problem for an Inhomogeneous Operator with Non-Standard Growth*”, in Conference on Nonlinear Analysis and Applications, in honor of Luis Caffarelli, Mar del Plata, Argentina, March 2019.
- Title: “*A Minimum Problem with Free Boundary for an Inhomogeneous Operator with Non-Standard Growth*”, in VII Congress on Applied, Computational and Industrial Mathematics MACI 2019 (SIAM), Rio Cuarto, Argentina, May 2019.
- Title: “*An Inhomogeneous Minimization Problem with Free Boundary for the $p(x)$ -Laplacian*”, in 9th International Congress on Industrial and Applied Mathematics - ICIAM 2019, Valencia, Spain, July 2019.
- Title: “*A Free Boundary Problem for an Inhomogeneous Operator with Nonstandard Growth*”, in Seminario de Analise e Equacoes Diferenciais, Faculty of Sciences, University of Lisbon, Lisbon, Portugal, July 2019.

-Title: “*A Free Boundary Problem for an Inhomogeneous Operator with Nonstandard Growth*”, in 12th Congress of the International Society for Analysis, its Applications and Computation ISAAC 2019, Aveiro, Portugal, July 2019.

- Title: “*An Optimization Problem with Volume Constraint for an Inhomogeneous Operator with Nonstandard Growth*”, in Congress SUMA 2019 - Second Joint Meeting between the Sociedad de Matemática de Chile and the Unión Matemática Argentina, Mendoza, Argentina, September 2019.

- Title: “*Minimization Problems for an Inhomogeneous Operator with Nonstandard Growth*”, in 12th Americas Conference on Differential Equations and Nonlinear Analysis - AMERICAS XII, Guanajuato, México, December 2019.

- Title: “*Lipschitz Continuity of Minimizers in a Problem with Nonstandard Growth*”, in LXIX Annual Meeting (Virtual) of the Unión Matemática Argentina (virtUMA 2020), Argentina, September 2020.

- Title: “*An Optimization Problem with Volume Constraint for the Inhomogeneous $p(x)$ -Laplacian*”, in VIII Congress on Applied, Computational and Industrial Mathematics MACI 2021 (SIAM), La Plata, Argentina, May 2021.

- Title: “*Free Boundary Regularity for a One-phase Problem with Non-standard Growth*”, in ICMC Summer Meeting on Differential Equations - 2022, Sao Carlos-SP, Brazil, February 2022.

- Title: “*Free Boundary Regularity for a One-phase Problem with Non-standard Growth*”, in Bruno Pini Mathematical Analysis Seminar, Department of Mathematics, University of Bologna, Bologna, Italy, March 2022.

- Title: “*Free Boundary Regularity for a One-phase Problem with Non-standard Growth*”, in Workshop on Recent Developments in Harmonic Analysis, Nonlinear Differential Equations and Applications, Buenos Aires, Argentina, December 2022.

- Title: “*Free Boundary Regularity for a One-phase Problem with Non-standard Growth*”, in IX Congress on Applied, Computational and Industrial Mathematics MACI 2023 (SIAM), Santa Fe, Argentina, May 2023.

- Title: “*A Free Boundary Problem Governed by a Non-standard Growth Operator*”, in ICMC Summer Meeting on Differential Equations - 2024, Sao Carlos-SP, Brazil, January 2024.

- Title: “*A Two-Phase Free Boundary Problem for an Operator with Non-standard Growth*”, in AMS-UMI International Joint Meeting 2024, Palermo, Italy, July 2024.

- Title: “*A Two-Phase Free Boundary Problem Governed by an Inhomogeneous Equation of Non-standard Growth Type*”, in Latinos on Free Boundaries in Bologna, Bologna, Italy, July 2024.

- Title: “*Two-Phase Nonstandard Growth Free Boundary Problems*”, plenary talk in FBP 2024, Free Boundary Problems, Theory and Applications, Joao Pessoa, Brazil, August 2024.

- Title: “*Regularity Results for a Two-Phase Free Boundary Problem with Non-standard Growth*”, in UFSCar Workshop on PDEs, 2024 Edition, Sao Carlos, Brazil, November 2024.

Direction of Undergraduate Fellowships

- Octavio Angelini, Fomec Fellow, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (1999-2000).
- Marcela Svarc, Fomec Fellow, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (1999-2000).

Direction of Tesis de Licenciatura

- Octavio Angelini, Tesis de Licenciatura en Ciencias Matemáticas, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (2000).
- Silvana Gómez, Tesis de Licenciatura en Ciencias Matemáticas, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (2003).
- Mónica Jacob, Tesis de Licenciatura en Ciencias Matemáticas, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (2024).

Direction of Graduate Fellowships

- Dietmar Oelz, ALFA Doctoral Fellow (ALFA Programme-European Commission), Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (University of origin: Vienna University) (2005-2006).

Direction of Ph. D. Thesis

The research carried out by Dietmar Oelz under my direction at the University of Buenos Aires with an ALFA fellowship of the European Commission was part of his Ph.D. Thesis at the University of Vienna (Advisor in Vienna: Prof. Schmeiser) (2007).

Supervision of Ph. D. Students

- Supervisor of Ph. D. studies of Luciano Grippo, Doctoral studies in Mathematical Sciences, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, September 2006 to April 2011.
- Supervisor of Ph. D. studies of Pablo Andrés Torres, Doctoral studies in Mathematical Sciences, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, since September 2018.

Organization of Conferences and Workshops

- Organization of II International Symposium on Nonlinear PDEs and Free Boundary Problems, Buenos Aires, Argentina, July 2000.
- Organization of II Encuentro Internacional de Ecuaciones Diferenciales Parciales no Lineales, Buenos Aires, Argentina, July 2005.

- Organization of III International Symposium on Nonlinear PDEs and Free Boundary Problems, Buenos Aires, Argentina, August 2005.
- Organization of IV International Symposium on Nonlinear PDEs and Free Boundary Problems, In honor of Luis Caffarelli on his 60th birthday, Mar del Plata, Argentina, March 2009.
- Organization of Workshop Connections for Women: Free Boundary Problems, Theory and Applications (Program in Free Boundary Problems, Theory and Applications), Mathematical Sciences Research Institute (MSRI), Berkeley, USA, January 2011.
- Focus Session Organizer, Session: Free Boundary Problems and Applications, in III Congress on Applied, Computational and Industrial Mathematics, MACI 2011 (SIAM), Bahia Blanca, Argentina, May 2011.
- Member of Scientific Committee and Focus Session Leader, Session: Reaction-Diffusion Equations, 12th International Conference on Free Boundary Problems: Theory and Applications, Chiemsee, Germany, June 2012.
- Focus Session Organizer, Session: Free Boundary Problems and Applications, in IV Congress on Applied, Computational and Industrial Mathematics, MACI 2013 (SIAM), Buenos Aires, Argentina, May 2013.
- Organization of X Americas Conference on Differential Equations and Nonlinear Analysis, Buenos Aires, Argentina, February 2015.
- Focus Session Organizer, Session: Free Boundary Problems and Applications, in V Congress on Applied, Computational and Industrial Mathematics, MACI 2015 (SIAM), Tandil, Argentina, May 2015.
- Focus Session Organizer, Session: Free Boundary Problems and Applications, in VI Congress on Applied, Computational and Industrial Mathematics, MACI 2017 (SIAM), Comodoro Rivadavia, Argentina, May 2017.
- Organization of V International Symposium on Nonlinear PDEs and Free Boundary Problems, Buenos Aires, Argentina, December 2017.
- Focus Session Organizer, Session: Free Boundary Problems and Applications, in VII Congress on Applied, Computational and Industrial Mathematics, MACI 2019 (SIAM), Rio Cuarto, Argentina, May 2019.
- Focus Session Organizer, Session: Free Boundary Problems, in VIII Congress on Applied, Computational and Industrial Mathematics, MACI 2021 (SIAM), La Plata, Argentina, May 2021.
- Member of Scientific Committee of the 2021 Annual Meeting of the Unión Matemática Argentina, Argentina, September 2021.
- Focus Session Organizer, Session: Free Boundary Problems, in IX Congress on Applied, Computational and Industrial Mathematics, MACI 2023 (SIAM), Santa Fe, Argentina, May 2023.
- Focus Session Organizer, Session: Free Boundary Problems, in X Congress on Applied, Computational and Industrial Mathematics, MACI 2025 (SIAM), Córdoba, Argentina, May 2025.

Main Research Projects

- Codirector of the Research Project at University of Buenos Aires UBACYT 1998-2000 “Ecuaciones Diferenciales. Problemas de Blow up y de Frontera Libre”, TX47.
- Director of the Research Project at University of Buenos Aires UBACYT 2001-2002 “Ecuaciones Diferenciales. Aspectos Teóricos y Numéricos”, X919.
- Director of the Research Project at University of Buenos Aires UBACYT 2003 “Ecuaciones Diferenciales no Lineales y Problemas de Frontera Libre”, X609.
- Director of the argentinian part of the Project “Partial Differential Equations in Industry and Engineering”, II0143FCD, of the ALFA Exchange Programme between Universities of the European Union and Latin America, 2003-2006.
- Codirector of the Research Project at University of Buenos Aires UBACYT 2004-2007 “Ecuaciones Diferenciales. Aspectos Teóricos y Numéricos”, X052.
- Codirector of the Research Project of CONICET PIP 5478/05 “Ecuaciones Diferenciales. Aspectos Teóricos y Numéricos”, 2005-2008.
- Director of the Research Project at University of Buenos Aires UBACYT 2008-2010 “Ecuaciones Diferenciales no Lineales y Problemas de Frontera Libre”, X117.
- Director of the Research Project at University of Buenos Aires UBACYT 2011-2014 “Ecuaciones Diferenciales no Lineales y Problemas de Frontera Libre”, 20020100100496.
- Member of Leading Group of the Research Project of Agencia Nacional de Promoción Científica y Tecnológica ANPCyT: PICT 2019-00985 “Ecuaciones Diferenciales no Lineales y Problemas de Frontera Libre” (Category: Internationally Consolidated Scientific Areas), 2020-2023.

Varia

- Referee for the journals: Transactions of the American Mathematical Society, Communications in Partial Differential Equations, Journal of Differential Equations, Israel Journal of Mathematics, Advances in Mathematics, Matemática Aplicada, Computacional e Industrial (ASAMACI), Interfaces and Free Boundaries. Mathematical Analysis, Computation and Applications, Nonlinear Analysis: Theory, Methods & Applications, Calculus of Variations and Partial Differential Equations, Proceedings of the London Mathematical Society.
- Reviewer for the Mathematical Reviews.
- Member of Unión Matemática Argentina.
- Member of American Mathematical Society.
- Member of Society for Industrial and Applied Mathematics.
- Member of SIAM Activity Group on Analysis of Partial Differential Equations.
- Member of Asociación Argentina de Matemática Aplicada, Computacional e Industrial.
- Member of Association of Members of the Institute for Advanced Study, Princeton, USA.

- Member of Marie Curie Alumni Association - European Commission.