

CURRICULUM VITAE OF ANNAMARIA BARBAGALLO

General Info

- Date and place of birth: December 6th, 1979, Catania - Italy
- Address: Department of Mathematics and Applications “R. Caccioppoli”
University of Naples Federico II, Via Cinthia - 80126 Naples, Italy
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Education

- Degree in Mathematics, University of Catania, April 11th, 2003. Thesis: “Hölder continuity for nonlinear nonvariational elliptic systems”.
- July 27 - August 30, 2003, Summer School “Perugia 2003”, organized by Scuola Matematica Interuniversitaria (SMI).
- August 1 - August 14, 2004, Summer School “Cortona 2004” on “Variational Calculus”, organized by Scuola Matematica Interuniversitaria (SMI).

- Ph.D. in Computation and Information Sciences, University of Naples Federico II, February 6th, 2007.
- June 23 - June 28, 2008, Summer School on “Nonlinear Pde’s and Applications”, organized by International Mathematical Summer Center (CIME), Cetraro (Cosenza).
- June 15 - June 19, 2009, Summer School on “Modelling and Optimisation of Flows on Networks”, organized by International Mathematical Summer Center (CIME), Cetraro (Cosenza).

Positions

- Associate Professor in Mathematical Analysis (MAT/05), University of Naples Federico II, from October 1th, 2015.
- Researcher in Mathematical Analysis (MAT/05), University of Naples Federico II, from December 16th, 2010 until September 30th, 2015.
- Winner of a national competition for an “Assegno di Ricerca” on “Equilibrium Problems and Variational Models”, Faculty of Mathematical, Physical, and Natural Sciences, University of Catania, from December 1st, 2010 until December 15th, 2010.
- Visiting Postdoctoral Fellow from July 8th to 19th, 2008 at the Department of Mathematics, University of Central Florida.
- Winner of a national competition for an “Assegno di Ricerca” on “Variational Principles and Applications to Static and Dynamic Equilibrium Problems”, Faculty of Mathematical, Physical, and Natural Sciences, University of Catania, from November 2nd, 2007 until November 1st, 2010.
- Postdoctoral Fellow at the Operations Research, Computation & Analysis of Systems Research Group, at the Department of Mathematics & Statistics, University of Guelph, Canada, March 1st – October 15th, 2007.

- Contract of external collaboration for the research of algorithms to solve static and dynamic variational models of equilibrium problems at the Department of Mathematics and Computer Science, University of Catania, November 2nd – December 31st, 2006.
- Visiting Research Position at Mathematical Institute of Marseille, Aix-Marseille Université, Marseille Cedex, France, guest of Prof. Octavian-Emil Ernst, February 27th – March 2nd, 2018.
- Professional Research Fellow at the Research Group on Applied Mathematics and Optimization, Fakultät für Mathematik, Universität Wien, Vienna, Austria, guest of Prof. Radu Ioan Boț, February 27th – March 4th, 2017.
- Visiting Research Position at Département Mathématiques et Informatique of the Istitut de Recherche XLIM (XLIM-DMI), Université de Limoges, Limoges, France, guest of Prof. Samir Adly, June 1st – July 1st, 2015.

National Certifications

- National Scientific Habilitation for associate professorship in 01/A3 – Mathematical Analysis, Probability and Statistics (December 30, 2013).
- National Scientific Habilitation for full professorship in 13/D4 – Mathematical Methods in Economics and Acturial and Financial Sciences (April 3, 2018).
- National Scientific Habilitation for full professorship in 01/A6 – Operational Research (September 24, 2018).
- National Scientific Habilitation for full professorship in 01/A3 – Mathematical Analysis, Probability and Statistics (June 30, 2020).

International Awards

- Mathematical Sciences Sponsorship Fund 2016 for Project Editorial “66th International Workshop Advances in Convex Analysis and Optimization”.

Research Management

- Examiner of a thesis for the award of the Ph.D. degree of Motilal Nehru National Institute of Technology Allahabad, Allahabad (U.P.), India (A.Y. 2011-2012).
- Advisor of Paolo Mauro, Ph.D. student in Computation and Information Sciences, University of Naples Federico II (cicle XXV).
- Advisor of Postdoctoral Fellow Giovanni Scilla at University of Naples Federico II (A.Y. 2016-2017 and 2017-2018).
- Advisor of Postdoctoral Fellow Serena Guarino Lo Bianco at University of Naples Federico II (A.Y. 2016-2017).
- Examiner of the thesis by Andrea Scapellato for the Ph.D. degree in Mathematics and Computer Science of University of Catania (A.Y. 2016-2017).

Member of Field Chief Editors of the following journal:

- Statistics, Optimization & Information Computing (International Academic Press).

Member of Editorial Boards of the following journals:

- Applied Mathematics (Scientific & Academic Publishing);
- American Journal of Operations Research (Scientific Research Publishing);
- International Journal of Applied Mathematics Research (Sciencw Publishing Corporation).

- International Journal of Advanced Analysis (Academic and Scientific Publishing).
- Current Advances in Mathematics (Edinwilson Press).
- Chinese Journal of Mathematics (Hindawi Publishing Corporation).

Guest Editor of a special issue of the following journals:

- *Journal of Mathematical Analysis and Applications*, title of the special issue: “*Convex Analysis and Optimization: New Trends in Theory and Applications*”.
- *Journal of Optimization Theory and Applications*, title of the special issue: “*Recent Advances in Variational Calculus: Principles, Tools and Applications*”.
- *Set-Valued and Variational Analysis*, title of the special issue: “*Variational Analysis for Beginners*”.

Academic Acknowledgments

- July 2006, “Cultore di Analisi Matematica”, a special competence acknowledgment on Mathematical Analysis given by the Faculty staff, University of Catania;
- February 2008, “Cultore di Ricerca Operativa”, a special competence acknowledgment on Operations Research given by the Faculty staff, University of Catania.

Organizing Activity

- Director of the 66th Workshop on “Advances in Convex Analysis and Optimization”, Center “Ettore Majorana”, Erice (Trapani), July 5th-12nd, 2016.

- Director of the International Workshop “Variational Analysis and Equilibrium Models in Physical and Socio-Economic Phenomena”, University of Naples Federico II, Naples, June 19th–21st, 2017.
- Director of the 71st Workshop “Advances in Nonsmooth Analysis and Optimization”, International School of Mathematics “G. Stampacchia”, Center “Ettore Majorana”, Erice (Trapani), June 24th – July 1st, 2019.
- Member of the Organizing Committee of the International Workshop “Variational Methods in Nonlinear Phenomena”, Microsoft Teams, September 23nd–25th, 2020.
- Member of the Organizing Committee of the 44th Workshop on “Variational Analysis and Partial Differential Equations”, Center “Ettore Majorana”, Erice (Trapani), July 5th–14th, 2006.
- Member of the Organizing Committee of the Workshop “Complex Networks - Equilibrium and Vulnerability Analysis with Applications”, Catania, March 10th–12nd, 2008.
- Member of the Organizing Committee of 51st Workshop on “Variational Analysis and Applications”, Center “Ettore Majorana”, Erice (Trapani), May 9th–17th, 2009.
- Organizer of the Minisymposium “Variational Inequalities and Equilibrium Problems: existence and duality theory and computation” during the “7th International Conference of Numerical Analysis and Applied Mathematics” (ICNAAM 2009), Rethymno, Crete, September 18th–22nd, 2009.
- Organizer of the Minisymposium “Variational Inequalities and Applications to Dynamic Network Equilibrium Problems” during the “10th Biannual Meeting of SIMAI” (SIMAI 2010), University of Cagliari, Cagliari, June 21st–25th, 2010.
- Organizer of “The 2nd Symposium on Variational Inequalities and Equilibrium Problems” during the “8th International Conference of Numerical Analysis and Applied

Mathematics” (ICNAAM 2010), Hotel Rodos Palace, Rhodes, Greece, September 19th-25th, 2010.

- Organizer of “The 3rd Symposium on Variational Inequalities and Equilibrium Problems” during the “9th International Conference of Numerical Analysis and Applied Mathematics” (ICNAAM 2011), G-Hotels, Halkidiki, Greece, September 19th-25th, 2011.
- Member of the Organizing Committee of 58th Workshop on “Variational Analysis and Applications”, Center “Ettore Majorana”, Erice (Trapani), May 14th-22nd, 2012.
- Organizer of the Minisymposium “Variational inequalities and network equilibrium problems”, during “Biannual Meeting of SIMAI” (SIMAI 2012), Polytechnic University of Turin, Turin, June 25th-28th, 2012.
- Organizer of “The 4th Symposium on Variational Inequalities and Equilibrium Problems” during the “11th International Conference of Numerical Analysis and Applied Mathematics” (ICNAAM 2013), Rodos Palace Hotel, Rodhes, Greece, September 21st-27th, 2013.
- Organizer of the Minisymposium “Recent Advances in Variational Inequalities and their Applications”, during the “8th European Conference on Elliptic and Parabolic Problems”, Gaeta, May 26th-30th, 2014.
- Organizer of the Minisymposium “Variational inequalities, immune systems and local minimizers of functionals”, during the “Biannual Meeting of SIMAI” (SIMAI 2014), Hotel Villa Diodoro, Taormina, July 7th-10th, 2014.
- Member of the Organizing Committee of Workshop on “Variational Analysis and Applications”, Center “Ettore Majorana”, Erice (Trapani), August 28th - September 5th, 2015.

- Organizer of the Minisymposium “Variational Methods in Nonlinear Problems” during the “9th European Conference on Elliptic and Parabolic Problems”, Hotel Serapo, Gaeta (LT), May 23th-27th, 2016.
- Organizer of the Minisymposium “Variational Methods in Nonlinear Problems” during the “9th European Conference on Elliptic and Parabolic Problems”, Hyatt Regency Orlando, Orlando, Florida, USA, July 1st-5th, 2016.
- Organizer “The 5th Symposium on Variational Inequalities and Equilibrium Problems” during the “14th International Conference of Numerical Analysis and Applied Mathematics” (ICNAAM 2016), Rodos Palace Hotel, Rodi, Grecia, 19th-25th settembre 2016.
- Organizer of the Minisymposium “Variational Analysis for Nonlinear Phenomena” during the “International Conference on Elliptic and Parabolic Problems”, Hotel Serapo, Gaeta (LT), 22nd-26th maggio 2017.
- Organizer of the Minisymposium “Analytic approaches on qualitative properties of solutions of PDE” during the “The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications”, Taipei, Taiwan, July 5th-9th, 2018.
- Organizer of the Minisymposium “Variational Inequalities in Economic Problems” during the “16th EUROPT Workshop on Advances in Continuous Optimization”, Almeria, Spain, July 12th-13th, 2018.
- Organizer of the Minisymposium “Variational Approaches to problems in Economic Theory” during the “42nd Annual Meeting of the AMASES Association for Mathematics Applied to Social and Economic Sciences”, Naples, September 13th-15th, 2018.
- Organizer of the Minisymposium “Variational techniques for nonlinear problems and applications” during the “International Conference on Elliptic and Parabolic Problems”, Hotel Serapo, Gaeta (LT), May 20th-24th, 2019.

- Organizer of the Stream of Special Sessions “Advances on Dynamics, Economic Control and Variational Analysis” during the “43rd Annual Meeting of the AMASES Association for Mathematics Applied to Social and Economic Sciences”, Perugia, September 9th–11th, 2019.

Other Scientific Activities

- Evaluator of reserach projects submittted to the call “Consolidate the Foundations” (D.R. n. 2098 of 07/17/2015), University of Rome Tor Vergata.
- Evaluator of a reserch project submitted to “SIR 2014”.
- Referee for journals:
 - Journal of Global Optimization (Springer),
 - Complex Variables and Elliptic Equations (Taylor & Francis Group),
 - Communications on Pure and Applied Analysis,
 - Computational Methods in Applied Mathematics,
 - European Journal of Operational Research (Elsevier),
 - Computers & Mathematics with Applications (Elsevier),
 - Nonlinear Analysis: Theory, Methods & Applications (Elsevier),
 - Acta Mathematicae Applicatae Sinica, English Series (Springer),
 - Journal of Optimization Theory and Applications (Springer),
 - Journal of Applied Mathematics and Computing (Springer),
 - Transportation Research Part E: Logistic and Transportation Review (Elsevier),
 - Journal of Applied Mathematics (Hindawi Publishing Corporation),
 - Applicable Analysis (Taylor & Francis Group),

- Applicable Analysis and Discrete Mathematics,
- Abstract and Applied Analysis (Hindawi Publishing Corporation),
- Optimization Letters (Springer),
- Journal of Mathematical Analysis and Applications (Elsevier),
- Thai Journal of Mathematics,
- Advances in Difference Equations (Springer),
- Optimization Methods and Software (Taylor & Francis Group),
- Nonlinear Analysis: Hybrid Systems (Elsevier),
- SIAM Journal on Control and Optimization,
- Boletín de la Sociedad Matemática Mexicana (Springer),
- International Transactions in Operational Research (Wiley Online Library),
- Numerical Mathematics: Theory, Methods and Applications (Cambridge University Press),
- Modelling and Simulation in Engineering (Hindawi Publishing Corporation),
- Networks and Spatial Economics (Springer),
- Science China Mathematics (Springer),
- Acta Mathematica Scientia (Elsevier),
- Opuscula Mathematica (AGH University of Science and Technology, Poland),
- Optimization (Taylor & Francis),
- Rendiconti del Circolo Matematico di Palermo Series 2 (Springer),
- Minimax Theory and its Applications,
- Bollettino dell'Unione Matematica Italiana (Springer),
- Socio-Economic Planning Sciences (Elsevier).

Scientific Collaborations

- S. Adly (University of Limoges - France);
- M.G. Cojocaru (University of Guelph - Canada);
- P. Daniele (University of Catania - Italy);
- E.-O. Ernst (Aix-Marseille at Montperrin - France);
- V. Esposito (University of Naples Federico II - Italy);
- S. Giuffrè (Mediterranean University of Reggio Calabria - Italy);
- A. Maugeri (University of Catania - Italy);
- M.Z. Nashed (University of Central Florida - USA);
- S. Pia (University of Catania - Italy);
- M.A. Ragusa (University of Catania - Italy);
- M. Théra (University of Limoges - France).

Responsability in Research Projects

- GNAMPA 2015 Project on “Variational Inequalities and Applications to Economic Problems”, funded by Italian National Institute for Higher Mathematics “Francesco Severi”.
- STAR 2014 Project on “Variational Analysis and Equilibrium Models in Physical and Socio-Economic Phenomena”, funded by Compagnia San Paolo and University of Naples Federico II (euros 108.000).
- GNAMPA 2017 Project on “Stochastic approach for quasi-variational inequalities and applications”, funded by Italian National Institute for Higher Mathematics “Francesco Severi”.

- Visiting Professor Program funded by Italian National Institute for Higher Mathematics “Francesco Severi” (June 2nd-26th, 2017).
- Associated Investigator of Progetto di Ricerca di Interesse Nazionale 2017 (PRIN 2017): “Nonlinear Differential Problems via Variational, Topological and Set-valued Methods”, Principle Investigator prof. G. Bonanno (36 months).

Participation in Research Projects

- FARO 2012 Project on “Mathematical methods for the modeling of natural phenomena”, funded by University of Naples Federico II.
- PRIN 2008 Project on “Variational Analysis and Partial Differential Equations”, funded by Italian Government.
- GNAMPA 2019 Project on: “Variational techniques in optimization problems”, funded by Italian National Institute for Higher Mathematics “Francesco Severi”.
- GNAMPA 2016 Project on: “Variational Analysis for Competitive Models with Uncertainty and Applications”, funded by Italian National Institute for Higher Mathematics “Francesco Severi”.
- GNAMPA 2011 Project on “Regularity of solutions to nonlinear elliptic systems, Variational Analysis and study of degenerate parabolic equations”, funded by Italian National Institute for Higher Mathematics “Francesco Severi”.
- GNAMPA 2009 Project on “Regularity problems of minima of nonlinear functionals and variational inequalities”, funded by Italian National Institute for Higher Mathematics “Francesco Severi”.
- PRA 2010 Project on “Variational Inequalities, Partial Differential Equations and Systems and Applications to Equilibrium Problems”, funded by University of Catania;

- PRA 2008 Project on “Variational Inequalities, Partial Differential Equations and Systems and Applications to Equilibrium Problems”, funded by University of Catania;
- PRA 2007 Project on “Variational Inequalities, Partial Differential Equations and Systems and Applications to Equilibrium Problems”, funded by University of Catania;
- PRA 2006 Project on “Variational Inequalities, Partial Differential Equations and Systems and Applications to Equilibrium Problems”, funded by University of Catania;
- PRA 2005 Project on “Partial differential equations and variational inequalities: theory and applications”, funded by University of Catania;
- PRA 2004 Project on “Existence, uniqueness and regularity for elliptic and parabolic equations”, funded by University of Catania;
- PRA 2003 Project on “Elliptic and parabolic equalities and inequalities”, funded by University of Catania.

Teaching Assignments

Instructor

- Laboratory of Computer Science, University of Catania, A.Y. 2007-2008, A.Y. 2008-2009, A.Y. 2009-2010, A. Y. 2010-2011.
- Mathematics, University of Catania, A.Y. 2008-2009, A.Y. 2009-2010.
- Network and Supernetwork, University of Catania, A.Y. 2010-2011.
- Mathematical Analysis I, University of Naples Federico II, A.Y. 2011-2012, A.Y. 2012-2013, A.Y. 2013-2014, A.Y. 2014-2015, A.Y. 2015-2016, A.Y. 2016-2017, A.Y. 2017-2018, A.Y. 2018-2019, A.Y. 2019-2020.

- Mathematical Analysis II, University of Naples Federico II, A.Y. 2011-2012, A.Y. 2015-2016, A.Y. 2016-2017, A.Y. 2017-2018, A.Y. 2018-2019.
- Mathematics II, University of Naples Federico II, A.Y. 2017-2018, A.Y. 2020-2021.
- Mathematics I, University of Naples Federico II, A.Y. 2018-2019, A.Y. 2019-2020, A.Y. 2020-2021.

Teaching Assistant

- Mathematical Analysis, University of Catania, A.Y. 2004-2005, A.Y. 2005-2006, A.Y. 2007-2008.
- Operations Research, University of Catania, A.Y. 2005-2006, A.Y. 2006-2007, A.Y. 2008-2009.
- Optimization, University of Catania, A.Y. 2005-2006.
- Nonlinear Optimization, University of Catania, A.Y. 2007-2008.
- Variational Methods, University of Catania, A.Y. 2008-2009.
- Institutes of Superior Analysis, University of Catania, A.Y. 2009-2010.
- Mathematics II, University of Naples Federico II, A.Y. 2010-2011, A.Y. 2011-2012.
- Mathematics I, University of Naples Federico II, A.Y. 2011-2012.
- Mathematical Analysis I, University of Naples Federico II, A.Y. 2011-2012, A.Y. 2012-2013.

Invited Instructor

- “Training Programme on Nonlinear Analysis with Applications to Optimization and Game Theory”, at Aligarh Muslim University, Aligarh, India, November 19th-21st, 2011, title: *Introduction to Variational Inequalities: basic existence results*.

- “Calculus of Variations and Applications”, Université de Rouen, in the Programme IOF for Ph.D. students of Laboratoire de Mathématiques Raphaël Salem, November 9th-14th, 2017.

Research Activity

- Evolutionary variational and quasi-variational inequalities;
- Equilibrium problems on time-dependent networks;
- Infinite Dimensional Duality Theory;
- Weighted Variational Inequalities;
- Projected Dynamical Systems;
- Inverse Variational Inequalities;
- Stochastic Variational Inequalities;
- Partial Differential Equations.

Department and University Committees

- Member of the Steering Committee of the Double Master’s Degree programme in Mathematical Analysis and Modelling between the University of Naples Federico II, the Universität Augsburg, the University of Rouen Normandie, the University of Sevilla, the Tomsk State University, from a.y. 2018–2019.
- Member of the Third Mission Committee of the Department of Mathematics and Applications “R. Caccioppoli” of the University of Naples “Federico II”, from February 2020.

- Member of the Didactic Committee for the Degree Course in Electrical Engineering, from a.y. 2017-2018.
- Member of the evaluation committee of the Department of Mathematics and Applications “Renato Caccioppoli”, University of Naples Federico II, of: V Certamen Nazionale di Matematica “Renato Caccioppoli”, VI Certamen Nazionale di Matematica “Renato Caccioppoli”, VII Certamen Nazionale di Matematica “Renato Caccioppoli”, VIII Certamen Nazionale di Matematica “Renato Caccioppoli”, IX Certamen Nazionale di Matematica “Renato Caccioppoli”.
- Member of the election committee for supplementary elections for the Department Board and for the Representation within the Council of the Polytechnic and Basic Sciences School, December 1st, 2014, University of Naples Federico II.
- Chair of the evaluation committee for an “Assegno di Ricerca” on “Variational methods and applications to evolutionary problems”, University of Naples Federico II.
- Chair of the evaluation committee for an “Assegno di Ricerca” on “Optimization techniques and applications”, University of Naples Federico II.
- Secretary of the committee for the final exam related to the PhD in Computational and Computer Sciences - XXVIII cycle, University of Naples Federico II.

Invited Talks

- Summer School INTAS “**Nonlinear analysis with applications in Economics, Energy and Transportation**”, Bergamo, June 5th-9th, 2006, lecture title: *Evolutionary variational inequalities and projected dynamical systems applied to transportation problems*.
- “**6th International Congress on Industrial and Applied Mathematics**” (ICIAM 2007), University of Zurich (Switzerland) July 16th-20th, 2007, title: *Dynamic oligopolistic market equilibrium problem*.

- “**5th World Congress of Nonlinear Analysis**” (WCNA-2008), Hyatt Grand Cypress Resort, Orlando, Florida, July 2nd-9th, 2008, title: *Existence theory and sensitivity analysis for the dynamic oligopolistic market equilibrium problem.*
- “**IX Congress of the Italian Society of Applied and Industrial Mathematics**” (SIMAI 2008), University of Rome “La Sapienza”, September 15th-19th, 2008, titles: *Weighted traffic equilibrium problem in non pivot Hilbert spaces* and *Dynamic vaccination games: existence and regularity results and computational procedure.*
- “**Conference on Applied Inverse Problems 2009**”, University of Vienna, July 20th-24th, 2009, title: *Variational inequalities, infinite-dimensional duality, inverse problem and applications to oligopolistic market equilibrium problem.*
- “**7th International Conference of Numerical Analysis and Mathematics**” (ICNAAM 2009), in occasion of 60th birthday of Ernst Hairer, Aquila Rithymna Beach, Rethymno, Crete, Greece, September 18th-22nd, 2009, titles: *Some results on weighted variational inequalities and applications to traffic equilibrium problem* and *Duality for weighted traffic equilibrium problem and computational procedure.*
- “**10th Biannual Meeting of SIMAI**” (SIMAI 2010), University of Cagliari, June 21st-25th, 2010, title: *Evolutionary variational inequalities for competitive financial equilibrium problems.*
- “**24th European Conference on Operational Research** ” (EURO XXIV), University of Lisbon, July 10th-14th, 2010, title: *Dynamic oligopolistic market equilibrium problem with long-term memory: Lipschitz continuity and infinite dimensional duality theory.*
- “**8th International Conference of Numerical Analysis and Mathematics**” (ICNAAM 2010), in occasion of 65th birthday of Peter Deufhard, Rodos Palace Hotel, Rhodes, Greece, September 19th-25th, 2010, title: *Weighted quasi-variational inequalities in transportation networks.*

- “**Applied Inverse Problems Conference**” (AIP 2011), Texas A&M University, College Station, Texas, USA, May 23rd-27th, 2011, titles: *Competitive financial equilibrium problems with policy interventions: variational formulation and inverse problem*, *Recent advances in the regularization of ill-posed problems*.
- “**8th International ISAAC Congress**” (ISAAC 2011), Peoples’ Friendship University of Russia, Moscow, Russia, August 22nd-27th, 2011, title: *Variational formulation for dynamic oligopolistic market equilibrium problems with production excesses*.
- “**9th International Conference of Numerical Analysis and Mathematics**” (ICNAAM 2011), in occasion of 76th birthday of William Gear, G-Hotels, Halkidiki, Greece, September 19th-25nd, 2011, title: *Projected Dynamical Inclusions in Reflexive Banach Spaces*.
- “**International Conference on Analysis and its Applications**” (ICAA 2011), Aligarh Muslim University, Aligarh, India, November 19th-21st, 2011, title: *A variational approach for a general financial equilibrium problem: Deficit formula, Balance law and Liability formula*.
- 58th Workshop “**Variational Analysis and Applications**”, in memory of Guido Stampacchia and M.K.Venkatesha Murthy, Center “Ettore Majorana”, Erice (Trapani), May 14th-22nd, 2012, title: *Generalized theory of evolutionary Cournot-Nash equilibrium*.
- “**Biannual Meeting of SIMAI**” (SIMAI 2012), Polytechnic University of Turin, Turin, June 25th-28th, 2012, title: *Retarded weighted quasi-variational inequalities for transportation problems*
- “**9th AIMS Conference on Dynamical Systems, Differential Equations and Applications**”, Orlando, Florida, USA, July 1st-5th, 2012, title: *A variational formulation for dynamic market equilibrium problems with excesses*.

- **AIRO 2012 Conference “Graph Algorithms and Optimization”**, Vietri sul Mare, Salerno, September 4th-7th, 2012, title: *Weighted quasi-variational inequality and optimal equilibrium distributions in transportation networks*.
- **“11th EUROPT Workshop on Advances in Continuous Optimization”** (EUROPT 2013), University of Florence, Florence, June 26th-28th, 2013, title: *Inverse variational formulation for dynamic oligopolistic market equilibrium problem*.
- **“26th European Conference on Operational Research”** (EURO 2013), University of Rome “La Sapienza”, Rome, July 1st-4th, 2013, title: *Projectors in reflexive Banach spaces and applications to variational inequalities*.
- **“11th International Conference of Numerical Analysis and Mathematics”** (ICNAAM 2013), in occasion of 60th birthday of J.M. Sanz-Serna, Rodos Palace Hotel, Rodhes, Greece, September 21st-27th, 2013, title: *Dynamic elastic Cournot-Nash principle with memory term*.
- **“8th European Conference on Elliptic and Parabolic Problems”**, at Gaeta, May 26th-30th, 2014, title: *On the regularity for variational inequalities and applications to equilibrium problems*.
- **“Biannual Meeting of SIMAI”** (SIMAI 2014), at Hotel Villa Diodoro, Taormina, July 7th-10th, 2014, title: *Inverse variational inequalities and applications to an economic equilibrium problem*.
- **63rd Workshop “Variational Analysis and Applications”**, International School of Mathematics “G. Stampacchia”, in memory of Guido Stampacchia, at the Center “Ettore Majorana”, Erice (TR), August 28th – September 5th, 2015, title: *Weighted quasi-variational inequalities in non-pivot Hilbert spaces and applications to transportation problems*.
- **AIRO 2015 Conference “Optimization for Energy, Environment and Sustainability”**, University of Pisa, September 7th-10th, 2015, title: *Variational in-*

equality approach to random Cournot-Nash principle.

- “**9th European Conference on Elliptic and Parabolic Problems**”, Gaeta (LT), May 23rd–27th, 2016, title: *Variational formulation for a policy-maker optimization problem.*
- “**Convegno Scientifico GNAMPA 2016**”, Belvedere Hotel, Montecatini Terme (TP), June 20th–23rd, 2016, title *A Stochastic variational inequality for an economic equilibrium problem with uncertainty.*
- “**Summer Workshop in Economic Theory**” (SWET 2016), University Paris 1 Prthéon-Sorbone, Paris, France, June 27th–28th, 2016, title: *Advances in oligopolistic market equilibrium with variational inequality arguments.*
- “**11th AIMS Conference on Dynamical Systems, Differential Equations and Applications**”, Hyatt Regency Orlando in Orlando, Florida, USA, July 1st–5th, 2016, title: *A general quasi-variational inequality for Cournot-Nash principle and inverse formulation.*
- “**40th AMASES Meeting**”, University of Catania, September 15th–17th, 2016, title: *Stochastic variational formulation for Cournot-Nash principle with uncertainty.*
- “**Journées annuelles 2016 du GdR MOA**” (Mathématique de l’Optimisation et Applications), Hôtel Pierre & Helleux, Seo La Pointe de Helleux Sainte-Anne, Guadeloupe, November 20th–24th, 2016, title: *A general quasi-variational approach for Cournot-Nash principle.*
- International Congress “**New Trends in Optimization and Variational Analysis for Applications**”, in occasion of 70^o birthday of M. Théra, Quy Nhon University, Quy Nhon City, Vietnam, December 7th–10th, 2016, title: *Stochastic weighted variational inequalities in non-pivot Hilbert spaces with applications to a transportation model.*

- “**International Conference on Elliptic and Parabolic Problems**”, Gaeta (LT), May 22nd–26th, 2017, title: *Stochastic variational formulation for an economic equilibrium problem with uncertainty*.
- “**8th International Seminar on Optimization and Variational Analysis**”, Universidad de Alicante, Alicante, Spain, June 29th–30th, 2017, title: *Variational inequalities involving tensors*.
- “**15th EUROPT Workshop on Advances in Continuous Optimization**”, Université de Montréal, Montreal, Canada, July 12th–14th, 2017, title: *A stochastic weighted variational inequality in non-pivot Hilbert spaces for a transportation model with uncertainty*.
- “**International Seminar on Optimization and Related Areas - ISORA**, Instituto de Matemática y Ciencias Afines - IMCA, Lima, Perú, October 9th–13th, 2017, title: *Variational inequalities with structured tensors*.
- “**The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications**”, Taipei, July 5th–9th, 2018, title: *The Cauchy-Dirichlet problem for a class of hyperbolic operators with double characteristics in presence of transition: existence and uniqueness results*.
- “**16th EUROPT Workshop on Advances in Continuous Optimization**”, University of Almería, July 12th–13th, 2018, title: *Generalized tensor variational inequalities applied to an economic model*.
- “**42nd AMASES Meeting**”, University of Naples Parthenope, September 13th–15th, 2018, title: *An economic model via tensor variational inequalities*.
- “**International Conference on Elliptic and Parabolic Problems**”, Gaeta (LT), May 20th–24th, 2019, title: *The Campanato nearness condition revisited*.
- **ODS 2019 “International Conference on Optimization and Decision Science”** XLIX Annual Meeting of AIRO, University of Genoa, September 4th–7th,

2019, title: *General oligopolistic market equilibrium problem via tensor variational inequalities: existence and regularity results.*

- “**43rd AMASES Meeting**”, University of Perugia, September 9th–11th, 2019, title: *Existence and regularity results for a general oligopolistic market equilibrium problem.*

Participation to International Congress/Workshops and Short Communications

- “**Recent Advances in Partial Differential Equations**”, in memory of Filippo Chiarenza, University of Messina, December 15th–17th, 2005, poster title: *Regularity results for time-dependent variational inequalities and computational procedure.*
- “**VIII Congress of Italian Society of Applied and Industrial Mathematics**” (SIMAI 2006), Baia Samuele (Ragusa), May 22nd–26th, 2006, title: *Regularity results for time-dependent variational and quasi-variational inequalities with applications to dynamic traffic networks.*
- III International Symposium “**Problemi Attuali dell’Analisi e della Fisica Matematica**”, in memory of Gaetano Fichera, Taormina (Messina), June 29th–July 1st, 2006, title: *Regularity results for time-dependent variational and quasivariational inequalities with applications to dynamic traffic networks.*
- 44th Workshop “**Variational Analysis and Partial Differential Equations**”, in memory of Sergio Campanato, Center “Ettore Majorana”, Erice (Trapani), July 5th–14th, 2006, title: *On the regularity of evolutionary variational and quasi-variational inequalities with applications.*
- “**XXXVII Conference of the Italian Association of Operations Research**” (AIRO 2006), Cesena (Forlì), September 12th–15th, 2006, title: *Dynamic traffic equilibrium problem and computational procedures.*

- “**6th International Congress on Industrial and Applied Mathematics**” (ICIAM 2007) University of Zurich (Switzerland), July 16th–20th, 2007, title: *On the regularity of dynamic equilibrium problems and computational procedure.*
- “**2nd Mathematical Programming Society International Conference on Continuous Optimization**” and “**7th Modelling and Optimization: Theory and Applications 2007**” (ICCOPT 07 - MOPTA 07), McMaster University, Hamilton (Ontario, Canada), August 13th–16th, 2007, title: *Dynamic oligopolistic market equilibrium problem: existence and regularity results.*
- Workshop “**Complex Networks - Equilibrium and Vulnerability Analysis with Applications**”, University of Catania, March 10th–12th, 2008, title: *Weighted variational inequalities in non-pivot Hilbert spaces: existence and regularity results and applications.*
- “**XXXIX Conference of the Italian Association of Operations Research**” (AIRO 2008), Ischia (Naples), September 7th–11th, 2008, titles: *Dynamic variational formulation of the oligopolistic market equilibrium problem* and *Weighted traffic equilibrium problem: a way to integrate mobile technologies.*
- 51st Workshop “**Variational Analysis and Applications**”, Center “Ettore Majorana”, Erice (Trapani), May 9th–17th, 2009, titles: *Continuity of solutions for parametric variational inequalities in Banach space and applications.*
- “**Nonlinear PDE and Applications**” (NPDE 2009), in occasion of 70th birthday of Francesco Nicolosi, University of Catania, June 22nd–25th, 2009, title: *Existence and regularity of solutions to weighted variational inequalities in non-pivot Hilbert spaces and applications.*
- “**XL Conference of the Italian Association of Operations Research**” (AIRO 2009), University of Siena, September 8th–11th, 2009, title: *Dynamic vaccination games and variational formulation.*

- **International Workshop on “Variational, Topological and Set-valued Methods for Nonlinear Differential Problems”** (VTSMENDIP 2010), University of Messina, April 14th–16th, 2010, title: *Variational formulation for dynamic oligopolistic market equilibrium problem with long-term memory.*
- **“Fifth China-Italy Colloquium on Applied Mathematics”** (CICAM 5), Park Hotel Capomulini, Acireale (CT), September 27th–30th, 2010, title: *Variational formulation for a general dynamic financial equilibrium problem.*
- **“New Function Spaces in PDEs and Harmonic Analysis”**, at Istituto Piccole Ancelle di Cristo Re, Posillipo, Naples, May 31st – June 4th, 2011, title: *Weighted quasi-variational inequalities in non-pivot Hilbert spaces and applications.*
- Workshop **“Existence, regularity and a priori bounds for differential problems”**, in occasion of 70th birthday of Mario Marino, University of Catania, May 4th–5th, 2013, title: *The Nash’s legacy on competitions.*
- First Workshop on **“Variational inequalities, Nash equilibrium problems and applications”**, University of Catania, September 25th–26th, 2014, title: *Evolutionary quasi-variational inequalities and applications to a general Cournot-Nash principle.*
- Second Workshop on **“Variational inequalities, Nash equilibrium problems and applications”**, “Mediterranea” University of Reggio Calabria, September 24th–25th, 2014, title: *A stochastic approach for the management of an economic problem.*
- **“XVII Italian Meeting on Hyperbolic Equations”**, University of Pavia, September 6th–8th, 2017, title: *On the Cauchy-Dirichlet problem for a class of hyperbolic operators with double characteristics in the presence of transition.*
- **“41st AMASES Meeting”**, University of Cagliari, September 14th–16th, 2017, title: *Stochastic weighted variational inequalities in non-pivot Hilbert spaces and applications to transportation networks.*

- “Workshop on Dynamics, Optimization and Variational Analysis in Applied Games”, The Fields Institute for Research in Mathematical Sciences, online, April 30th – May 1st, 2020, title *General oligopolistic market equilibrium problem: theoretical results and numerical methods*.

Department talks

- June 29th, 2007: invited department talk by title *Dynamic oligopolistic market equilibrium problem and applications* at the Department of Mathematics, University of Genoa.
- July 11th, 2007: invited department talk by title *Regularity results for evolutionary variational and quasi-variational inequalities and dynamic equilibrium problems* at the Department of Information Science, Mathematics, Electronics and. Transportations (DIMET), Mediterranean University of Reggio Calabria.
- August 23th, 2007: invited department talk by title *Continuity of solutions for parametric variational inequalities in Banach space and applications to dynamic oligopolistic market equilibrium problem* at the Department of Mathematics & Statistics, University of Guelph, Canada.
- July 14th, 2008: invited department talk by title *On the regularity of evolutionary variational and quasi-variational inequalities and applications to dynamic network equilibrium problems* at the Department of Mathematics, University of Central Florida, USA.
- June 26th, 2015: invited department talk by title *A new approach for the management of the financial problems*, Département Mathématiques et Informatique dell’Institut de Recherche XLIM (XLIM-DMI), Université de Limoges, Limoges, France.

- June 10th, 2016: invited department talk by title *Variational formulation for a general Cournot-Nash equilibrium principle*, Department of Economics, University of Messina.
- February 28th, 2017: invited department talk by title *Stochastic variational inequality for an economic equilibrium problem with uncertainty*, Fakultät für Mathematik, Universität Wien, Vienna, Austria.

Publications

Papers

- [1] A. BARBAGALLO (2006). *Degenerate time-dependent variational inequalities with applications to traffic equilibrium problems*. COMPUTATIONAL METHODS IN APPLIED MATHEMATICS, vol. 6, no. 2, pp. 117–133, ISSN: 1609-4840, doi: 10.2478/cmam-2006-0006.
- [2] A. BARBAGALLO (2006). *Existence of continuous solutions to time-dependent variational inequalities*. JOURNAL OF NONLINEAR AND CONVEX ANALYSIS, vol. 7, no. 3, pp. 343–353, ISSN: 1345-4773.
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- [8] A. BARBAGALLO (2008). *Risultati di regolarità per disequazioni variazionali e quasi-variazionali di evoluzione e applicazioni a problemi di equilibrio dinamici*. MATEMATICA NELLA SOCIETÀ E NELLA CULTURA, vol. 1, no. 2, pp. 219–222, ISSN 1972-7356.
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Book Chapters

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Professional Societies

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