Elena Molho
Curriculum vitae

Personal information

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Education

1990 – Degree in Economic and Social Sciences at Università Commerciale "L. Bocconi" di Milano

1996 – PhD in Mathematics Applied to Economic Problems at the University of Trieste.

Academic Positions

1993-1998 – Research fellow at the Faculty of Economics – University of Pavia.

1998-2001 - Associate Professor at the Faculty of Economics – University of Ancona.

2001 – 2017 - Associate Professor at the Faculty of Economics – University of Pavia.

Since 2017 - Full professor in the scientific sector SSD SECS-S06 (Mathematical methods for Economics and Finance) at the Department of Economic and Management Sciences at the University of Pavia.

Publications

Articles on scientific journals
2023
L. Huerga, E. Miglierina, E. Molho, V. Novo, "On proper minimality in set optimization*",* ***Optimization Letters*** (2023). https://doi.org/10.1007/s11590-023-02005-9
E. Molho, D. Scopelliti, "On the study of multistage stochastic vector quasi-variational problems", ***Journal of Global Optimization***, (2023). https://doi.org/10.1007/s10898-023-01282-z
2022
E. Caprari, L. Cerboni Baiardi, E. Molho "Scalarization and robustness in uncertain vector optimization problems: a non componentwise approach*",* ***Journal of Global Optimization***, 84, 2022, p. 295-320
2019
C. A. De Bernardi, E. Miglierina, E. Molho, "Stability of a convex feasibility problem", ***Journal of Global Optimization*** 75, 2019, 1061–1077.
E. Caprari, L. Cerboni Baiardi, E. Molho "Primal worst and dual best in robust vector optimization*",* ***European Journal on Operational Research***, 275, 2019, p. 830-838.

2016

C. Gutiérrez, E. Miglierina, E. Molho, V. Novo, "Convergence of Solutions of a Set Optimization Problem in the Image Space", ***Journal of Optimization Theory and Applications,*** 170 (2016), 358-371.

2015

C. Gutiérrez, B.Jiménez, E. Miglierina, E. Molho, "Scalarization in set optimization with solid and nonsolid ordering cones" ***Journal of Global Optimization,*** 61 (2015), 525-552.

2013

M. Bianchi, E. Miglierina, E. Molho, R. Pini "Some results on condition numbers in multiobjective optimization" ***Set-Valued and Variational Analysis***, 21 (2013), 47-65.

2012

C. Gutiérrez, E. Miglierina, E. Molho, V. Novo "Pointwise well-posedness in set optimization with cone proper sets" ***Nonlinear Analysis, Series A: Theory, Methods & Applications***, 75 (2012), 1822-1833.

2011

E.M. Bednarczuk, E. Miglierina, E. Molho "A Mountain Pass-type Theorem for Vector-valued Functions", ***Set-Valued and Variational Analysis***, 19 (2011), 569-587

2009

E. Miglierina, E. Molho "Sectionwise connected sets in vector optimization", ***Operations Research Letters***, 37 (2009), 295-298

2008

E. Miglierina, E. Molho, M. Rocca "Critical point index for vector functions and vector optimization", ***Journal of Optimization Theory and Applications,*** 138 (2008), 479-496.

E. Miglierina, E. Molho, F. Patrone, S. H. Tijs "Axiomatic approach to approximate solutions in multiobjective optimization" ***Decisions in Economics and Finance,*** 31 (2008) 95-115.

E. Miglierina, E. Molho, M.C. Recchioni "Box-constrained multiobjective optimization: a gradient-like method without "a priori" scalarization", ***European Journal of Operational Research***, 188 (2008), 662-682.

2007

E. Miglierina, E. Molho, "Well-posedness and stability for abstract spline problems", ***Journal of Mathematical Analysis and Applications,*** 333, 2007, 1058-1069.

2005

E.Miglierina, E. Molho, M.Rocca, "Well-posedness and scalarization in vector optimization", ***Journal of Optimization Theory and Applications,*** 126, 2005, 391-409.

E. Miglierina, E. Molho "Convergence of minimal sets in convex vector optimization", ***SIAM Journal on Optimization***, 2005, 513-526.

2004

A. Guerraggio, E. Molho, "The origins of quasi-concavity: a development between mathematics and economics", ***Historia Mathematica,*** vol. 31 (2004) p. 62-75,

2003

E. Miglierina, E. Molho *"Well-posedness and convexity in vector optimization", **Mathematical Methods of Operations Research**,* 58, 2003, 375-385.

2002

E. Miglierina, E. Molho "Scalarization and its Stability in Vector Optimization" ***Journal of Optimization Theory and Applications***, 114, 2002, 657-670.

1996

E. Molho, S. Schaible, "Invexity of quadratic functions and restricted/local invexity" ***Journal of Information & Optimization Sciences***, 17, 1996, p. 127-136.

1994

A.Guerraggio, E. Molho, A. Zaffaroni, "On the notion of proper efficiency in vector optimization" ***Journal of Optimization Theory and Applications***, 82, 1994, p. 1-21.

Proceedings

C. Gutiérrez, B. Jimenéz, E. Miglierina, E. Molho. "Scalarization of Set-Valued Optimization Problems in Normed Spaces". In *"Modelling, Computation and Optimization in Information Systems and Management Sciences, Proceedings of MCO 2015"*, Le Thi Hoai An, Pham Dinh Tao, Nguyen Ngoc Thanh (eds.), Springer, Advances in Intelligent Systems and Computing 359, **2015**, 505-512.

E. Miglierina, E. Molho, M.C. Recchioni "An interior point method for linearly constrained multiobjective optimization based on suitable descent directions" in *"Recent Developments on Mathematical Programming and Applications"* – Proceedings of the Workshop held in Pisa, on 5th June 2009 (L. Carosi, L. Martein eds.), Aracne, Roma, **2009**, 101-116

E. Miglierina, E. Molho "Generalized convexity and well-posedness in vector optimization" in *"Recent Advances in Optimization"* - Proceedings of the workshop held in Varese, June 13/14th 2002 (G.P. Crespi, A.Guerraggio, E. Miglierina, M. Rocca eds.), Datanova, Milano, **2003**, 131-138

E. Miglierina, E. Molho, A. Zaffaroni "Stability in vector optimization" in *"Optimization in Economics, Finance and Industry"* - Proceedings of the workshop held in Verona, June 14/15th 2001 (G.P. Crespi, G.Giorgi, A.Guerraggio, D.La Torre, E. Miglierina, M. Rocca eds.), Datanova, Milano, **2002**, 185-198.

E. Molho, A. Zaffaroni, "Quasiconcavity of sets and connectedness of the efficient frontier in ordered vector spaces" in "Generalized convexity, generalized monotonicity: recent results" (Jean-Pierre Crouzeix , Juan Enrique Martinez Legaz, Michel Volle) Kluwer, Dodrecht,**1998**, p. 407-424.

Research projects

- Member of the research project "Incertidumbre y Optimización Vectorial con Aplicaciones en Problemas de Identificación de Parámetros" (Miguel Ángel Sama Meige, UNED, Madrid PID2020-112491GB-I00 / AEI / 10.13039/501100011033), Ministerio de Ciencia e Innovación y Agencia Estatal de Investigación (AEI) Spagna, 2021-2024

- Member of the research project "Varie nozioni di convessità e loro applicazioni" GNAMPA 2020, Istituto Nazionale di Alta Matematica "Francesco Severi", Roma.

- Member of the research project "Problemas de optimización vectorial y de conjuntos" (Vicente Novo Sanjurjo, UNED, Madrid – PGC2018-096899-B-I00), Ministerio de Ciencia, Innovación y Universidades (MCIU), Agencia Estatal de Investigación (AEI) y Fondo Europeo de Desarrollo Regional (FEDER) (2019-2021)

- Member of the research project "Problemas de optimizacion y equilibrio con funciones vectoriales y multifunciones" (Vicente Novo Sanjurjo, UNED, Madrid – MTM2015-68103-P), Ministerio de Economía y Competitividad (Spain), Plan Nacional de Matemáticas, (2016-2018).
- Member of the research project PRIN MISURA (Paolo Giudici, Università di Pavia, Italy), Ministero dell'Istruzione, dell'Università e della Ricerca, Italy (2013-15).

- Member of the research project "Optimizacion de funciones vectoriales y multifunciones" (Vicente Novo Sanjurjo, UNED, Madrid – MTM2012-30942), Ministerio de Economía y Competitividad (Spain), Plan Nacional de Matemáticas, (2013-2015).

- Member of the research project "Optimizacion de funciones vectoriales y multifunciones" (Vicente Novo Sanjurjo, UNED, Madrid – MTM2009-09493), Science and Innovation Ministry of Spain, Plan Nacional de Matemáticas (2010-2012).

- Coordinator of the research projects "Fondi d'Ateneo per la Ricerca", Università di Pavia (2005-2009).
- Coordinator of the research projects: Cassa di Risparmio delle Province Lombarde (2002-2004).

- Member of the research projects: "Fondi d'Ateneo per la Ricerca" dell'Università di Pavia (1993-1997 and 2001-2004) e dell'Università di Ancona (1998-2001).

- Member of the research projects MURST 40%:
  Generalized Concavity for Economic Applications, Coordinator: P. Mazzoleni (1991-1992);
  Optimization of Generalized Convex Problems in Economics, Coordinator: P. Mazzoleni (1993-1994);
  Scalar and Vector Optimization in Economic and Financial Problems, Coordinator: G. Giorgi (1995-1996).

- Member of the research project "Centri d'Eccellenza per la Ricerca", Università dell'Insubria , Varese (2002-2003).

Teaching activities

Her teaching experience includes several courses on Linear Algebra, Calculus, Mathematical Methods for Economics, Economic Models, Operations Research, Decision Theory, Game Theory, Static and Dynamic Optimization, Dynamical Systems at University of Pavia, University of Insubria, Bocconi University, University of Ancona, LIUC Castellanza , both at the undergraduate and graduate level. She also delivered courses in Static and Dynamic Optimization in PhD programs at University of Pavia, University of Milan and University of Ancona.

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