

Enrico Miglierina

Curriculum vitae

Personal information

Surname/First name: MIGLIERINA Enrico
Office address: Dipartimento di Discipline Matematiche, Finanza Matematica ed Econometria, Università Cattolica del Sacro Cuore, via Necchi, 9 – I-20123 Milano (Italy)
Contacts: e-mail: enrico.miglierina@unicatt.it
phone (office): +39 02 72342967
Nationality: Italian

Academic positions:

2015 up to now Full professor in Mathematical Methods for Economics and Finance, Faculty of Economics, Università Cattolica del Sacro Cuore, Milano, Italy.
2011 - 2015 Associate professor in Mathematical Methods for Economics and Finance, Faculty of Economics, Università Cattolica del Sacro Cuore, Milano, Italy.
2005 - 2011 Associate professor in Mathematical Methods for Economics and Finance, Faculty of Economics, Università degli Studi dell'Insubria, Varese, Italy.
2000 - 2005 Assistant professor, Faculty of Economics, Università degli Studi dell'Insubria, Varese, Italy.

Education

February 2002 Università degli Studi di Trieste, Italy: Ph.D. in Mathematics for Economics Decision
Dissertation: “Un approccio dinamico ai problemi di ottimizzazione vettoriale” (A Dynamical Approach to Vector Optimization Problems), supervisors: M. Degiovanni (Università Cattolica, Brescia) A. Guerraggio (University of Insubria, Varese)
November 1996 Università degli Studi di Milano, Italy: “Laurea in Matematica” (University Degree in Mathematics),
Dissertation: “Sulle Threefolds con sezione iperpiana di genere $p_g=0$ ” (On the Threefolds with Hyperplane Section of Genus $p_g=0$), supervisor M Palleschi.

Scientific activities

Research Interests

Mathematical Programming. Variational Analysis. Functional Analysis.

Publications

Papers in scientific journals

2018

1. Casini, Emanuele; Miglierina, Enrico; Piasecki, Łukasz; Roxana Popescu, “Weak* fixed point property in l_1 and polyhedrality in Lindenstrauss spaces” *Studia Mathematica*, 241 (2018), 159-172.

2017

2. Casini, Emanuele; Miglierina, Enrico; Piasecki, Łukasz; “Separable Lindenstrauss spaces whose duals lack the weak* fixed point property for nonexpansive mappings” *Studia Mathematica* 238 (2017), 1–16.
 3. Casini, Emanuele; Miglierina, Enrico; Piasecki, Łukasz; Popescu, Roxana, “Stability constants of the weak* fixed point property for the space l_1 ”, *Journal of Mathematical Analysis and Applications*, 452 (2017), 673–684.
- 2016
4. Casini, Emanuele; Miglierina, Enrico; Piasecki, Łukasz; Veselý, Libor, “Rethinking polyhedrality for Lindenstrauss spaces”, *Israel Journal of Mathematics*, 216 (2016), 355–369.
 5. Gutiérrez, César; Miglierina, Enrico; Molho, Elena; Novo, Vicente, “Convergence of solutions of a set optimization problem in the image space”, *Journal of Optimization Theory and Applications* 170 (2016), 358–371.
- 2015
6. E. Casini, E. Miglierina, Ł. Piasecki “Hyperplanes in the space of convergent sequences and preduals of l_1 ” *Canadian Mathematical Bulletin*, 58 (2015), 459-470.
- 2014
7. 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
8. E. Casini, E. Miglierina, I.A. Polyrakis, F. Xanthos “Reflexive cones” *Positivity*, 17 (2013), 911-933
 9. 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
10. 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
11. 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
- 2010
12. E. Miglierina, E. Casini “The geometry of strict maximality” *SIAM Journal on Optimization*, 20 (2010), 3146-3160 doi:10.1137/090748858
 13. E. Miglierina, E. Casini “Cones with bounded and unbounded bases and reflexivity”, *Nonlinear Analysis, Series A: Theory, Methods & Applications*, 72 (2010), 2356-2366
- 2009
14. E. Miglierina, E. Molho “Sectionwise connected sets in vector optimization”, *Operations Research Letters*, 37 (2009), 295-298
- 2008
15. 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.
 16. 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.
 17. 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, 662-682.
- 2007
18. E. Miglierina, E. Molho, “Well-posedness and stability for abstract spline problems”, *Journal of Mathematical Analysis and Applications*, 333, 2007, 1058-1069.
- 2005
19. E. Miglierina, E. Molho, M. Rocca, “Well-posedness and scalarization in vector optimization”, *Journal of Optimization Theory and Applications*, 126, 2005, 391-409.
 20. E. Miglierina, E. Molho “Convergence of minimal sets in convex vector optimization”, *SIAM Journal on Optimization*, 2005, 513-526.
- 2004

21. R. Lucchetti, E. Miglierina “Stability of convex vector optimization problems”, *Optimization*, 53, 2004, 517-528.
22. E. Miglierina “Slow solutions of a differential inclusion and vector optimization”, *Set-Valued Analysis*, 12, 2004, 345-356.

2003

23. E. Miglierina, E. Molho “Well-posedness and convexity in vector optimization”, *Mathematical Methods of Operations Research*, 58, 2003, 375-385. doi: 10.1007/s001860300310
24. E. Miglierina “Stability of critical points for vector valued functions and Pareto efficiency” *Journal of Information & Optimization Sciences*, 24, , 2003, 413-422.

2002

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

2001

26. E. Miglierina “Characterization of Solutions of Multiobjective Optimization Problem” *Rendiconti del Circolo Matematico di Palermo*, vol. 51, (2001) pp. 153-164.

Conference proceedings

27. 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.
28. 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
29. 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.
30. 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.
31. E. Miglierina “Invex Functions on Differentiable Manifolds” in “*Generalized convexity and optimization for economic and financial decisions*”, (G. Giorgi, F.Rossi, eds.) Proceedings of the Workshop held in Verona 28-29 maggio 1998; Pitagora Editrice, Bologna, **1999**,. 299-311.

Editor of the Proceedings:

- “*Recent Advances in Optimization*” - Proceedings of the workshop held in Varese, June 13/14, 2002 (G.P. Crespi, A.Guerraggio, E. Miglierina, M. Rocca eds.), Datanova, Milano, **2003**.
- “*Optimization in Economics, Finance and Industry*” - Proceedings of the workshop held in Verona, June 14/15, 2001 (G.P. Crespi, G.Giorgi, A.Guerraggio, D.La Torre, E. Miglierina, M. Rocca eds.), Datanova, Milano, **2002**.

Editor of the **Special Issue** on Optimization: Theory, Methods and Applications of the journal *Decisions in Economics and Finance*, appeared in November 2017 as Issue 1-2, Vol.40, pages 1-395.

Refereeing for scientific Journals

- SIAM Journal on Optimization
- Mathematical Programming (A)
- European Journal of Operations Research
- Journal of Optimization Theory and Application

- Journal of Mathematical Analysis and Applications
- Journal of Global Optimization
- Mathematical Methods of Operations Research
- Optimization
- Serdica. Mathematical Journal.
- Australian Journal of Mathematical Analysis and Applications
- Folia Mathematica
- Information Sciences
- TOP (Trabajos Investigación Operativa)
- Positivity
- Journal of Applied Mathematics and Computing
- Calcolo
- Journal of Fixed Point Theory and Applications
- Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas
- Reviewer for MathSciNet, since 2003

Refereeing for research proposals and other evaluation activities

- Member of the final exam commission for the Doctorate in Pure and Applied Mathematics, Department of Mathematics, Università di Milano Bicocca, Milano, March-April, 2017.
- Examiner of PhD Thesis in Mathematics- Department of Mathematics - University of Delhi – India, February – March 2015
- Member of the evaluation commission for the Doctorate, Department of Applied Mathematics I, UNED, Madrid, October 23, 2014.
- Research Projects submitted to the Chilean Research Fund Council (FONDECYT) for funds for the fiscal year 2008-2009.
- Research Projects submitted to the Academy of Sciences of Georgia for funds for the fiscal year 2009-2010-2011.
- Referee for Proceedings of III Spain Italy Netherlands Meeting on Game Theory – Madrid, Spain, 4-6 July 2007.

Scientific Societies membership

Member of :

- AMASES (Italian Society for Mathematics in Economic and Social Sciences) since 1999 (www.amases.it);
- Working Group on Generalized Convexity, since 2005 (http://www.ec.unipi.it/~genconv/M_simple.shtml)
- EURO Working Group on Continuous Optimization, since 2007 (<http://www.iam.metu.edu.tr/EUROPT/>)

Research projects

- Research project “ Infinite-dimensional Convexity” funded by INDAM-GNAMPA (coordinatore del progetto C.A. De Bernardi). Period: April 2018 – April 2019
- Research project “Optimization and Equilibrium Problems with Vector Functions and Set-Valued Maps” (leader: Vicente Novo Sanjurjo, UNED, Madrid – code MTM2015-68103-P), funded by **Spanish Government**. Period: 2016, January – 2018, December.
- Research project “Optimization of Vector Functions and Set-Valued Maps” (leader: Vicente Novo Sanjurjo, UNED, Madrid – code MTM2012-30942), funded by **Spanish Government** within the “Plan Nacional de Matemáticas”. Period: 2013, January – 2015, December.
- Research project “Optimization of Vector Functions and Set-Valued Maps” (leader: Vicente Novo

Sanjurjo, UNED, Madrid – code MTM2009-09493), funded by **Spanish Government** within the “Plan Nacional de Matemáticas”. Period: 2010, January – 2012, December.

- Research project “Optimization methods in Economics, Finance and Industry” funded by CNR (Italian Council of Researches) within the framework “Young Research Project – 2002.

Organization of Congress and Workshops

- Organizer of an invited session within the stream "Vector and Set-valued Optimization" - 29nd European Conference on Operational Research EURO 2018 – Valencia, Spain, 2018, 8-11 July.
- Member of Organizing Committee of “Workshop on Optimization and related Topics”, Milano-Pavia, May 17-18, 2018.
- Member of Organizing Committee of “Workshop on Optimization, Game Theory and related Topics”, Genova, May 8-9, 2014.
- Member of Organizing Committee of “Workshop on Optimization and Variational Analysis”, L'Aquila , May 9-10, 2013.
- Organizer of an invited session within the stream "Vector and Set-valued Optimization" - 26nd European Conference on Operational Research EURO XXVI – Roma, Italy, 2013, 1-4 July.
- Member of Organizing Committee of “Workshop on Optimization and Variational Analysis”, Milano (Università Cattolica and Università di Milano Bicocca), May 10-11, 2012.
- Member of Organizing Committee of “Workshop on Optimization and related topics”, Milano (Università Cattolica and Università di Milano Bicocca), May 5-6, 2011.
- Member of Organizing Committee of “Workshop on Optimization and related topics”, Varese, May, 5, 2009.
- Member of Organizing Committee of “Workshop on Vector Optimization and related topics”, Varese, May, 2008.
- Member of Organizing Committee of 8th International Symposium on Generalized Convexity and Generalized Monotonicity, - Varese, Italy, July 4-8, 2005.
- Organization of Summer School “Ottimizzazione: Teoria e Metodi” (Optimization Theory and Methods) – University of Insubria, Varese, Italy, July 2003.
- Member of Organizing Committee of Workshop “Ottimizzazione” – Varese, Italy, June 13-14, 2002;
- Member of Organizing Committee of Workshop “Optimization and its applications to Economics, Finance and Industry” – Verona ,Italy, June 14-15, 2001.

Participation to Congress and Workshops

He presented communications at the following Congress and Workshop:

- 29nd European Conference on Operational Research EURO 2018 – Valencia, Spain, 2018, 8-11 July (invited communication within the stream “Vector and Set-Valued Optimization”)
- Workshop “Topics in Differential Problems and Functional Analysis”, Università della Calabria, Rende, Italy, March 9-10, 2018 (*invited communication*).
- Geometric Topology and Geometry of Banach Spaces. 2017. Research workshop of the Israel Science Foundation, Eilat, Israel, May 14-19, 2017 (*invited communication*).
- Congreso Bienal de la Real Sociedad Matemática Española 2017, (RSME 2017), Zaragoza, Spain, January 30, February 3, 2017 (*invited communication* within the special session “Continuous Optimization and Related Topics”).
- EURO 2016 - 28th European Conference on Operational Research - Poznan, Poland - July 3-6, 2016 (invited communication within the stream “Vector and Set-Valued Optimization”)
- Lublin-Italian Friends Workshop 2016 on selected topics of Functional Analysis. Lublin, Poland, June 22-25, 2016 (*invited communication*)
- 7th Workshop on Vector Optimization and Related Topics ; UNED, Madrid, Spain, October 24, 2014 (*invited communication*)

- Miniworkshop GIAF 2 (Gruppo Italiano Analisi Funzionale), Università di Milano, Milan, Italy, September 17, 19; 2014.
- First Joint International Meeting RSME-SCM-SEMA-SIMAI-UMI – Bilbao, Spain, June 30 – July 4, 2014 (*invited communication* within the special session “Multiobjective Optimization and Variational Problems”)
- 26nd European Conference on Operational Research EURO XXVI – Roma, Italy, 2013, 1-4 July (*invited communication* within the stream “Vector and Set-Valued Optimization”)
- 25nd European Conference on Operational Research EURO XXV – Vilnius, Lithuania, 2012, 8-11 July (*invited communication* within the stream “Vector and Set-Valued Optimization”)
- OR 2011 - International Conference on Operations Research, August 30 – September 2, 2011, Zurich (*Invited communication* within the stream “Continuous optimization and control”).
- 24nd European Conference on Operational Research EURO XXIV – Lisboa, Portugal, 2010, 12-14 July (*invited communication* within the stream “Vector and Set-Valued Optimization”)
- EUROPT Meeting 2010. - 8th EUROPT Workshop on Advances in Continuous Optimization – Aveiro, Portugal, 2010, 9-10 July (*invited communication* within the stream “Vector and Set-Valued Optimization”)
- Workshop on Vector Optimization and Multicriteria Games, Università Cattolica e Università di Milano-Bicocca, Milano, 2010, 6-7 May (*invited communication*)
- 23nd European Conference on Operational Research EURO XXIII – Bonn, Germany, 2009, 6-8 July (*invited communication* within the stream “Vector and Set-Valued Optimization”)
- XXXII Convegno A.M.A.S.E.S., Trento, 2008, September
- ICIAM 07- 6th International Congress on Industrial and Applied Mathematics – Zurich, Switzerland, July 16-20, 2007;
- 22nd European Conference on Operational Research EURO XXII – Prague, Czech Republic, July 8-11, 2007;
- Joint EUROPT-OMS Meeting 2007. 2nd Conference on Optimization Methods & Software and 6th EUROPT Workshop on Advances in Continuous Optimization – Prague, Czech Republic, July 4-7, 2007;
- Workshop on Well-Posedness, Milan, Italy, 24-25 May 2007 (*invited communication*)
- 12th French – German – Spanish Conference on Optimization – Avignon, France September 20-24, 2004;
- XXIII Convegno A.M.A.S.E.S – Rende, Italy, September 1999;
- XXII Convegno A.M.A.S.E.S – Genova, Italy, September 1998.

He participated also to the following Congress and Workshop:

- Relations Between Banach Space Theory and Geometric Measure Theory – Warwick Mathematics Institute, Warwick, United Kingdom, June 8-12, 2015;
- Miniworkshop GIAF (Gruppo Italiano Analisi Funzionale), Università di Genova, Genova, Italy, September 17-19; 2013;
- VIII-th Workshop on Well-posedness in Optimization and Related Topics – Varsavia, Poland, September 10-18, 2001 (with a grant of European Community for young researchers);
- Advances in Convex Analysis and Global Optimization – Samos, Greece, June 5-9, 2000;
- VII-th Workshop on Well-posedness in Optimization and Related Topics – Gargnano, Italy, September 13-18, 1999.

Visits, lectures and collaborations

He has visited, collaborated with, given lectures or seminars at the following Departments and Institutions:
 Department of Mathematics, University of Genova, Italy;
 Department of Mathematics, Politecnico, Milan, Italy;

Department of Mathematics, University of Milan, Italy;
 Department of mathematics, University of Padova, Italy;
 Department of Computer Science, University of Verona, Italy;
 Department of Mathematical Sciences, Mathematical Finance and Econometrics, Università Cattolica del Sacro Cuore, Milan, Italy
 Department of Quantitative Methods in Economics, University of Milano Bicocca, Italy;
 Department of Management Sciences, University of Pavia, Italy;
 Institute of Quantitative Methods in Economics and Finance, University “Bocconi”, Milan, Italy;
 Department of Mathematics I, University Politecnica of Bucharest,
 Institute for Systems, Informatics and Safety Joint Research Center Ispra, Varese, Italy.
 Institute of Mathematics of the Polish Academy of Sciences (IM PAN)

- Visiting professor at the Department of Applied Mathematics I of ETSI Industriales – UNED, Madrid (Spain) - February 18-22, 2013
- Visiting professor at the Department of Applied Mathematics of University of Valladolid (Spain) – February 28- March 5, 2011
- Visiting professor at the Department of Mathematics of National Technical University of Athens – February 8-13, 2010
- Visiting professor at the Institute of Systems and Control of the Polish Academy of Sciences (IBS PAN) – Warsaw - May, 2009

Teaching activities

His teaching experience includes several courses on Linear Algebra, Calculus, Mathematical Analysis, Operations Research, Decision Theory, Game Theory at the Faculty of Economics and Business Science, both at the undergraduate and graduate level. Moreover he taught Mathematical Economics and Mathematical Programming at the Faculty of Science (course in studies in Mathematics). Finally, he also delivered some courses in PhD programs.

- **A.Y. 2017-18**
 “*Mathematical Methods*” (Graduate Level), course of studies in Statistics and Actuarial Sciences, Università Cattolica del Sacro Cuore, Milano, Italy
- **A.Y. 2015- 2016, 2016-17, 2017-18**
 “*Mathematical Analysis*”, PhD Program in Statistics and Mathematical Finance, University of Milano Bicocca, Milano, Italy
- **A.Y. 2014-15 up to now**
 20 hours of lectures (devoted to an introduction to vector optimization) within the course “*Static and dynamic optimization*”, course of studies in Mathematics (Graduate Level), Università Cattolica del Sacro Cuore, Brescia, Italy
- **A.Y. 2011-12, 2012-13, 2013-14, 2014-15**
 “*Quantitative methods for management*” (Graduate Level), course of studies in Economics and Business Science, Università Cattolica del Sacro Cuore, Milano, Italy.
- **A.Y. 2010-11 up to now**
 “*Mathematics*”, course of studies in Economics and Business Science, Università Cattolica del Sacro Cuore, Milano, Italy.
- **A.Y. 2010-11**
 “*Probability*”, course of studies in Economics and Business Science, University of Insubria, Varese, Italy.
- **A.Y. 2010-11**
 “*Mathematics for Economics*” (Graduate level), course of Studies in Economics, University of Insubria, Italy
- **from A.Y. 2003-04 to 2011-12:**
 “*Mathematics*” (linear algebra and calculus) courses of studies in Economics and Business Science, University of Insubria, Varese and Como, Italy.

- from A.Y. **2007-08** to **2009-10**:
“*Mathematics for Economics and Finance*” (first part: Financial Mathematics, second part: calculus for function of several variables), course of studies in Business Science, University of Insubria, Como, Italy.
- from A.Y. **2003-04** to **2009-10**:
“*Introduction to Mathematics*” (preliminary summer course for the freshmen), University of Insubria, Varese, Italy.
- A.Y. **2008-09**:
“*Introduction to Vector Optimization*”, PhD program in Mathematics, University of Insubria, Como, Italy
- from A.Y. **2005-06** to **2006-07**:
“*Operations Research*” (linear and nonlinear programming), course of studies in Economics (Graduate level), University of Insubria, Varese, Italy.
- from A.Y. **2002-03** to **2003-04**:
“*Decision Theory*”, course of studies in Economics (Graduate level), University of Insubria, Varese, Italy.
- from A.Y. **2000-01** to **2002-03**:
“*Mathematical Economics*” (first semester: Mathematical Programming, second semester: Decision Theory and Game Theory), course of studies in Mathematics, University of Insubria, Como, Italy.
- A.Y. **2001-02**: “*Financial Mathematics*”, course of studies in Economics and Business Science, University of Insubria, Varese, Italy.
- from A.Y. **1999-2000** to **2000-01**:
“*Mathematics*” (linear algebra and calculus), course of studies in Institutions and Financial Markets Management, University “Bocconi”, Milan, Italy.
- **1990-1995**: teaching of Mathematics and Statistics in several Public High Schools, Italy.