Curriculum Vitae of Marco Castellani

Thursday, February 2, 2023

1   Biographical notes

Born at Pisa (Italy), June 14, 1965.

Addresses

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Current academic position

Since October 2003 full professor (Professore Ordinario) in Mathematical methods of economy, finance and actuarial sciences. I'm working at the University of L'Aquila (Italy), Department of Information Engineering, Computer Science and Mathematics.

Previous academic positions

From January 1994 to March 1994 external consultant in mathematics for the "Transportation Project - C.N.R." for the elaboration of algorithms for variational and quasi-variational inequalities for network equilibria.

From November 1997 to January 1998, external consultant in mathematics for the "Transportation Project - C.N.R." for the elaboration of algorithms for variational and quasi-variational inequalities for network equilibria.

From February 1998 to October 1998, Assistant professor (Ricercatore) at the University of Bologna.

From November 1998 to October 2005, Associate professor (Professore Associato) at the University of L'Aquila.

Education

1993 Master degree cum laude in Mathematics, University of Pisa, Italy.

1998 PhD degree in Mathematics, University of Pisa, Italy.

Dissertation: *Optimality conditions in nonsmooth optimization*, supervisor M. Pappalardo.

2 Main institutional activities

Since 2010 to 2011: chair of the Degree Programs in *L18 Business administration* and *LM77 Management*

Since 2012 to 2018: member of the *Commissione Programmazione Risorse* of the Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila

Since 2014 to 2015: member of the steering committee of the *Corso di Tirocinio Formativo Attivo* (a post graduate course in order to be acknowledged as a public teacher of secondary education by the Italian state)

2015: chair of examination board of the *Corso di Tirocinio Formativo Attivo*, class A047 (Mathematics) and A048 (Applied Mathematics)

Since 2016 to 2019: chair of the University of L'Aquila's Internal Quality Assurance System (*Presidio di Qualità di Ateneo*)

2018: vice director of the Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila

Since 2018: member of the Academic Senate of the University of L'Aquila.

Since 2019: member of the *Gruppo di Lavoro della Didattica* of the University of L'Aquila.

Since 2020: member of the PhD program in *Matematica e modelli*, University of L'Aquila.

3 Teaching activities

Courses

General Mathematics (Matematica Generale), for the Bachelor Degree in *Economics and Management* at the University of Bologna, University of Rome "Luiss", and University of L'Aquila.

Mathematics and Elements of Statistics (Matematica ed Elementi di Statistica), for the Bachelor Degree in *Biotechnologies* at the University of L'Aquila.

Mathematics (Matematica), for the Bachelor's Degree in *Biological Sciences* and *Environmental Sciences and Technology* at the University of L'Aquila.

Financial Mathematics (Matematica Finanziaria), for the Bachelor Degree in *Economics and Management* at the University of L'Aquila

Mathematics for Economics and Finance (Matematica per le Applicazioni Economiche e Finanziarie), for the Master Degree in *Business Administration, Economics and Finance* at the University of L'Aquila

Mathematical Methods for the Economy (Metodi Matematici per l'Economia), for the Master Degree in *Business Administration, Economics and Finance* at the University of L'Aquila

Mathematical Methods for Business Decisions (Metodi Matematici per le Decisioni Aziendali), for the Master Degree in *Business Administration, Economics and Finance* at the University of L'Aquila

Operational Research (Ricerca Operativa), for the Master Degree in *Business Administration, Economics and Finance* at the University of L'Aquila

Risk Theory (Teoria del Rischio), for the Master Degree in *Business Administration, Economics and Finance* at the University of L'Aquila

Various PhD courses on for Economist at the University "La Sapienza" of Rome and at the University "Luiss" of Rome: *Static and dynamic optimization* and *Ordinary differential equations*

Principles of Mathematics for Economics and Finance at the "Scuola Matematica Interuniversitaria", Perugia (Italy), 2001.

I was supervisor of lots master thesis. Moreover I was supervisor/tutor of the following PhD students:

Anna D'Ottavio

Sara Latini

Marco Mastrogiovanni

Didactic books

1. *Matematica di base per l'economia e l'azienda. Esercizi e testi d'esame svolti*, Esculapio Editrice (Bologna), 2001 (with F. Gozzi).

2. *Precorso di matematica*, Esculapio Editrice (Bologna), 2008 (with F. Gozzi, M. Buscema, F. Lattanzi, L. Mazzoli, A. Veredice).

4 Scientific activities

Personal IDs

ORCID ID: 0000-0003-3277-0723

Scopus Author ID: 7005770988

Mathematical Reviews Author ID: 362806

Research interests

General mathematical equilibrium and quasiequilibrium theory, Set-valued and variational analysis, Multi-objective and goal programming, Nonlinear programming, Nonsmooth analysis

Published papers

2023

1. A modified Michael's selection theorem with application to generalized Nash equilibrium problem, *Journal of Optimization Theory and Applications*, 196, (2023), 199-211 (with M. Giuli).

2021

2. A generalized Ky Fan minimax inequality on finite dimensional spaces, *Journal of Optimization Theory and Applications*, 190, (2021), 343-357 (with M. Giuli).

3. Mathematical justification of a generalized equilibrium problem, *Journal of Nonlinear and Variational Analysis*, 5, (2021), 421-427 (with M. Giuli).

2020

4. Existence results for a wide class of equilibrium problems: A general scheme, *Journal of Nonlinear and Convex Analysis*, 21, (2020), 1219-1224 (with M. Giuli and M. Pappalardo).

5. Existence of quasiequilibria in metric vector spaces, *Journal of Mathematical Analysis and Applications*, 484, (2020), no. 1, article number 123751, 13 pp. (with M. Giuli).

2019

6. A coercivity condition for nonmonotone quasiequilibria on finite-dimensional space, *Journal of Global Optimization*, 75, (2019), 163-176 (with M. Giuli).

7. Nonlinear Programming Techniques for Equilibria, EURO Advanced Tutorials on Operational Research. Springer 2019. viii+120 pp. ISBN: 978-3-030-00204-6 (with G. Bigi, M. Pappalardo, M. Passacantando).

2018

8. A Ky Fan minimax inequality for quasiequilibria on finite-dimensional spaces, *Journal of Optimization Theory and Applications*, 179, (2018), 53-64 (with M. Giuli and M. Pappalardo).

2016

9. Stability and existence results for quasimonotone quasivariational inequalities in finite dimensional spaces, *Applied Mathematics & Optimization*, 73, (2016), 137-152 (with M. Giuli).

10. Approximate solutions of quasiequilibrium problems in Banach spaces, *Journal of Global Optimization*, 64, (2016), 615-620 (with M. Giuli).

11. Ekeland's principle for cyclically antimonotone equilibrium problems, *Nonlinear Analysis: Real World Applications*, 32, (2016), 213-228 (with M. Giuli).

2015

12. Local cone approximations in mathematical programming, *Optimization*, 64, (2015), 1669-1681 (with M. Giuli, S. Nobakhtian and M. Pappalardo).

13. An existence result for quasiequilibrium problems in separable Banach spaces, *Journal of Mathematical Analysis and Applications*, 425, (2015), 85-95 (with M. Giuli).

2013

14. Refinements of existence results for relaxed quasimonotone equilibrium problems, *Journal of Global Optimization*, 57, (2013), 1213-1227 (with M. Giuli).

15. Pseudomonotone diagonal subdifferential operators, *Journal of Convex Analysis*, 20, (2013), 1-12 (with M. Giuli).

16. Existence and solution methods for equilibra, *European Journal of Operational Research*, 227, (2013), 1-11 (with G. Bigi, M. Pappalardo and M. Passacantando).

2012

17. A characterization of the solution set of pseudoconvex extremum problems, Journal of Convex Analysis, 19, (2012), 113-123 (with M. Giuli).

18. Recent advances on equilibrium problems, in Recent advances in nonlinear optimization and equilibrium problems: a tribute to Marco D'Apuzzo, V. De Simone, D. di Serafino and G. Toraldo (eds), *Quaderni di Matematica*, 27, (2012), 41-65 (with G. Bigi, M. Giuli, B. Panicucci, M. Pappalardo and M. Passacantando).

2011

19. Directional K-epiderivatives and error bound, *Optimization*, 60, (2011), 201-210 (with M. Pappalardo).

2010

20. Existence results for nonconvex equilibrium problems, *Optimization Methods & Software*, 25, (2010), 49-58 (with M. Pappalardo and M. Passacantando).

21. On the mean value theorem for semidifferentiable functions, *Journal of Global Optimization*, 46, (2010), 503-508 (with M. Pappalardo).

22. On equivalent equilibrium problems, *Journal of Optimization Theory and Applications*, 147, (2010), 157-168 (with M. Giuli).

2009

23. A new solution method for equilibrium problems, *Optimization Methods & Software*, 24, (2009), 895-911 (with G. Bigi and M. Pappalardo).

24. On paramonotone and pseudomonotone* maps, in Recent Developments on Mathematical Programming and Applications, L. Carosi and L. Martein (eds), Aracne editrice, (2009), 41-55 (with M. Giuli).

25. Gap functions for nonsmooth equilibrium problems, *Taiwanese Journal of Mathematics*, 13, (2009), 1837-1846 (with M. Pappalardo).

2008

26. A dual view of equilibrium problems, *Journal of Mathematical Analysis and Applications*, 342, (2008), 17-26 (with G. Bigi and G. Kassay).

27. On constraint qualifications in nonlinear programming, *Nonlinear Analysis: Theory, Methods & Applications*, 69, (2008), 3249-3258.

2007

28. The axiomatic bargaining problem: a brief survey, in Recent Developments on Applied Mathematics, L. Carosi and L. Martein (eds), Aracne editrice, (2007), 25-44 (with M. Giuli).

29. Local cone approximations in optimization, *Control and Cybernetics*, 36, (2007), 583-600 (with M. Pappalardo).

2005

30. Predicting excess return in dividend models under heterogeneous trading and learning: a diffusive approach, *Finance Letters*, 3, (2005), 12-16 (with M. Giuli).

2004

31. Uniqueness of KKT multipliers in multiobjective programming, *Applied Mathematics Letters*, 17, (2004), 1285-1290 (with G. Bigi).

2003

32. A mean value theorem for K-directional epiderivatives, in Recent Advances in Optimization, G.P. Crespi et al. (eds), Datanova Editrice, (2003), 21-34 (with A. D'Ottavio and M. Giuli).

2002

33. *K*-epiderivatives for set-valued functions and optimization, *Mathematical Methods of Operations Research*, 55, (2002), 401-412 (with G. Bigi).

34. Dual representations for positively homogeneous functions: an application to constrained extremum problems, in Optimization in Economics, Finance and Industry, G.P. Crespi et al. (eds), Datanova Editrice, (2002), 129-144 (with A. Uderzo).

2001

35. Nonsmooth invex functions and sufficient optimality conditions, *Journal of Mathematical Analysis and Applications*, 255, (2001), 319-332.

36. About a gap between multiobjective and scalar optimization, *Journal of Optimization Theory and Applications*, 109, (2001), 437-439 (with M. Pappalardo).

2000

37. A dual representations for proper positively homogeneous functions, *Journal of Global Optimization*, 16, (2000), 393-400.

38. Dual representations of classes of positively homogeneous functions; in Quasidifferentiability and Related Topics, V.F. Demyanov and A. Rubinov (eds), Serie "Nonconvex optimization and its applications", 43, Kluwer Academic Publishers, (2000), 73-84.

39. Second order optimality conditions for differentiable multiobjective problems, *RAIRO Operations Research*, 34, (2000), 411-426 (with G. Bigi).

1999

40. A unifying approach for higher-order optimality conditions, *Communications of Applied Analysis*, 3, (1999), 15-28 (with M. Pappalardo).

41. Error bounds for set-valued maps, in Generalized Convexity and Optimization for Economic and Financial Decisions, G. Giorgi and F. Rossi (eds), Pitagora Editrice Bologna, (1999), 121-135.

1998

42. Higher-order necessary optimality conditions for a nonsmooth extremum problem, *Journal of Applied Analysis*, 4, (1998), 245-258.

43. Characterizations of ρ-convex functions, in Generalized Convexity, Generalized Monotonicity: Recent Results, J.P. Crouzeix, J.-E. Martinez-Legaz and M. Volle (eds), Kluwer Academic Publishers, (1998), 219-233 (with M. Pappalardo).

1997

44. Separation of sets, Lagrange multipliers and totally regular extremum problems, *Journal of Optimization Theory and Applications*, 92, (1997), 249-261 (with G. Mastroeni and M. Pappalardo).

45. Separation of sets and optimality conditions, *Rendiconti del Circolo Matematico di Palermo, Serie II*, 48, (1997), 27-38.

46. Duality relations for variational inequalities with applications to network flows, *Rendiconti del Circolo Matematico di Palermo, Serie II*, 48, (1997), 39-56 (with J.M. Jama and G. Mastroeni).

47. Second-order optimality conditions for nonsmooth mathematical programming, in Atti del XXI Convegno Annuale A.M.A.S.E.S., (1997), 217-229.

1996

48. A necessary second-order optimality condition in nonsmooth mathematical programming, *Operation Research Letters*, 19, (1996), 79-86.

49. Local second-order approximations and applications in optimization, *Optimization*, 37, (1996), 305-321 (with M. Pappalardo).

50. On regularity for generalized systems and applications, in Nonlinear Optimization and Applications, G. Di Pillo and F. Giannessi (eds), Plenum Publishing Co., (1996), 13-26 (with G. Mastroeni and M. Pappalardo).

1995

51. First order cone approximations and necessary optimality conditions, *Optimization*, 35, (1995), 113-126 (with M. Pappalardo).

52. On the duality theory for finite dimensional variational inequalities, in Variational Inequalities and Network Equilibrium Problems, F. Giannessi and A. Maugeri (eds), Plenum Publishing Co., (1995), 21-31 (with G. Mastroeni).

1994

53. Variational sets and necessary optimality conditions in nonsmooth optimization, *Le Matematiche*, XLIX, (1994), 189-203.

Accepted papers

1. Projected solutions for finite dimensional equilibrium problems, *Computational Management Science* (with M. Giuli and S. Latini).

2. New criteria for existence of solutions for equilibrium problems, *Computational Management Science* (with M. Balaj and M. Giuli)

Submitted papers

1. A continuity result for the adjusted normal cone operator, *arXiv*, 2301.11957 (with M. Giuli).

2. Projected solutions of generalized quasivariational problems in Banach spaces, *Nonlinear Analysis: Real World Applications* (with M. Giuli, M. Milasi and D. Scopelliti).

Refereeing for scientific Journals

Computational Management Science (published by Springer)

Journal of Convex Analysis (published by Heldermann)

Journal of Global Optimization (published by Springer)

Journal of Mathematical Analysis and Applications (published by Elsevier)

Journal of Optimization Theory and Applications (published by Springer)

Minimax Theory and Applications (published by Heldermann)

Optimization (published by Taylor and Francis Group)

Optimization Letters (published by Springer)

Rendiconti del Circolo Matematico di Palermo, Serie 2 (published by Springer)

Set-valued and Variational Analysis (published by Springer)

Journal issues edited

Guest Editor, *Minimax Theory and Applications*, 2022, work in progress.

Guest Editor, *Decisions in Economics and Finance*, 40, no. 1-2, (2017), special issue on "Optimization".

Guest Editor, *Optimization*, 60, no. 1-2, (2011), special issue on "Dedicated to Professor Franco Giannessi on the occasion of his 75th birthday"