

ANDREA SCOZZARI - CV

Title: FULL PROFESSOR – PROFESSORE ORDINARIO
(SSD: SECS-S/06)

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Nationality: Italy

SCOPUS h-Index	12
SCOPUS Overall Citations	417

GOOGLE SCHOLAR h-Index	16
GOOGLE SCHOLAR Overall Citations	752

QUALIFICATIONS

15/12/2016 – Present: **Full Professor (Professore Ordinario)** of Mathematical Methods of Economics, Finance and Actuarial Sciences (SC 13/D4 – SSD SECS-S/06) at Università degli Studi Niccolò Cusano - Telematica, Roma, Faculty of Economics.

22/11/2017: National Habilitation as **Full Professor (Professore Ordinario)** in Operations Research (SC 01/A6 - SSD MAT/09).

05/05/2014 – 14/12/2017: Associate Professor of Mathematical Methods of Economics, Finance and Actuarial Sciences (SC 13/D4 – SSD SECS-S/06) at Università degli Studi Niccolò Cusano - Telematica, Roma, Faculty of Economics.

01/10/2009-04/05/2014: Assistant Professor of Mathematical Methods of Economics, Finance and Actuarial Sciences (SC 13/D4 – SSD SECS-S/06) at Università degli Studi Niccolò Cusano - Telematica, Roma, Faculty of Economics.

02/05/2007-30/04/2009: Research Fellow in Operations Research, supervisor, Prof. Fabio Tardella, Department of Mathematics for Economics, Financial and Insurance Decisions, Faculty of Economics, University of Rome “La Sapienza”.

01/12/2001 – 30/11/2005: Research Fellow in Operations Research, supervisor, Prof. Fabio Tardella. Department of Mathematics for Economics, Financial and Insurance Decisions, Faculty of Economics, University of Rome “La Sapienza”.

1998-2001: Ph.D. student in Operations Research at the Department of Statistics, Probability and Applied Statistics, Faculty of Statistics, University of Rome "La Sapienza". Ph.D. thesis: "The Location of Path Shaped and Tree Shaped Facilities on Networks", discussed on 11/05/2001.

23/04/1997: University Degree (Laurea) cum Laude in Statistics, Faculty of Statistics, University of Rome "La Sapienza". Thesis: "An O.R. Application for the Catholic Jubilee in Rome", discussed on 23/04/1997.

MAIN RESEARCH ACTIVITIES

1. Portfolio selection problems and quantitative finance.

Asset allocation problems are currently one of the main research topics considered, both from an application and a theoretical viewpoint. In particular, new models and algorithms were developed for the portfolio selection problem as well as for the index-tracking problem. In fact, innovative algorithms were provided based on new results in (non-convex) quadratic programming, multi-objective optimization and mixed integer linear programming. These algorithms and methods will be applied also to the Enhanced Index Tracking problem that is the problem of selecting a portfolio that should generate excess return with respect to a benchmark index. A number of papers on these topics were presented at international conferences and published in important international journals.

2. Network optimization problems: clustering problems.

Finding hidden communities of firms is a crucial aspect to improve industrial policy effectiveness. In this recent line of research, I focus on small and medium enterprises (SME) networks. These networks are often made of informal relationships with other firms or banks. Often, the extent of such relationships is largely local, therefore not easily detectable by standard means of investigation based on aggregated models. Therefore, a clustering approach may be useful to find communities in order to evaluate expected outcomes of given policy interventions on such networks. Communities may be also subject to additional types of (difficult) restrictions such as contiguity or connectivity constraints, as well as, a fixed number of clusters are required. The aim is to provide new specific techniques to solve clustering problems on networks. In particular, exact method as well as heuristic approaches will be developed. Political Districting is another example of a classical application of graphs partitioning problems. In this field some papers were already presented at international conferences and published in important international journals.

ACADEMIC ACTIVITY

1. Organization and participation as invited speaker at scientific conferences

June 27-29, 2018: Invited speaker at the international conference "Discrete Mathematics Days 2018" organized by University of Sevilla (see <http://congreso.us.es/dmd2018/invited-speakers/>).

2018: Member of the Program Committee of the XIX Quantitative Finance Workshop (QFW2018) held in Roma, University of Roma TRE (Italy) 24-26 January 2018.

2018: Member of the Program Committee of the 7th International Conference on Operations Research and Enterprise System held in Porto (Portugal) 24-26 January 2018.

2017: Member of the Program Committee of the 6th International Conference on Operations Research and Enterprise System held in Porto (Portugal) 23-25 February 2017.

October 1-3, 2014: Invited speaker at the "International Workshop on Locational Analysis and Related Problems", organized by IMUS (Instituto de Matemáticas de la Universidad de Sevilla). Title: Partitioning a graph into connected components with fixed centers and optimizing different criteria.

July 8-12, 2014: Invited speaker at the international summer school on "Pluridisciplinary Approaches for the Analysis of Voting Rules", organized by the University of Caen (Normandie, France). The school was sponsored by the European Cost action project IC 1206 "Computational Social Choice" (see <http://www.illc.uva.nl/COST-IC1205/>).

July 1-4, 2013: Organization of the scientific session "Network Location Problems", 26th European Conference on Operational Research, EURO|INFORMS MMXIII, Roma.

November 28-30, 2011: Invited speaker at the international conference "Exploratory workshop on locational analysis: Trends on theory and applications", organized by IMUS (Instituto de Matemáticas de la Universidad de Sevilla). Title: Some insights on the extensive facility location problems on graphs.

2. Management or participation in research projects at national or international level (since 2010)

Project title: **Community partition of trade networks.**

Funding entity: MIUR-PRIN (Progetti di Ricerca di Rilevante Interesse Nazionale)

Participating entities: Università degli Studi di Trento, Università degli Studi Niccolò Cusano, Università degli Studi di Milano-Bicocca, Università Cattolica del Sacro Cuore

Duration in months: 36, **Under review**

Principal Investigator: Prof. Stefano Benati, Università di Trento

Local Coordinator: Prof. Andrea Scozzari, Università degli Studi Niccolò Cusano

Number of participating researchers: 6

Project title: **Evaluation of the electoral systems.**

Funding entity: Ufficio Studi elettorali of the Italian chamber of deputies

Participating entities: Ufficio Studi elettorali of the Italian chamber of deputies, Sapienza, University of Rome and Università degli Studi Niccolò Cusano.

Duration in months: 36 Date: from 10/20/2014 to 10/20/2016

Coordinator: Prof. Andrea Scozzari, Università degli Studi Niccolò Cusano and Prof. Federica Ricca, Sapienza, University of Rome.

Number of participating researchers: 6

Project title: **Parallel algorithms for NP-hard portfolio selection problems.**

Funding entity: CASPUR (Consorzio Interuniversitario per le Applicazioni del Supercalcolo per Università e Ricerca, Prot. n. 276/10 del 12/02/2010).

Participating entities: Università degli Studi Niccolò Cusano, Sapienza, University of Rome.

Duration in months: 11 Date: from 01/03/2010 to 31/12/2010

Coordinator: Prof. Andrea Scozzari, Università degli Studi Niccolò Cusano.

Number of participating researchers: 7

Project title: **New classification paradigms and its applications to Eurobarometer data to understand Europe's immigration fears.**

Financing entity: Fundacion BBVA (PR[17]_DAT_022)

Participating entities: University of Seville, University of Cádiz, University of Granada, University of Trento, University Niccolò Cusano.

Duration in months: 24, **Under review**

Coordinator: Prof. Justo Puerto, University of Seville.

Number of participating researchers: 9

Project title: **New Mathematical challenges of logistics and integrated transport problems on complex networks: design and optimization.**

Financing entity: Ministry of Economy and Competitiveness (Ref. N. MTM2016-74983-C2-1-R)

Participating entities: University of Seville, University of Cádiz and University of Granada.

Duration in months: 48 Date: from 01/01/2017 to 12/31/2020

Coordinator: Prof. Justo Puerto, University of Seville.

Number of participating researchers: 14

Project title: **Quantitative models for electoral systems and efficient algorithms for voting rules.**

Financing entity: Sapienza, University of Rome (prot. C26A15TWH2)

Participating entities: Sapienza, University of Rome.

Duration in months: 36 Date: from 01/01/2016 to 12/31/2018

Coordinator: Prof. Federica Ricca, Sapienza, University of Rome.

Number of participating researchers: 5

Project title: **Citation networks in economics.**

Financing entity: Sapienza, University of Rome (prot. C26A15TWH2)

Participating entities: Sapienza, University of Rome and INET Institute for New Economic Thinking (<https://www.ineteconomics.org>)

Duration in months: 36 Date: from 01/01/2015 to 31/12/2017

Coordinator: Prof. Prof. Carlo D'Ippoliti, Sapienza, University of Rome.

Number of participating researchers: > 10

Project title: **Mathematical Challenges in the Design and Optimization of Complex Networks: Applications.**

Financing entity: Ministry of Economy and Competitiveness (Ref. N. MTM2013-46962-C2-1-P)

Participating entities: University of Seville

Duration in months: 48 Date: from 01/01/2014 to 31/12/2017

Coordinator: Prof. Justo Puerto, University of Seville.

Number of participating researchers: > 10

3. Other merits or specific participations

2017-present: Reviewer Member for "Mathematical Reviews" (American Mathematical Society - Mathematical Reviews/MathSciNet Reviewer Number: 068351).

2016-present: member of the scientific committee of the journal: Quaderno di Ricerca: Osservatorio trimestrale sui dati economici italiani, Rivista scientifica – CINECA Code E230240 – ISSN 2283-7035 (Mazziero Research (Eds.): <http://www.mazzieroresearch.com/quadernodi-ricerca/>).

2012 – 2016: member of the teaching board of the Ph.D. Program in "Matematicas" at the University of Seville.

2010 – Present: Member of the EURO Working Group on Locational Analysis (EWGLA).

Referee for the following international journals:

European Journal of Operational Research, Annals of Operations Research, Computer and Operations Research, Computational Optimization and Applications, Discrete Optimization, European Journal of Finance, Quantitative Finance, Journal of Global Optimization, OR Spectrum, Journal of Optimization Theory and Applications, Networks, Discrete Applied Mathematics, Computational Management Science, Applications and Applied Mathematics, IMA Journal of Management Mathematics, Applied Mathematical Modelling, Journal of Computer and System Sciences.

4. Awards and Distinctions

February 2018: Outstanding Contribution in Reviewing for the international journal: DISCRETE OPTIMIZATION. Motivation: In recognition of the contributions made to the quality of the journal.

March 2018: Outstanding Contribution in Reviewing for the international journal: JOURNAL OF COMPUTER AND SYSTEM SCIENCES. Motivation: In recognition of the contributions made to the quality of the journal.

April 2017: Outstanding Contribution in Reviewing for the international journal : COMPUTERS AND OPERATIONS RESEARCH. Motivation: In recognition of the contributions made to the quality of the journal.

October 2017: Outstanding Contribution in Reviewing for the international journal: ARTIFICIAL INTELLIGENCE. Motivation: In recognition of the contributions made to the quality of the journal.

November 2017: Outstanding Contribution in Reviewing for the international journal: EUROPEAN JOURNAL OF OPERATIONAL RESEARCH. Motivation: In recognition of the contributions made to the quality of the journal. Recognition in cooperation with the following international associations: ASSOCIATION OF EUROPEAN OPERATIONAL RESEARCH SOCIETIES (EURO) WITHIN THE INTERNATIONAL FEDERATION OF OPERATIONAL RESEARCH SOCIETIES (IFORS).

April 2014: Outstanding Contribution in Reviewing for the international journal: DISCRETE OPTIMIZATION. Motivation: In recognition of the contributions made to the quality of the journal.

The survey: F. Ricca, A. Scozzari, B. Simeone (2011). Political Districting: from classical models to recent approaches, published in: 4OR A Quarterly Journal of Operations Research, vol. 9, pp. 223-254, was selected for the publication in the special volume of ANNALS OF OPERATIONS RESEARCH entitled "Surveys in Operations Research III (Invited Surveys from 4OR, 2009-2011)" that collects the best surveys published in the past three years in the international journal 4OR.

5. Teaching assignments and visiting at qualified universities at international level

February 1-5, 2013: Teaching at the Ph.D. School in Mathematics, Dep. of Estadística y Investigación Operativa - Facultad de Matemáticas, Universidad de Sevilla. Mini course on "Network Location Problems: From classical models to recent approaches".

November 25-27, 2013: Teaching at the Ph.D. School in Mathematics, Dep. of Estadística y Investigación Operativa - Facultad de Matemáticas, Universidad de Sevilla. Mini course on "Location Problems in Networks. Advanced Methods".

25/05/2009 – 08/06/2009: Research visiting at the Dept. of Estadística e Investigación Operativa - Facultad de Matemáticas, University of Seville (Project: Azioni Integrate Italia-Spagna 2008). During the visiting period I was invited to hold a faculty seminar. Title of the talk: "Polynomially computable bounds for the probability of a union of events", Sala de Juntas de la Facultad de Matemáticas, Seville 06/06/2009.

01/03/2006 – 30/03/2006: Research visiting at the Dept. of Estadística e Investigación Operativa - Facultad de Matemáticas, University of Seville (Project: Azioni Integrate Italia-Spagna 2004). During the visiting period, I was invited to hold a faculty seminar. Title of the talk: "On the location of extensive facilities on networks". Sala de Juntas de la Facultad de Matemáticas, Seville, 22/03/2006.

TEACHING ACTIVITY

1. Courses

2014/2015-present: Frontal teaching course on Calculus at the University Niccolò Cusano, Faculty of Economics. Degree course class L-18, 9 CFU (50 hours per year).

2015/2016-present: Frontal teaching course on Financial Mathematics at the University Niccolò Cusano, Faculty of Economics. Degree course class L-18, 9 CFU (50 hours per year).

2012/2013-2014/2015: Frontal teaching course on Operations Research at Tor Vergata University, Rome, Faculty of Mathematical, Physical and Natural Sciences, Degree course in Computer Science, 6 CFU (48 hours per year).

2006/2007: Contract professor at the University of Viterbo, faculty of Economics. Master degree course on Mathematics for Economics (6 CFU) (42 hours per year).

2008/2009: Teaching module on Game Theory (in English) at LUISS University, Faculty of Economics.

2007/2008 and 2008/2009: Contract professor at the University of Rome "La Sapienza" faculty of Medicine. Course on Operations Research.

2006-2009: Adjunct Supervisor of the Ph.D. program of Francesco Cesarone, Department of Mathematics for Economics, Financial and Insurance Decisions, Faculty of Economics, University of Rome "La Sapienza". Title of the Thesis: "A new portfolio selection approach: Algorithm, analysis and models". Part of this thesis appeared on: F. Cesarone, A. Scozzari, F. Tardella (2013): A new method for mean-variance portfolio optimization with cardinality constraints. ANNALS OF OPERATIONS RESEARCH, vol. 205, p. 213-234.

2002-2005: Adjunct Supervisor of the Ph.D. program of Massimo Liquori, Department of Mathematics for Economics, Financial and Insurance Decisions, Faculty of Economics, University of Rome "La Sapienza". Title of the Thesis: "Vector DNF for Datasets Classifications: Application to the Financial Timing Decision Problem". Part of this thesis appeared on: M. Liquori, A. Scozzari (2008). Vector DNF for Datasets Classifications: Application to the Financial Timing Decision Problem. In: G. FELICI, C. VERCELLIS. Mathematical Methods for Knowledge Discovery and Data Mining. p. 24-39, NEW YORK, NY:Information Science Reference, ISBN: 978-1-59904-528-3, doi: 10.4018/978-1-59904-528-3.

2. University assignments

2014/2015 - present: Member of the scientific committee of the Ph.D. Program: Governance and Management for Business Innovation, UNICUSANO Università degli Studi Niccolò Cusano - Telematica, Roma.

2017/2018 - present: Coordinator of the Degree Course Class in Business Administration and Management (L-18).

2015-present: Faculty coordinator for the international Erasmus+ Program at University Niccolò Cusano.

3. Other institutional activities

2018. Member of the commission for the public competition for Full Professor (SC 13/D4 – SSD SECS-S/06) University of Chieti-Pescara, Dip. Farmacia (D.R. n. 394/2018 del 08/02/2018).

2016: Member of the commission for the public competition for University Researcher (SC 13/D4 – SSD SECS-S/06) fixed-term law 240/2010, art. 24 lettera b. University of Rome, ROMA TRE, Dip. Studi Aziendali (D.R. n. 1361-2016 del 13/10/2016).