

CURRICULUM VITAE ET STUDIORUM - August 2019

PERSONAL DATA

Name: Francesco Belardo

Date and Place of Birth: 26 December 1978, Barcellona Pozzo di Gotto, Italy

Citizenship: Italian

Marital Status: Married, with two children

Addresses:

- (home) Cda Maldariti, II Traversa, 13, 89131 Reggio Calabria (RC).
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- Google Scholar: https://scholar.google.it/citations?user=qkN0_BsAAAAJ

DEGREES:

- **19 July 1997** Scientific High School Diploma at Liceo Scientifico “E. Medi” of Barcellona P.G. (Messina Province, Italy).
- **25 July 2001** BSc/MSc degree in Mathematics at University of Messina.
- **19 February 2007** Ph.D. in Mathematics, ciclo XVIII (2002-2006), at University of Messina. Thesis: “A relevant aspect in Spectral Graph Theory: Graph Perturbations and Index Variations” (in Italian). PhD Thesis Supervisors: E.M Li Marzi and S.K. Simić.

PROFESSIONAL ACTIVITIES

- **Oct 2015 – today** Associate Professor of Geometry at Department of Mathematics and Applications “R. Caccioppoli”, University of Naples “Federico II”.
- **Jun 2014 – Sep 2015** Associate Professor at FAMNIT, University of Primorska.
- **Oct 2012 – Sep 2013** Research Fellow at Department of Mathematics and Computer Science, University of Messina.
- **Jul 2010 – Jul 2011** Research Fellow at Department of Mathematics, University of Messina.
- **Jul 2008 – Jul 2010** Post-Doctoral Fellow at Department of Mathematics, University of Messina.
- **Nov 2002 – Oct 2006** Ph.D. Student in Mathematics at University of Messina.

RESEARCH ACTIVITY

The research activity lies in Combinatorics, especially Spectral Graph Theory, Combinatorial Matrix Theory, and their interactions and applications to other fields.

Main topics considered during the research are: 1) Identification of extremal graphs with respect to some prescribed spectral invariant (adjacency matrix, Laplacian matrix, etc.); 2) Spectral characterization and determination of graphs; 3) Ordering of graphs with respect to spectral or topological invariants; 4) Spectral Theory of Signed Graphs; 5) Combinatorial Matrix Theory; 6) Applications of Graphs Spectra to Computer Science and Chemistry; 7) Topological indices in Chemical Graph Theory.

Author of about 60 scientific papers with 30 co-authors.

EDITORIAL ACTIVITY

★ Editor for the following journals:

- Section Editor of “Graph Theory” for the journal “FILOMAT” (Serbia) ISSN: 0354–5180, from 2013 to 2018. <http://journal.pmf.ni.ac.rs/filomat/index.php>
- Editorial Board Member of the journal “Communications in Combinatorics and Optimization” (Iran), ISSN: 2538–2128, dal 2015. <http://comb-opt.azaruniv.ac.ir/>
- Editorial Board Member of the journal “The Art of Discrete and Applied Mathematics” (Slovenia), ISSN: 2590–9770, dal 2018. <https://adam-journal.eu/index.php/ADAM>
- Editorial Board Member of the journal “Discrete Mathematics Letters” (Pakistan), ISSN: 2664–2557, dal 2018. <http://www.dmlett.com/>

★ Guest Editor:

- Volume 96 Supplement n. 2 (2018) “Atti della Accademia Peloritana dei Pericolanti - Classe di Scienze Fisiche, Matematiche e Naturali”, ISSN: 1825-1242.
http://cab.unime.it/journals/index.php/AAPP/issue/view/Vol96_Supplement2
- Volume 1 n. 2 (2018) “The Art of Discrete and Applied Mathematics”, ISSN: 2590–9770.
https://doi.org/10.26493/2590-9770.1_2
- Volume devoted to the memory of Slobodan K. Simić (da pubblicare nel 2020) “Discussiones Mathematicae Graph Theory”, ISSN: 2083–5892.
<https://www.dmgz.uz.zgora.pl/>

★ Referee/Reviewer for the journals (selection):

- Ars Combinatoria • Applicable Analysis and Discrete Mathematics • Applied Mathematics Letters • Computers and Mathematics with Applications • Discrete Applied Mathematics • Discrete Mathematics • Electronic Journal of Combinatorics • Filomat • Graphs and Combinatorics • Linear Algebra and its Applications • Linear and Multilinear Algebra • MATCH • Publications de l’Institute Mathématique (Beograd) • Utilitas Mathematica.

 SYMPOSIUM, WORKSHOP AND CONGRESS ORGANIZATION ACTIVITY

- 13th Serbian Mathematical Congress, Member of the International Scientific Committee, Vrnjačka Banja - Serbia, 22 - 25/05/2014.
<http://tesla.pmf.ni.ac.rs/people/smak/index.php>
- Spectra of graphs and applications 2016, Member of the Scientific Committee, Belgrade - Serbia, 18 - 20/05/2016.
<http://www.mi.sanu.ac.rs/conferences/sga2016.htm>
- The 13th International Conference on Finite Fields and their Applications - Fq13, Member of the Organizing Committee, Gaeta - Italy, 04 - 10/06/2017.
<http://www.dma.unina.it/Fq13/>
- Hypergraphs, Graphs and Designs - HyGraDe 2017, Chair of the Organizing Committee (with G. Lo Faro), Sant'Alessio Siculo - Italy, 20 - 24/06/2017.
www.dma.unina.it/HyGraDe
- Workshop on Algebraic Graph Theory and Complex Networks 2018 - WAGTCN 2018, Member of the Organizing Committee, Napoli - Italy, 13 - 14/09/2018.
www.dma.unina.it/WAGTCN
- International Conference on Recent Achievements in Mathematical Science, Membro del Comitato Scientifico, Yazd - Iran, 14 - 18/01/2019.
<http://confs.yazd.ac.ir/yicrams/ConfSCommittee.aspx>
- 9th Slovenian International Conference on Graph Theory - Bled '19, Organizer of the Special Session "Spectral Graph Theory", Bled - Slovenia, 24 - 30/06/2019.
<https://conferences.matheo.si/event/28/overview>

 COMMUNICATIONS AT WORKSHOPS AND CONGRESSES (SELECTION)

- "Combinatorics '04", Acireale - Italy, 13 – 18/09/2004, Title: *The largest eigenvalue of Caterpillars*.
- "6th Slovenian International Conference on Graph Theory – Bled '07", Bled Jezero - Slovenia, 24 – 30/06/2007, Title: *The minimal index of trees with a small diameter*.
- "Workshop on Spectral Graph Theory with applications in Computer Science, Combinatorial Optimization and Chemistry", Rio de Janeiro - Brazil, 01 – 04/12/2008, Title: *On the spectral radius of line graphs of caterpillars*.
- "16th Conference of the International Linear Algebra Society - ILAS 2010", Pisa - Italy, 21 – 25/06/2010, Title: *The structure of graphs with small M-indices*. Relazione su invito.
- "Combinatorics 2012", Perugia - Italy, 09 – 15/09/2012, Title: *On the spectral radius of bidegreed graphs under some graph perturbations*.
- "13th Serbian Mathematical Congress", Vrnjačka Banja - Serbia, 22 – 25/05/2014, *Invited Speaker* for the field *Set theory, Topology, Logic, Algebra, Discrete Mathematics, Number Theory*. Title: *Algebraic Frustration of signed graphs*.
- "Combinatorics 2014", Gaeta - Italy, 01 – 06/06/14, Title: *Some results on the Laplacian of Signed Graphs*.
- "Conference on Computational Algebra, Computational Number Theory and Applications - CACNA 2014", Kashan - Iran, 17 – 20/12/2014, *Plenary Speaker*. Title: *Spectral Theory of Signed Graphs*.

- “8th Slovenian Conference on Graph Theory”, Kranjska Gora - Slovenia, 21 – 27/06/2015. Title: On the eigenspaces of signed line graphs and signed subdivision graphs.
- “10th Conference on Graph Theory and Algebraic Combinatorics - GTACC10”, Yazd - Iran, 17 – 18/01/2018. *Plenary Speaker*. Title: *Spectral Determination of Signed Graphs*.
- “Combinatorics 2018”, Arco - Italy, 03 – 09/06/2018. *Plenary Speaker*. Title: *Connected graphs of fixed order and size with extremal spectral radius*.
- “8th PhD Summer School in Discrete Mathematics”, Rogla - Slovenia, 01 – 07/07/2018. *Invited Speaker*. Title: *Recent developments on the spectral determination of signed graphs*.
- “22nd Conference of the International Linear Algebra Society - ILAS 2019”, Rio de Janeiro - Brazil, 08 – 12/07/2019. Title: *Laplacian, Subdivision and Line graph of loopless weighted graphs*.

ACADEMIC TEACHING ACTIVITY

- Docent of “Geometria e Algebra” (SSD MAT/03, 6 CFU, 48h) – Canali DAP-IER e IES-PIS, Degree Course in Engineering Management of Logistics and Production, University of Naples “Federico II”, academic year 2018–19.
- Docent of “Geometria e Algebra” (SSD MAT/03, 6 CFU, 48h) – Canali DAP-IER e IES-PIS, Degree Course in Engineering Management of Logistics and Production, University of Naples “Federico II”, academic year 2017–18.
- Docent of “Geometria e Algebra” (SSD MAT/03, 6 CFU, 48h) – Canali DAP-IER e IES-PIS, Degree Course in Engineering Management of Logistics and Production, University of Naples “Federico II”, academic year 2016–17.
- Docent of “Teoria dei Grafi” (20h) Ph.D. Course in Mathematics, University of Naples “Federico II”, academic year 2015–16.
- Docent of “Geometria e Algebra” (SSD MAT/03, 6 CFU, 48h) – Canali C-K e L-R, Degree Course in Computer Engineering, Università di Napoli “Federico II”, academic year 2015–16.
- Docent of “Analysis I” (6 CFU - 45h), “Mathematical Topics in English I” (6 CFU - 45h), “Discrete Mathematics II” (6 CFU - 45h), English Degree Course in Mathematics, Faculty of Mathematics, Natural Sciences and Information Technology (FAMNIT), University of Primorska (Slovenia), academic year 2014–15.
- Docent of “Algebra Lineare e Geometria” (SSD MAT/03, 10 CFU, 70h), Degree Course in Statistics, Department SEAM, University of Messina, academic year 2013–14.
- Docent of “Digital Data Recovery” (SSD INF/01, 6 CFU, 60h), Degree Course in Informatics, Department of Mathematics and Computer Science, University of Messina, academic year 2012–13.
- Docent of “Digital Data Recovery” (SSD INF/01, 6 CFU, 60h), Degree Course in Informatics, Department of Mathematics and Computer Science, University of Messina, academic year 2011–12.
- Docent of “Geometria” (SSD MAT/03, 6 CFU, 48h), Degree Course in Civil Engineering, Faculty of Engineering, University of Messina, academic year 2010–11.
- Docent of “Elementi di Calcolo Matematico e Statistico” (SSD MAT/03, 6 CFU, 48h), Master Degree Course in Pharmacy, Faculty of Pharmacy, University of Messina, academic year 2010–11.

PARTICIPATION TO NATIONAL/LOCAL RESEARCH PROJECTS

- Member of Catania local unit of the National Relevance Research Project - PRIN 2005 titled “Strutture Algebriche, Combinatoria e loro Applicazioni”. Head of the project Prof. G. Lunardon, Catania local unit Coordinator Prof. M. Gionfriddo.
- Member of Messina local unit of the National Relevance Research Project - PRIN 2008 titled “Disegni combinatorici, Grafi e loro applicazioni”. Head of the project Prof. M. Gionfriddo, Messina local unit Coordinator Prof. G. Lo Faro.
- Member of Napoli local unit of the National Relevance Research Project - PRIN 2012 titled “Strutture Geometriche, Combinatoria e loro Applicazioni”. Head of the project Prof. G. Lunardon.
- Head of the Research Project of University of Naples “Federico II” titled “Spectral Graph Theory and its Applications in Computer Science and Mathematical Chemistry - SGTACSMC”, from 07/11/2016 until 07/03/2019.

PARTICIPATION TO INTERNATIONAL RESEARCH PROJECTS

- Italian Scientific Coordinator in the bilateral project “Italy/South Africa Joint Research Programme (ISARP) 2018” titled “Algebraic Graph Theory and Complex Networks”, from 01/01/2018 until 30/12/2020.

OTHER ACTIVITIES

- Member of the Committee to give the title of Ph.D. to the candidate Paweł Petecki, at University of Primorska (Slovenia), May 2015.
- Foreign Referee for Doctoral Thesis, Visvesvaraya Technological University, Belagavi, India, 2018.
- Docent of minicourse “Spectral Theory of Signed Graphs” (10h, for MSc/PhD students) at University of Cape Town (South Africa) to be held in the timeframe 11-20/12/2019.
Programma: https://drive.google.com/file/d/15SoJRL4TaLCdhd_7h0_mXUvn825m15R0/view

Reggio Calabria, 08 August 2019

Signed
(Francesco Belardo)