Curriculum vitae et studiorum

Daniele Vigo – February, 2020

Curriculum vitae

Daniele Vigo was born in Milano, Italy, on May 23, 1963.

On March 22, 1989 he received his Ms Degree in Electronic Engineering from the University of Bologna.

On November 1, 1989, he started the Ph.D. program in Systems Engineering at the Department of Electronics, Computer Science and Systems of the University of Bologna, under the supervision of Profs Paolo Toth and Silvano Martello. On September 9, 1993, he successfully defended his dissertation *"Algoritmi Esatti ed Approssimati per Problemi di Routing e di Scheduling"* (*Exact and Heuristic Algorithms for Routing and Scheduling Problems*), and obtained the Ph.D. in Systems Engineering.

On October 1, 1994, he beacame a Researcher (Assistant Professor) in the Faculty of Engineering of the University of Bologna. On October 1, 1997 he became Confirmed Researcher.

On November 1, 1998 he was nominated Associate Professor of Operations Research at the Faculty of Engineering of the University of Bologna.

On December, 2001, he obtained the habilitation to the position of Full Professor.

On January, 2004, he was nominated Full Professor of Operations Research at the 2nd Faculty of Engineering of the University of Bologna.

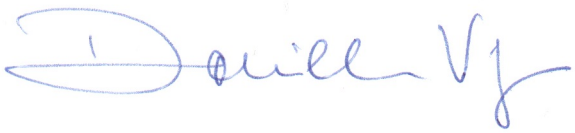
Daniele Vigo is married and has two sons.

In addition to Italian, Daniele Vigo speaks English, French and Spanish.

Current work address:
Department of Electrical, Electronic and Information Engineering "Guglielmo Marconi"
Alma Mater Studiorum - Università di Bologna

Bologna:
Viale Risorgimento, 2 40136 BOLOGNA (Italy)
Phone: +39 051 209 3435, Fax: +39 051 209 3073, Mobile: +39 320 4365443

home page: `http://or.ingce.unibo.it/`,
`http://www.unibo.it/Faculty/default.htm?UPN=daniele.vigo%40unibo.it`
e-mail: `daniele.vigo@unibo.it`



Research activity

Daniele Vigo has primarily devoted his scientific research activities to the design and analysis of models and algorithms for Combinatorial Optimization problems.

The overall results of his research activity appear in more than 100 papers and book chapters (38 in the last five years) published by the most prestigious journals and book series in the Operations Research and Management Science field. The bibliometric indexes of Daniele Vigo (as of February, 2020) are very high for his discipline sector both in Italy, where he is one of the most productive OR scientists in the last decade, and internationally:

- Google Scholar H-index = 52 (42 from 2015) with more than 17,000 citations.
- Scopus h-index = 36 with more than 5000 citations.

From a methodological point of view his research has encompassed both exact techniques, based on Dynamic Programming, Branch-and-Bound and Branch-and-Cut, and heuristic and metaheuristic techniques. In recent years Daniele Vigo has also performed a vast activity of literature survey on packing and routing problems. This latter research led to the preparation of several papers and book contributions and an edited book on VRP, with Paolo Toth, ([51]), published in the prestigious Discrete Mathematics and Applications series of S.I.A.M. The second edition of the book ([103]) was published by SIAM in 2014. Overall the two books total more than 4400 citations in Scholar.

He is the coordinator of the PhD program in Automatic and Operations Research at DEI, University of Bologna up to its final closing in 2016, and currently the coordinator of the PhD program in Biomedical, Electrical and Systems Engineering (IBES `https://phd.unibo.it/ibes/en/phd-programme`) at DEI.

He was supervisor of the PhD thesis of Maria Battarra, currently associate professor at the University of Bath (U.K.), Chiara Bordin, currently at SINTEF and Tromso University, Norway, Claudio Gambella (co-supervised by Andrea Lodi), currently at IBM Ireland, Stefano Novellani (co-supervised by Mauro Dell'Amico), Selini Hadjidimitriou (co-supervised by Mauro Dell'Amico), Alberto Santini (co-supervised by Silvano Martello), currently at Pompeu Fabra University (Spain) Andrea Bessi. He was co-supervisor of the PhD thesis of

- Andreas Stenger at the Goethe University, Frankfurt, Germany;
- Michael Schneider, University of Kaiserslautern, Germany;
- Ana Dolores Lopez Sanchez, Universidad Pablo de Olavide, Seville, Spain.

He is supervising the PhD theses of Christian Doppstadt, (Co-supervision, University of Frankfurt), Federico Naldini (co-supervision with Michele Monaci), Carlos Rey Barra (co-supervision with Paolo Toth), Luca Accorsi (co-supervision with Michele Lombardi) and Antonio Punzo (co-supervision with Michele Monaci).

He was responsible for more than 25 annual pre-doc and post-doc research grants from 2007 to 2019 either funded by research project or by the university of Bologna.

International activity

During August-September 1994 he was visiting scientist at the Eindhoven Technical University (Netherlands) with a grant of the "Human Capital and Mobility" European Community program.

During July-August 1996 he was visiting scientist at the Centre de Recherche sur les Transports of the University of Montréal (Canada).

In November 1996 visited the Jòzsef Attila University of Szeged (Hungary) with a grant of a bilateral collaboration between Italy and Hungary.

In 2010-2014 he was Visiting Professor at the Goethe University, Frankfurt, Germany, where he conducted regular research and teaching activity.

He has been Visiting Professor at the University of Kaiserslautern, Germany, where he conducts regular research and teaching activity, since 2011.

He has been Visiting Professor at the Vrjie Universiteit Amsterdam, Netherlands, where he conducts regular research and teaching activity, since 2014

Since January 2020 will be Visiting Professor at the Technical University of Vienna (Austria).

He is founder and coordinator of the EURO Working Group VeRoLog on Vehicle Routing and Logistics Optimization (www.verolog.eu), with more than 2500 members worldwide.

He was Vice-President of AIRO the Italian Operations Research Society and member of the scientific committee of the Centro Interuniversitario per la Ricerca Operativa (C.I.R.O.).

From 2011-2014 he was director of the Centro di Formazione AIRU, the training centre for the Italian Urban Heating Association (AIRU).

He was president of AIRO, the Italian Operational Research Society from 2016 to 2019.

He was member of the board of the Italian Federation of Applied Mathematics (FIMA) from 2016 to 2019.

He was president of the committee for the National Habilitation Procedure for Operations Research from 2016 to 2018.

He regularly carries out seminar activity in important national, European and extra-European universities.

He was responsible for the international activities at the Second Faculty of Engineering from its creation up to the closing of the faculty in October 2012.

Conferences and editorial activity

Daniele Vigo has taken part in numerous national and international conferences, often organizing and chairing sessions and in some cases as invited speaker. In particular, recently he was:

- Stream organizer at the EURO Conferences, held in Reikyavik 2006, Vilnius 2012, Rome 2013, Barcelona (IFORS) 2014, Glasgow 2015 and Quebec 2017 (IFORS).
- Member of the program committee of the Odysseus Meeting in 2007, 2009, 2012, 2015 and 2018.
- Member of the program committee of the Tristan conference since 2010.

- Member of the program committee of the EURO 2015 conference in Glasgow and EURO 2018 in Valencia.
- Chair of the organizing committee of the first Verolog conference, held in Bologna, June 18-20, 2012.
- Member of the program committee of the Verolog conferences from 2013 onwards and member of the organizing committee of Verolog 2017.
- Member of the jury of the EURO/EJOR Best Papers Award in 2014-2015.
- Program Chair of EURO 2016 conference in Poznan.

From 2000 to 2002 he was Associate Editor for the Transportation area of *Operations Research*.

From 2002 to 2005 he was Associate Editor for the Transportation area of *Operations Research Letters*.

He has been a member of the advisory board of the *EURO Journal on Transportation and Logistics* since 2011, and he has also been its Associate Editor since 2017.

He has been Associate Editor of *Journal of Coordination Science* since 2014.

From 2016 to 2019 he has been a member of the Editorial Board of *Journal of Vehicle Routing Algorithms*.

He has been Associate Editor of *Transportation Science*, since 2015.

He has been Editor-in-Chief of the AIRO-Springer series on Operations Research published by Springer in collaboration with AIRO, since 2017.

He was member of the evaluation committee for PhD theses or Professorship Habilitation at the Universities of Montreal, Copenhagen, Salerno, Modena-Reggio Emilia, Vienna, Barcelona, Troyes, Lille, Kaiserslautern, Toulouse, Nantes, Angers, Leuven, Antwerpen, Amsterdam, Rotterdam, Wageningen and Bologna.

Projects and professional activity

He has carried out research for a bilateral Italy-Hungary project, for the European Community Projects TRIO and TRIS on Railway Crew Management, for the Italian C.N.R. Project on Parallel Computing, the C.N.R. Project on Computer Science, the C.N.R. Project on Transportation and various Ministry of University national projects, both as researcher and as responsible of operative units. He is member of the research unit holding a contract with the Italian State Railway Company for the development of optimization software for Crew Management.

He was responsible for the DEIS Unit and WP coordinator in the European Project IUWMM (Integrated Urban Waste Management Model) from 2004 to 2007 (Interreg III/C) with unit budget of Euro 142K and net funding of Euro 121K.

He was responsible for the DEIS unit in the National Project RACCORSU on waste management software from 2006 to 2009 with unit budget of Euro 205K and net funding of Euro 141K.

He was responsible for the DEI Unit of European JPI project E4-Share (2015-17) on electric car sharing with net funding of Euro 130K.

He was responsible for the DEI Unit of National SmartCity Project RIGERS (2014-17) with net funding of Euro 230K.

He was responsible for the DEI-CIRI unit of the project SWIFT-ECO Driving (2017-18) in collaboration with ALSTOM Transport, with net funding of Euro 160K.

He was responsible for the DEI unit of the project H2020 PLAMES on smart energy grids 2019-2022, with net funding of Euro 300K.

He received the USAF grant FA9550-17-1-0234 "Acceleration Techniques for Vehicle Routing Heuristics", USD 50K,2018-20.

In September 2019 he was awarded an NVIDIA Data Science GPU Grant for the project titled "Hybridizing Machine Learning and Metaheuristics for Solving Large-Scale Distribution Logistics Optimization Problems".

He was responsible for various applied research contracts financed by important industries and public bodies (Municipality of Bologna, HERA SpA, Geovest, Emilia-Romagna Regional Authority, Alstom railway division ...) totaling about Euro 300K in net funding and further Euro 100K for professional services in the last 10 years.

He was a member of the Scientific Advisory Board of PTV Gmbh, Germany, from 2017 to 2018.

In 2007 he was a co-founder of Optit srl, a spinoff company developing state-of-the-art optimization algorithms for logistics and industrial applications (www.optit.net).

List of publications by Daniele Vigo

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