Gabriella Muratore

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Education

1993-1999   **Columbia Business School/Industrial Engineering Op.Re.**, New York- NY
  ➢ **Ph.D. in** *Management Science/ Operations Research*
  ➢ **Master (***Dean's List 1993-1995)*
1986-1991 **University of Palermo,** Italy
  ➢ **Laurea** in **Mathematics** *(major: Theoretical Computer Science)*
    o *110/110 Summa cum Laude*

Experience

04/2010-06/2010 **Maastricht University, Department of Quantitative Economics, OR Group**
  Maastricht, The Netherlands
  Assistant Professor
  Course in Operations Management for Master students.

05/2009-12/2009 **London School of Economics, Department of Management, OR group**
  London, UK
  Researcher
  Research Area: Combinatorial Auction. Worked on auction schemes that maximize the auctioneer revenue, both in centralized and in decentralized systems.

10/2007-05/2009 **Technische Universiteit Eindhoven, Department of Industrial Engineering Innovation Sciences,** Eindhoven, The Netherlands
  Post Doc
  Research Area: Supply Chain Management. Worked on a bilevel program to coordinate and optimize an entire supply chain. Developed a heuristic to find good solutions.

03/2006-03/2007 **Institute for System Analysis and Computer Science National Center for Research (IASI-CNR),** Rome, Italy
  Visiting Scholar
  Research area: discrete optimization. Working on a method for generating, in order with respect to a cost vector, all binary vectors of a given dimension n. The method can be very useful when the feasible region is described by non smooth (non linear, non differentiable, etc.) functions or when a functional representation of the feasible set does not even exist and only "feasibility tests" can be carried out.

05/2007-06/2007 **Center for Operations Research and Econometrics (CORE)- Universitè Catholique de Louvain, Louvain-la-Neuve, Belgium**
  Visiting Scholar

Research area: equilibria in non convex economies. Working on a walrasian auction mechanism to deal with non-convexities both within the framework of partial and general equilibrium model. Application to energy markets.

11/2005-12/2007 **Mathematics and Computer Science Department**
University of Catania, Catania, Italy
Researcher
Teaching a first course in discrete mathematics and a Ph.D. course in Integer and Mixed-Integer Optimization

03/2001-10/2005 **Consultant (own business)**, Milano, Italy
Clients and Projects
Create-Net, International Research Center, Trento, Italy
Project: Writing the ONE project for Digital Business Ecosystems within the European Research Framework Program FP6, requiring funds for about 2,000,00,000 euros. It ranked 7th out of 549 competing projects.
Mythos-spa, Milano, Italy
(Tax and Law Company)
Project: Defining and solving mathematical models for minimizing taxes, both for individuals and companies, within Italian tax law. Defining double-indexed interest rates associated with company's bonds. Technical support for the writing of bond's prospectus.
OutlookSoft, Milano, Italy
(Software Company. Application sector: Business Performance Management/ Reporting)
Project
Prototype building on credit risk management for the finance industry.
NeXstone, Italy
(Strategic Business Consulting Firm)
Project
Helping Italian companies developing new business models through new technology and applications. Process Reengineering and Project Management.

02/2002 11/2004 **Maat**, Italy
(Start up- software company)
Founder
Maat was a start up company looking for seed money to develop a highly innovative software platform meant to coordinate entire supply networks via the implementation of a new supply chain management model based on market mechanisms and distributed optimization algorithms (proprietary). Maat participated, together with a mixed consortium – research centers, university and medium size firms - to a call of the Fifth Framework Program- European Commission- to develop the model into a viable software tool. The proposal passed the scientific evaluation but was not funded mainly because of some problems with ownership rights.

10/1999 03/2001 **Saltare,** *San Mateo* - California
(Internet start-up. Application sector: Supply Chain Event Management)
Research Scientist

Developing optimization algorithms. Responsible for defining functionalities and detailed algorithms for the procurement module of the company product. Writing white papers and business cases to support the product value.

05/1999 09/1999 **IBM T.J.Watson Research Center/ SCM Excellence Center,** NY
Consultant
Project: extended international supply chain management. Defining a model to optimally manage IBM international supply chain, considering at the same time, operational, financial and legal issues (tax minimization, risk management using operational and financial hedging)

1993/1999 **Columbia Business School** and **Computational Optimization Research Center** – Columbia University - New York (USA)
Research Assistant
Research Area
Applied decision models: optimal resources allocation, portfolio models, network design, integer and mixed integer programming, polyhedral theory.
Network design
Models for networked organizations with survivability requirements. Such models allow to build networks that can survive to failures i.e. be still operative when a failure occurs. Application areas: energy, telecommunications, information networks.
Portfolio Optimization
Analyzed the problem of indexing a portfolio to a benchmark. Application in the finance industry: asset management and fixed income. Used a quadratic programming approach, trading-off return with risk, under diversification constraints and other discrete constraints. Defined algorithm and code to solve real case problems from the finance industry.

1993/1998 **Columbia Business School**
Teaching Assistant (MBA and EMBA courses)
  ➤ Statistics
  ➤ Decision Models
Held review sections and office hours, tutoring and exam grading

Papers
  ➤ *Strong Inequalities for Capacitated Survivable Network Design Problems* (jointly with Daniel Bienstock) – Mathematical Programming (Volume 89 Issue 1 -2000)
  ➤ *Polyhedral Approaches to Survivable Network Design* – Ph.D. Thesis Columbia University 1999
  ➤ *Order and Bound* IASI-CNR Technical Report 2007 (working paper)
  ➤ *More Facets for Survivable Networks-* IASI-CNR Technical Report 2007 (working paper)
  ➤ *Equilibria in Markets with Non-Convexities and a Solution to the Missing Money Phenomenon in Energy Markets* CORE Discussion paper 2008/6 (Gennaio 2008) Louvain la Neuve,
  ➤ *Incentive Based Energy Market Desig* (submitted)

- ➢ *Coordinating Supply Chains: a Bilevel Programming Approach-* Beta Research Technical Report- TUE (working paper)
- ➢ *Supply Chain Management: a Survey* IASI-CNR Technical Report 2007

Languages
English (Fluent); Italian (mother tongue)
Computer Skills
C, Cplex.

References

Daniel Bienstock, Professor
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Giovanni Rinaldi, Director
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00185 Roma, Italy
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Department of Quantitative Economics
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Technische Universiteit Eindhoven
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5600 MB Eindhoven, The Netherlands
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