

Curriculum Vitae

Personal information:

Marco Gribaudo,

Born in **Torino (Italy)** on **27/4/1972**

Personal Identification Code: **GRBMRC72D27L219H**

Department: Dipartimento di Elettronica, Informazione e Bioingegneria,
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Courses: Computing Infrastructures, Computer Graphics,
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Current status: Associate Professor in Computer Science

Summary

I am an Associate Professor at Politecnico di Milano. I got my degree in Computer Science, from the University of Turin in 1997 (MS) and 2001 (Ph.D.). I have been an assistant professor (researcher) in Computer Science since 1/11/2001: at the University of Turin from 1/11/2001 to 28/2/2010, and since 1/3/2010 until 15/7/2015 at the Politecnico of Milan. My research interests include performance evaluation and energy optimization of computing systems, cloud infrastructures, Big-Data applications and communication networks. I study such systems using advanced modeling techniques such as Markovian Agents, mean field approximations, fluid models, multi-formalism models and multi-class queuing networks. To ease my goals, I support the development of software tools to define, analyze and evaluate performance models. I am author of 2 books, 33 journal papers and 90 international conference papers – all indexed on the main scientific web resources. I presented 6 invited papers (including one keynote speech), 3 tutorials and won two best-paper awards. I served several scientific committees for international conferences (1 as general chair, 1 as program chair, 2 as co-chair, 1 as tool chair), reviewer for international journals such as Performance Evaluation, and Ph.D. candidates' evaluation boards. I was the principal scientific investigator of an industrial project, worth 322k Euro. I have been in charge for 17 years of university courses on different subjects, both at the BS and at MS level. Lectures have been given both in Italian and English. I have tutored more than 200 theses, both at the BS and MS level. I have been co-advisor of three Ph.D. students, and I am currently the main advisor of one Ph.D. student.

Performance evaluation of Multimedia systems: applications to the study of multimedia production systems, focusing on cinema and television productions. Analysis of the integrated content development systems, taking into account economical factors, and using classical performance evaluation techniques such as Petri Nets and probabilistic models. *See publications: [Errore. L'origine riferimento non è stata trovata., Errore. L'origine riferimento non è stata trovata., Errore. L'origine riferimento non è stata trovata., Errore. L'origine riferimento non è stata trovata., Errore. L'origine riferimento non è stata trovata.].*

National and International cooperation:

I have visited several universities and I have been involved in many international cooperation. The most important are: the **Technical University of Budapest** (*Hungary*), the Department of Robotics of the **Technical University of Berlin** (*Germany*), the **University “Federico Secondo”** in **Naples** (*Italy*), the Laboratory for Foundations of Computer Science of the **University of Edinburgh**, the **Arizona State University** (Tempe – Az, USA), and the **University of Twente** (Enschede, The Netherlands). I have also given a seminar on optimization of computing infrastructure at **CERN** (Geneve, Switzerland).

Projects and grants:

I have coordinated the following projects:

Industrial project with the Consultant, Systems Integration e Application Management Company **Reply S.P.A.** In this project, I was the coordinator and the principal investigator. The budget of the project was 322K Euro, with which I was able to support 6 post-doc positions during three years, and several other research associates to create high-performance open-source multi-platform game development libraries.

Project “DrawNET”, a self-funded and coordinated research project, for the creation of a tool for the design and solution of models of complex systems. That project took advantage of several resources funded from other research projects that used the tool (PRIN, DePauDe, Crutial)

I took part to the following projects:

Italian project “WiSe DeMon : Affidabilità e qualità del servizio in sistemi di monitoraggio basati su *Wireless Sensor Networks per applicazioni critiche*” (Reliability and service quality in critical application monitoring systems based on Wireless Sensor Networks), Italian ministry **PRIN**, years 2007-2008.

Italian Project ENEA-DI “*Metodi, strumenti e modelli probabilistici per l'analisi della dependability e della survivability di sistemi digitali basati su reti di telecomunicazione*” (Methods, tools and probabilistic models for the survivability and dependability analysis of communication network based digital systems), year 2004.

Italian project "*Performance Evaluation of Complex Systems: Techniques, Methodologies and Tools (Perf)*", from **MIUR-FIRB**, years 2002-2005.

Italian project "*Planet-IP (Planning IP networks)*", from the Italian ministry **MURST**, years 2001-2002.

Italian project ENEA-DISTA "*Modelli e strumenti per l'analisi di affidabilità, sicurezza di funzionamento e prestazioni di sistemi elettronici programmabili complessi ad alta criticità con particolare riferimento al sistema di controllo della turbina a gas dell'impianto di cogenerazione ICARO*" (Models and tools for the reliability, operational safety, and performance analysis of complex critical system, focusing on the gas turbine ICARO), years 2000-2001

Committees:

Two committees for the selection of a candidate applying to an assistant professor positions at the University of Catania.

Ten PhD national defense committees at the University of Torino, Politecnico of Torino, University of Bologna, University of Messina.

Three international Ph.D. committee at the **Imperial College** – London, UK, at **UTC - Compigne University of Technology**, Sorbonne Universities, France and at the University of Twente – the Netherlands.

Chair positions in international conferences

I have been **general chair** of *International Conference on Analytical and Stochastic Modelling Techniques and Applications* (ASMTA 2015), that will take place in Varna, Bulgaria on May 26th-29th, 2015 (co-located with ECMS 2015 – European Conference on Modelling and Simulation).

I have been **co-chair** of the first two editions of the *Workshop on Research and Use of Multiformalism Modeling Methods* (WRUMMM). The first edition was co-located with QEST 2012 (International Conference on Quantitative Evaluation of SysTems), September 17-20, 2012 – London, UK. The second edition was co-located with ECMS 2014 (European Conference on Modelling and Simulation), May 27-30, Brescia, Italy.

I had the **tool chair** position on the *Sixth International Conference on Quantitative Evaluation of SysTems* (QEST), which took place in Budapest, Hungary, on September 13th-16th, 2009.

Program Committees in international conferences

International Conference on Analytical and Stochastic Modelling Techniques and Applications (ASMTA)

- 2014: June 30-July 2, Budapest, Hungary
- 2013: July 8-10, Gent, Belgium
- 2012: June 4-6, Grenoble, France

- 2011: June 20-22, Venice, Italy
- 2010: June 14-16, Cardiff, UK
- 2009: June 9-12, Madrid, Spain
- 2008: June 4-6, Nicosia, Cyprus.

International Conference on Performance Evaluation Methodologies and Tools (ValueTools)

- 2014: December, 9-11, Bratislava, Slovakia
- 2013: December, 10-12, Torino, Italy
- 2011: May 16-20, Cachan, France
- 2009: October 20-22, Pisa, Italy
- 2008: October 20-24, Athens, Greece.

International Workshop on Practical Applications of Stochastic Modelling (PASM)

- 2014: May 13, Newcastle, UK
- 2013: September 17, London, UK
- 2011: March 17, Karlsruhe, Germany
- 2009: September 24, London, UK
- 2008: September 23, Palma de Mallorca, Spain

International Conference on Simulation Tools and Techniques (SimuTools)

- 2014: March 17-19, Lisbon, Portugal
- 2013: March 5-6, Cannes, France
- 2012: March 19-23, Desenzano, Italy
- 2011: March 21-25, Barcelona, Spain

International Conference on High Performance Computing and Communications

- 2014: August 20-22, Paris, France

International Symposium on Modelling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS)

- 2012: August 7-9, Washington
- 2011: July 25-27, Singapore
- 2010: August 17-19, Miami (FL), USA
- 2009: September 21-23, London UK

European Performance Engineering Workshop (EPEW)

- 2011: October 12-13, Borrowdale, UK
- 2009: July 9-10, London, UK

Dependable Control of Discrete System (DCDS)

- 2011: June 15-18, Saarbrücken, Germany
- 2009: June 10-12, Bari, Italy

International Workshop on Ambient Intelligence, Media, and Sensing (AIMS)

- 2007: April 20th, 2007, Istanbul, Turkey

Invited Papers and Keynote speeches

16/1/2014: M. Gribaudo, M. Iacono, “Multiformalism to support software rejuvenation modeling” Dagstuhl seminar on “Randomized Timed and Hybrid Models for Critical Infrastructures” (Dagstuhl, Germany)

8/3/2010: M. Gribaudo, “Mean field analysis” ROCKS meeting, Nijmegen, The Netherlands.

10/7/2009: M. Gribaudo, “*Analysis of Large Systems with Mean Field and Markovian Agents*”. Presented to *European Performance Evaluation Workshop (EPEW 09)*, London, UK. See [**Errore. L'origine riferimento non è stata trovata.**]. **Keynote speech.**

4/9/2005: M. Gribaudo, “*The Technology Used in the "European DISTance TRaining Interactive and Collaborative Tools for the Civil Protection" (e-DISTRICT CiPro), Leonardo da Vinci European Project*”. Presented to *Third Medical Emergency Medicine Congress (MEMC3)*, Nice, France.

20/1/2004: R. Gaeta, M. Gribaudo, D. Manini, M. Sereno, “*An analytical modelling technique for computing transfer time distributions in peer-to-peer networks*”. Presented to the “*Workshop Interno Progetto FIRB (Tango)*”, Madonna di Campiglio, Italy.

20/12/2001: M. Ajmone Marsan, M. Gribaudo, M. Meo, and M. Sereno. “*Performance Analysis of Data Services over GPRS*”. Presented to *International Conference On High Performance Computing*, Hyderabad, India. See [**Errore. L'origine riferimento non è stata trovata.**].

Awards

D. Manini, M. Gribaudo, “*Modelling Search, Availability, and Parallel Download in P2P File Sharing Applications with Fluid Model*”. *14th International Conference on Advanced Computing and Communication ADCOM 2006, Mangalore. December 20th, 2001*. See [**Errore. L'origine riferimento non è stata trovata.**].

On 24/11/1997, my MS thesis has been awarded with a medal as the “best thesis of the year 1996/1997”.

Tutorials in international conferences

10/12/2013: D. Cerotti, M. Gribaudo, P. Piazzolla and G. Serazzi, “*Performance optimization with JMT: Java Modelling Tools*”, in *Quantitative Evaluation of Systems (ValueTOOLS 2013)*, Turin, Italy, December 10, 2013. See [**Errore. L'origine riferimento non è stata trovata.**].

17/9/2012: A. Bobbio, D. Cerotti and M. Gribaudo, “*Markovian Agents models*”, in *Quantitative Evaluation of Systems (QEST 2012)*, London, UK, September 17, 2012.

19/9/2005: M. Gribaudo and M. Telek, “*Fluid Models in Performance Analysis*”, in *Quantitative Evaluation of Systems (QEST 2005)*, Turin, Italy, September 19, 2005.

Conference Talks

30/6-2/7/2014: International Conference on Analytical and Stochastic Modelling Techniques and Applications (ASMTA 2014), Budapest, Hungary. *Presented [Errore. L'origine riferimento non è stata trovata., Errore. L'origine riferimento non è stata trovata.]*.

27-30/5/2014: European Conference on Modelling and Simulation (ECMS 2014), Brescia, Italy. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

10-12/12/2013: International Conference on Performance Evaluation Methodologies and Tools (ValueTools 2013), Torino, Italy. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

16-17/9/2013: European Performance Engineering Workshop (EPEW 2013), Venezia, Italy. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

8-10/7/2013: International Conference on Analytical and Stochastic Modelling Techniques and Applications (ASMTA 2013), Gent, Belgium. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

27-30/5/2013: European Conference on Modelling and Simulation (ECMS 2013), Alesund, Norway. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

17-20/9/2012: Quantitative Evaluation of Systems (QEST12), London, UK. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

4-6/6/2012: International Conference on Analytical and Stochastic Modelling Techniques and Applications (ASMTA 2012), Grenoble, France. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

12-13/10/2011: European Performance Engineering Workshop (EPEW 2011), Borrowdale, UK. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

20-22/6/2011: International Conference on Analytical and Stochastic Modelling Techniques and Applications (ASMTA 2011), Venice, Italy. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

17-19/8/2010: International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS 2010), Miami, Fl (USA). *Presented [Errore. L'origine riferimento non è stata trovata.]*.

14-16/6/2010: International Conference on Analytical and Stochastic Modelling Techniques and Applications (ASMTA 2010), Cardiff, UK. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

9–12/6/2009: International Conference on Analytical and Stochastic Modelling Techniques and Applications (ASMTA 2009), Madrid, Spain. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

23–27/3/2009: European joint conferences on Theory And Practice of Software (ETAPS2009), York, UK. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

23–25/9/2008: International Workshop on Practical Applications of Stochastic Modelling (PASM 2008) and European Performance Engineering Workshop (EPEW 2008), Palma de Mallorca, Spain. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

4–6/6/2008: International Conference on Analytical and Stochastic Modelling Techniques and Applications (ASMTA 2008), Nicosia, Cyprus. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

17–21/3/2008: IEEE International Workshop on Sensor Networks and Systems for Pervasive Computing (PerSeNS 2008), Kowloon, Hong Kong. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

11–14/9/2006 Quantitative Evaluation of Systems (QEST06), Riverside (CA), USA. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

27–29/3/2006: Conference on Measurement, Modeling, and Evaluation of Computer and Communication Systems (MMB 2006), Nurnberg, Germania. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

28/6–1/7/2005: International Conference on Dependable Systems and Networks (DSN2005), Yokohama, Japan. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

24–26/6/2004: International Conference on Dependable Systems and Networks (DSN2004), Flornce, Italy. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

24–26/6/2002: International Conference on Dependable Systems and Networks (DSN2002), Washington, DC, USA. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

21–23/4/2002: International Conference on Modelling Tools and Techniques for Computer and Communication System Performance Evaluation, London, UK. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

11–16/9/2001: International Workshop on Petri Nets and Perform Models 2001, PNPM'01, Aachen, Germania, e Fifth International Workshop on Performability Modeling of Computer and Communication Systems (PMCCS 5), Erlangen, Germany. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

25–28/6/2001: International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'01), Las Vegas, NE, (USA). *Presented [Errore. L'origine riferimento non è stata trovata.]*.

29/8-1/9/2000: International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS 2000), San Francisco, Ca (USA). *Presented [Errore. L'origine riferimento non è stata trovata.]*.

6–10/9/1999: Multi-Workshop on Formal Methods in Performance Evaluation and Application, Saragoza, Spain. *Presented [Errore. L'origine riferimento non è stata trovata.]*.

Citations:

947 citations and H-index = 18 on Scoups, as Wednesday 26/7/2017.

Publications:

I am author of 33 international journal publications, and 90 international conference publications and 2 books. Most of my works are indexed on Scopus, Web Of Science and/or DBLP, and they can be downloaded from *IEEEExplore*, *ACM digital library*, *SpringerLink*, *Science Direct* or other reputable on-line repositories.

Teaching Activities

University Courses

Main lecturer in Introductory Computer Science, Computer Graphics, and Performance Evaluation. The following table summarizes my teaching activity at the University level.

AGGIUNGERE IL 2017

Year	Course (Ita.)	Course (Eng.)	Level	Hours	Students
2001-2002	Informatica Grafica	Computer Graphics	BS	60	~150
2001-2002	Informatica + Laboratorio	Basic Computer Science	BS	24	~45
2002-2003	Informatica Grafica	Computer Graphics	BS	60	~150
2002-2003	Informatica + Laboratorio	Basic Computer Science	BS	24	~45
2003-2004	Informatica Grafica	Computer Graphics	BS	60	~150
2003-2004	Informatica + Laboratorio	Basic Computer Science	BS	24	~45
2004-2005	Informatica Grafica	Computer Graphics	BS	60	~150
2004-2005	Informatica Grafica II	Intermediate Computer Graphics	MS	60	~25
2005-2006	Informatica Grafica	Computer Graphics	BS	60	~150
2005-2005	Informatica + Laboratorio	Basic Computer Science	BS	24	~45
2005-2006	Informatica Grafica II	Intermediate Computer Graphics	MS	60	~25
2006-2007	Informatica Grafica per le arti	Computer Graphics for Arts	BS	60	~150
2007-2008	Informatica Grafica per le arti	Computer Graphics for Arts	BS	60	~150
2008-2009	Informatica Grafica per le arti	Computer Graphics for Arts	BS	60	~150
2008-2009	Informatica + Laboratorio	Basic Computer Science	BS	24	~45
2009-2010	Informatica Grafica per le arti	Computer Graphics for Arts	BS	54	~150
2009-2010	Informatica + Laboratorio	Basic Computer Science	BS	24	~45

2009-2010	Sistemi Multimediali	Multimedia Systems	MS	48	~25
2010-2011	Informatica (Civ)	Basic Compute Science	BS	117	~120
2010-2011	[Course given in English]	Computer Systems	BS	50	~25
2011-2012	Informatica (Civ)	Basic Compute Science	BS	117	~120
2011-2012	[Course given in English]	Computer Systems	BS	50	~25
2011-2012	[Course given in English]	Computer Graphics	MS	50	~80
2012-2013	[Course given in English]	Computer Systems	BS	50	~25
2012-2013	[Course given in English]	Computer Graphics	MS	50	~80
2013-2014	[Course given in English]	Enterprise Digital Infrastructures	MS	50	~180
2013-2014	[Course given in English]	Computer Graphics	MS	50	~80
2014-2015	[Course given in English]	Performance Evaluation of Computer Systems	MS	50	~75
2014-2015	[Course given in English]	Computing Infrastructures	MS	50	~180
2014-2015	[Course given in English]	Computer Graphics	MS	50	~80
2015-2016	[Course given in English]	Performance Evaluation of Computer Systems	MS	50	~75
2015-2016	[Course given in English]	Computing Infrastructures	MS	50	~180
2015-2016	[Course given in English]	Computer Graphics	MS	50	~80
2016-2017	[Course given in English]	Performance Evaluation of Computer Systems	MS	50	~20
2016-2017	[Course given in English]	Computing Infrastructures	MS	50	~180
2016-2017	[Course given in English]	Computer Graphics	MS	50	~80

Thesis

I have followed more than 200 students, between bachelor and master degree.

P.h.D students

I have been co-advisor for three PhD students: Davide Cerotti (2007-2010), Pietro Piazzolla (2007-2010) and Enrico Barbierato (2010-2013). The all have been or are still post-docs at the Politecnico of Milano in my group. Davide Cerotti has obtained on 21/11/2016 a Junior Researcher Position at the “Università del Piemonte Orientale – Vercelli”. I am currently advisor of Riccardo Pincirolì, PhD student at the Politecnico of Milano.

Advanced professional courses

I have given more than twenty courses in various professional courses on the following topics: Web programming, computer graphics and animation, and Performance Evaluation and Dependability.

Technical knowledge

Programming languages:

General Purpose Languages: *C, C++, Java, Basic (Visual Basic), Ada, Lisp, Assembler, Pascal, Fortran*. Web Languages: *PHP, Javascript*. Multimedia Languages: *Actionscript, Ling*. 3D Graphics Languages: *MEL, HLSL, Cg, GLSL*. Mathematical Languages: *Mathematica, Matlab, Octave*

Technologies and Data Bases:

Web Technologies: *HTML, XML, SVG, VRML, X3D, Collada*. Database: *SQL, MySQL, Access*. Rendering Engines and Virtual Reality Technologies: *Open GL, Microsoft DirectX, Torque, Unreal*.

Technology, Ogre, Adobe Atmosphere, ViewPoint, Balxxun, Mental Ray, JME. BigData technologies: Hadoop, Hive, Cassandra, Mongo DB, H-Base. Virtualization and Cloud technologies: OpenStack, VirtualBox, VMware

Operating Systems:

Microsoft Windows, Linux, Solaris, MacOS. Advanced knowledge on administration of networks, firewalls and on configuration and integration of services.

Applications

Office Automation: *Microsoft Office, LaTeX.* 2D Graphics: *Corel Draw, Adobe Flash, Adobe PhotoShop, Jasc Paint Shop Pro, GIMP, Tgif, Xfig.* 3D Graphics: *Maya, 3D Studio, Lightwave, Blender, Bryce, Poser, Motion Builder.* Compositing and Video Editing: *Discreet Combustion, Adobe Premiere, Adobe After Effect.* Multimedia and Web production: *Macromedia Director, Macromedia Dreamweaver.* Digital Audio: *Sony Sound Forge, Steinberg Cubase*

Advanced 3D Graphics Knowledge

*Vicon **Motion Capture** technology and the IQ data acquisition software*

Hardware Technical Skills

Assembly and expansion of Personal Computers. Installation and configuration of Computer Networks. Programming of micro-controllers and Arduino experiences. Programming FPGAs in Verilog. Tracking experience using inertial measurement units and indoor ultra-wide-band positioning systems.

Milano,
July 26st, 2016

Marco Gribaudo.

Informativa ai sensi dell'art. 13 del D.Lgs 196/2003:

i dati sopra riportati sono prescritti dalle disposizioni vigenti ai fini del procedimento per il quale sono richiesti e verranno utilizzati esclusivamente per tale scopo.