

CURRICULUM VITAE of Ilenia EPIFANI

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Family status: married, two children (born 2007, 2010)

Present position and qualification

Present position: tenured assistant professor in probability and mathematical statistics at Politecnico di Milano

Current qualification: national scientific qualification (abilitazione nazionale) as associate professor in statistics (settore concorsuale 13/D1 Statistica, macrosettore concorsuale Area 13 - Scienze economiche e statistiche)

Previous positions

February 2003-August 2003, and October-November 2005 Visiting scholar at Department of Statistics, The Ohio State University, Columbus (OH), USA

December 1998-August 2000. Postdoctoral position at department of mathematics of the Politecnico of Milan. Research Topic: *“Construction and approximation random measures and statistical applications”*

March, 1995-October, 1995. Fellowship for research activity held at the Institute for Applications of Mathematics and Computer Science (Italian National Council for scientific research), Milan. Research Topic: *Robustness in Bayesian inference*

Education

- PhD in *Statistics* at Università di Trento, Italy. PhD dissertation defended on April, 20 1999; title of the dissertation *“Some results on the distributions of random Bernstein polynomials and their applications to Bayesian statistics”*. Advisor: Professor Eugenio Regazzini, Università di Pavia, Italy
- M.Sc. in Economics in 1995 (with honors) at Università Commerciale “L. Bocconi”, Milano, Italy. Graduation thesis on the topic *“Applications of the theory of empirical processes for the determination of the limit laws of some measures of monotone dependence”* Advisor: Professor Eugenio Regazzini

Overview of teaching activity

I taught courses for students of various Engineering undergraduated and graduated courses. Basically, the undergraduated courses provide an introduction to probability and statistics, whereas the graduated courses mainly cover topics of descriptive, exploratory, and inferential statistics. Most of them also include a statistical laboratory where students are introduced to data analysis with statistical software R. Projects and theses I supervised are all in statistics. A detailed list of my teaching activity follows.

Probability and statistics helpdesk

Academic years 2015/16, 2016/17: statistic and probabilistic assistance through a helpdesk of probability and statistic offered to undergraduated and graduated students at Politecnico di Milano

Lecturer and teaching assistant

Academic year 2018/2019, Statistics module of the graduate course “Statistical Models and Stochastic Processes for Environmental Engineers” selected for “didattica innovativa-Azione 1” (innovative teaching methods) for the Environmental and Land Planning Engineering Master of Science (Laurea magistrale)

Academic year 2017/18 (since academic year 2016/17), Lecturer for graduate course: Statistical Models and Stochastic Processes for Environmental Engineers (Environmental and Land Planning Engineering Master of Science - Laurea magistrale) at Politecnico di Milano

Academic year 2017/18 (since academic year 2009/10), Lecturer for undergraduate course: Basics of Statistics and Biomedical Signals for Bioengineers at Politecnico di Milano

Academic year 2015/16, Lecturer for course: Exploratory Data Analysis for high school students as part of the project “in Action with Math, Percorsi di matematica cre-attiva”

Academic years 2014/2015, 2015/16, Lecturer for undergraduate course: Statistic for Electrical Engineers at Politecnico di Milano

Academic years 2011/2012, 2012/13, 2013/14, Lecturer for graduate course: Applied Statistics for Electrical Engineers (Electrical Engineering Master of Science - Laurea magistrale) at Politecnico di Milano

Academic years 2003/04, 2004/05, 2005/06, 2006/07, 2007/08, 2008/09, 2009/10, 2010/2011, Lecturer for graduate course: Statistics for Information Engineers (Information Engineering Master of Science - Laurea magistrale) at Politecnico di Milano

Academic years 2001/02, 2002/03, 2003/04, 2004/05: Lecturer for undergraduate courses in Probability Theory for engineers (First-level degree in Automation, Computer and Telecommunications Engineering) at Politecnico di Milano

Since Academic year 1997/98 to 2006/07: Teaching assistant for undergraduate courses in Probability and Statistics for engineers at Politecnico di Milano

Academic years 2001/02, 2003/04, 2004/05, 2005/06: Lecturer for Master on Applications of Mathematics in Industry and Technology “Applicazioni della matematica nell’industria e nei servizi” organized by INdAM Istituto Nazionale di Alta Matematica Francesco Saveri. Title of the course: “Introduction to Stochastic Processes”

Supervised projects and theses

Academic year 2017/18,

- Supervisor of the master thesis of Arianna Riva “Survival analysis applied to the undergraduated dropouts in Politecnico di Milano”, Mathematical Engineering Master of Science (Laurea magistrale) at Politecnico di Milano (work in progress)
- Supervisor of the reading course of Riccardo Tegazi “Modelling dependence with copulas”, First-level degree in Mathematical Engineering at Politecnico di Milano (work in progress)
- Co-advisor of thesis (First-level degree in Biomedical Engineering at Politecnico di Milano): Silvia Bellomo, Noemi Caloi, Antonio Coviello, Martina Di Gennaro “Sviluppo di modelli paziente-specifici per realta aumentata”, Supervisor Alberto Cesare Luigi Redaelli
- Co-advisor of the master thesis of Marija Zdolsek “Time series analysis to detect crisis in systemic capillary leak syndrome”, Supervisor Alessandra Guglielmi, Mathematical Engineering Master of Science (Laurea magistrale) at Politecnico di Milano
- Supervisor of the project “Indagine conoscitiva sui laureati in Ingegneria per l’Ambiente e il Territorio 2017. Analisi statistica dei risultati” (2018) (<https://www.ingegneriambientali.it>)

it/) of Luca Gerini, Andrea Grioni and Dario Mansi, Environmental and Land Planning Engineering Master of Science (Laurea magistrale), published on the website of the Associazione Ingegneri per l'Ambiente e il Territorio <https://www.ingegneriambientali.it/>

Academic year 2017/18, 2016/17, 2014/15, Supervisor of ten semester projects in Bayesian statistics, Mathematical Engineering Master of Science (Laurea magistrale):

- Luca Borsani, Davide Ranieri “Bayesian estimation for a parametric Markov renewal model applied to seismic data” (March 2018)
- Monica Giordano, Mattia Tantardini, “An application of a Bayesian semi-parametric Cox competing risk model for the analysis of the dropouts in Politecnico di Milano” (February 2018)
- Corinne Cereghetti, “An application of a multistate Bayesian semi-parametric model to the analysis of the drop-out in Politecnico di Milano, at the first level” (February 2018)
- Niccol Togni, Stefania Villa “A dynamical model with proper spatial CAR random effects in Stan for data on population densities” (February 2018)
- Marija Zdolsek, “Time series analysis to detect crisis in systemic capillary leak syndrome” (November 2017)
- Gaelle Vittoria Succetti, “Bayesian latent growth models applied to the study of stress response in pre-school children” (February 2016)
- Chiara Ghiringhelli, “Historical linkages in shaping population density across Space by means of dynamic log normal regression models with unobserved heterogeneity” (February 2016)
- Giulio Giorgio, “Modello dinamico Gamma per la distribuzione demografica nello stato del Massachussets” (March 2015)
- Chiara Ventura, “Modello lineare dinamico generalizzato per la distribuzione demografica nello stato del Massachussets” (November 2014)
- Giulia Vezzosi, “Gamma regression model for population density over time with spatial data” (March 2014)

Academic year 2016/17, Co-advisor of thesis (First-level degree in Biomedical Engineering at Politecnico di Milano): Giada Cremonesi, Clara Abbiati, Francesca Vergani “Monitoraggio dell'ematocrito nel corso della terapia emodialitica”, Supervisor Maria Laura Costantino

Academic year 2015/16,

- Supervisor of theses (First-level degree in Biomedical Engineering):
 - Gabriele Infante, “Epidemiologia clinica e biostatistica: analisi di poliformismi genetici nell'insorgenza di trombosi in pazienti con tumore metastatico al colon-retto” (outside internship at Fondazione IRCCS Istituto dei tumori, Milano) (with outside examiner)
 - Francesca Carminati, Festi Ludovica “Curve di crescita latente applicate a dati biologici e comportamentali per misurare i fattori predittivi della risposta allo stress”, (in collaboration with Fondazione IRCCS Eugenio Medea, Bosisio Parini (Lecco))
- Supervisor of master theses (Mathematical Engineering Master of Science - Laurea magistrale):
 - Elisabetta Rossi “Un modello multistato bayesiano per l'analisi dei tempi di permanenza in università degli allievi ingegneri del Politecnico di Milano” (with outside examiner)
 - Chiara Ghiringhelli “A new model for the population density over time: how spatial correlation matters”

- Academic tutor of the internship of Paolo Zappalà in Twitter Italia srl, Title: “Marketing Intern, Milan”

Academic year 2013/2014, Supervisor of master thesis (Mathematical Engineering Master of Science - Laurea magistrale): Claudia Vezzosi “Modelli bayesiani dinamici e processi gamma applicati all’analisi dell’evoluzione temporale di densità di popolazione” (with outside examiner)

Academic year 2012/2013,

- Supervisor of master thesis (Mathematical Engineering Master of Science - Laurea magistrale) at Politecnico di Milano: Michele Usuelli, “Big Data improvements in cluster analysis”
- Academic Tutor of the Internship of Michele Usuelli in Target Reply Srl con Socio Unico, Title: “Architetture BigData per analisi statistica e forecasting nell’ambito della grande distribuzione”

Academic year 2008/2009, Supervisor of minor research of Giordano Tamburelli on “Stima bayesiana di parametri di catene markoviane a tempo discreto ed identificazione del punto di cambiamento” (Ph.D. in Information Technology, Politecnico di Milano), Carlo Ghezzi Supervisor of the major project of Tamburelli)

Lecture Notes

The following lecture notes are available either at <http://www1.mate.polimi.it/~ileepi/> or at the “Beep” portal of Politecnico di Milano <https://beep.metid.polimi.it/>

- *Eserciziario di Probabilità e Statistica per MSPS* (Statistical Models and Stochastic Processes), (for the Environmental and Land Planning Engineering Master of Science - Laurea magistrale) AY 2017-2018, 85 pp. (2017)
- *Appunti per il corso di MSPS* (for the Environmental and Land Planning Engineering Master of Science - Laurea magistrale), AY 2017-2018, 49 pp. (2017)
- *Appunti di statistica per il corso di Fondamenti di Statistica e Segnali Biomedici [Mod 1]*, AY 2014-2015, 29 pp. (2015)
- *Notes of Applied Statistics for the Electrical Engineering Master of Science - (Laurea Magistrale)*, AY 2012-2013, 120 pp. (2013)
- *Appunti di calcolo delle probabilità per il corso di Fondamenti di Statistica e Segnali Biomedici [Mod 1]*, AY 2010-2011, 85 pp. (2011)
- *Appunti per il corso di Statistica (2L)*, AY 2008-2009, 95 pp. (2009)
- *Eserciziario di Calcolo delle Probabilità*, AY 2008-2009, 73 pp. (2009)
- *Appunti per il corso di Calcolo delle Probabilità*, AY 2005-2006, 117 pp. (2005) (with Ladelli L. and Posta. G.)

Service activities

- Member of committee timetable, School of industrial and information engineering for academic year 2017/18 (since academic year 2013/14)
- Member of doctoral degree committees: doctoral programme in “Mathematical models and methods in engineering Politecnico di Milano” (2014), doctoral programme in “Matematica e Statistica” Università di Pavia (2011, 2017)

- Member of first level and master of science degree committees (commissioni di laurea triennale e laurea magistrale) for Biomedical Engineering, Environmental and Land Planning Engineering, Mathematical Engineering.
- Outside examiner of theses in Mathematical Engineering Master of Science - Laurea magistrale) at Politecnico di Milano
- Member of commissione di probabilità e statistica per tutorato, seminari didattici, didattica integrativa
- Member of committee for reading course for Mathematical Engineering
- Member of the polytechnic commission for the drafting of new questions of the TOL (the test to enter the Engineering undergraduates programmes), section of Statistics (academic year 2017/18)
- Member of the electoral committee for the election of the Dean of Dipartimento di Matematica, Politecnico di Milano

Research

Interests

Nonparametric and parametric Bayesian inference: functionals of random probability measures, Bayesian econometric models for regional population, random frailty models, Bayesian nonparametric hazard models, Bayesian survival analysis. Statistical inference on Cox and Semi-Markov processes. Exchangeability, partial exchangeability and limit theorems.

Overview of scientific activity

My scientific activity has been always focussed on statistical methods, from both mathematical and applied viewpoints, also including the detailed study of limit theorems, asymptotics of random processes, characterization theorems and random measures as a tool for statistical inference. Most of my publications are appeared in journals of statistics that publish research papers containing original contributions in theoretical and applied statistics and journals of economics covering statistical models and empirical analysis in the field of regional studies. A short review of my main results follows.

Bayesian nonparametrics In statistical work many interesting properties of a family of distributions can be summarized by vectors of suitable means, so that it is of great interest to investigate the exact distributions of functionals of random probability measures. Under this perspective, in the field of Bayesian nonparametrics, I have been working on a) functionals of random probability measures and b) survival analysis. In collaboration with Guglielmi and Melilli, I have contributed to the determination of some distributional properties of the variance of a Dirichlet process (*Statist. Probab. Lett.*, 2006) and to some moment-based approximations for vectors of means of Dirichlet processes (*Appl. Math. Sci.*, 2009). Furthermore, a Bayesian nonparametric inference on a mean failure time modeled via neutral to the right priors has appeared in Epifani, Lijoi and Pruenster (*Biometrika*, 2013). In Bayesian survival analysis, I have defined and developed a new nonparametric prior for two-dimensional vectors of survival functions. The definition is based on the Lévy copula and has been used to model two-sample (complete and/or right-censored) survival data. The results are in Epifani and Lijoi (*Stat Sin.*, 2010).

Bayesian statistical methods in software engineering From an applied viewpoint, I have been working on applications of Bayesian methods to software engineering. In this context, Ghezzi, Mirandola, Tarabelloni and I first designed a Bayesian methodology to both verify and update the correctness of the parameters, the performance and reliability of a complex software system modeled by means of Markov chains and queuing network. Then, Ghezzi, Tamburelli and I defined a concept of change-point detection of the non-functional behavior of software services and provided an original Bayesian statistical technique aimed at identifying it, given an execution trace extracted by running instances of the service (ICSE 2009, and FSE 2010).

Statistical inference on Cox-Markov semi-Markov models Another research line I work on is the Bayesian analysis of time continuous semi-Markov processes. From a probabilistic point of view, Fortini, Ladelli and I have given a complete probabilistic characterization of a Bayesian semi-Markov process with discrete states (Statist. Probab. Lett., 2003). Hence, in collaboration with Ladelli and Pievatolo I have developed a complete methodology for Bayesian inference on a Weibull semi-Markov process, from the elicitation of the prior distribution, to the computation of posterior summaries and to decision making procedures based on the cross-state probabilities, addressing both short-term and long-term forecasting. The real application is to data of earthquakes of three types of severity (low, medium and high size) that occurred in the central Northern Apennines in Italy (Electron J Stat., 2015). Now I'm working on the developments of hierarchical priors for hidden semi-Markov models to analyse earthquakes from different heterogeneous regions (working in progress).

Another line of research has analyzed Cox Markov modeling of the bacterial cell cycle. Given that usually in the biological literature *a*) a sequence of growing cells is modeled by a suitable Markov chain and *b*) the distribution either of the doubling time or of the added size of a cell is modeled in terms of the (division) hazard rate, then Bassetti, Ladelli and I have been proposed an *extended* Cox Markov model for investigating the main mechanisms that control the cell cycle along with a statistical procedure to estimate the model's parameters. We have applied our method to some published datasets of Escherichia coli cells and it has proved to be a simple but effective way to estimate the division hazard cell size growth data and to discriminate between different cell-cycle paradigms (sizer, timer, adder and various forms of concerted control) proposed by biologists (Electron J Stat., 2017).

Hierarchical generalized linear models in regional science In collaboration with Nicolini, I have been building Bayesian hierarchical generalized linear models suitable for regional science. First, we have developed a novel approach to study the distribution of the regional population density across space by means of a Bayesian "gamma-gamma" shared frailties spatial regression model and we have applied it to the 2000 Census town data of Massachusetts (J. Reg. Sci., 2013). Then we have proposed a dynamic version of it with the goal to evaluate the evolution of the population spatial distribution across time (Reg Stud., 2017). More recently, we have exploited a Bayesian dynamic log-normal hierarchical model with spatial CAR random effects and tested it on a spatio-temporal dataset of the Massachusetts census-tracts; we have succeeded in detecting the interplay between environmental effects and temporal correlation for location choices of the population (SIS, 2018 and preprint under submission).

Publications

- The Importance of Historical Linkages in Shaping Population Density across Space (with Nicolini R.) Accepted for the SIS 2018 Conference Proceedings, (2018), available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2851194.
- A Cox Markov model for estimating single cell growth, (with Bassetti, F. and Ladelli L.), *Electronic Journal of Statistics (EJS)*, **11**, 2931-2977, (2017)
- *Esercizi di Statistica per l'Ingegneria, le Scienze e l'Economia* (with Ladelli L. and Posta G.), Edizioni LaDotta, Bologna, ISBN 9788898648597, (2017)

- Modelling Population Density Over Time: How Spatial Distance Matters, (with Nicolini, R.), *Regional Studies*, **51-4**, **602-615**, (2017)
- The importance of distance in population density distributions (with Nicolini R.) Featured in UABDivulga (05/2017) <http://www.uab.cat/web/news-detail-1345680342044.html?noticiaid=1345724633748>, (2017)
- BankSealer: A decision support system for online banking fraud analysis and investigation, (with Carminati, M., Caron, R., Maggi, F. and Zanero, S.), *Computers & Security*, **53**, **175-186**, (2015)
- BankSealer: An Online Banking Fraud Analysis and Decision Support System, (with Carminati, M., Caron, R., Maggi, F. and Zanero, S.) *Proceedings of the International Information Security and Privacy Conference*: pp. 380-394, SEC'14, Springer Berlin Heidelberg, Marrakech, Morocco, ISBN: 978-3-642-55414-8, 978-3-642-55415-5, (2014)
- Bayesian estimation for a parametric Markov Renewal model applied to seismic data, (with Ladelli, L. and Pievatolo, A.), *Electronic Journal of Statistics (EJS)*, **8**, **2264-2295**, (2014)
- Factors Affecting Geographic Distribution of Populations, (with Nicolini, R.) Featured in UABDivulga (05/2014), ISSN: 2014-6388, (2014) at http://www.uab.es/PDF/PDF_1345670866272_en.pdf
- On the population density distribution across space: a probabilistic approach, (with Nicolini, R.), *Journal of Regional Science (JRS)*, **53**, **481-510**, (2013)
- Change-point detection for black-box services, (with Ghezzi, C. and Tamburrelli, G.), *SIGSOFT FSE 2010*: **227-236**, (2010)
- Nonparametric priors for vector of survival functions, (with Lijoi, A.), *Statist. Sinica* **20**, **1455-1484**, (2010)
- Moment-based Approximations for the law of Functionals of Dirichlet Processes, (with Guglielmi, A. and Melilli, E.), *Appl. Math. Sci.* **3**, **979-1004**, (2009)
- Model Evolution by Runtime Adaptation, (with Ghezzi, C., Mirandola, R. and Tamburrelli, G.) In S. Fickas, J. Atlee, and P. Inverardi, editors, *Proc. 31st International Conference on Software Engineering, ICSE 2009* **4839**, **111-121**, IEEE, (2009)
- Case-deletion importance sampling estimators: central limit theorems and related results (with Steven MacEachern and Mario Peruggia), *Electronic Journal of Statistics (EJS)* **2**, **774-806**, (2008).
- A stochastic equation for the law of the random Dirichlet variance (with Guglielmi, A. and Melilli, E.), *Statistics & Probability Letters* **76**, **495-502**, (2006)
- Exponential functionals and means of neutral to the right priors, (with Lijoi, A. and Igor Pruenster, I.), *Biometrika*, **90**, **791-808**, (2003)
- A Note on the Simulation of Levy Processes with a View towards Applications, (with Lijoi, A. and Pruenster, I.) *Atti del convegno S.CO. 2003 (Modelli Complessi e Metodi Computazionali Intensivi per la Stima e la Previsione)*, Treviso, pp. 188-193, (2003)
- A characterization for mixtures of semi-Markov processes, (with Fortini, S. and Ladelli, L.), *Statistics & Probability Letters*, **60**, **445-457**, (2002)
- Means of nonparametric priors based on Increasing Additive Processes. (with Lijoi, A.). In *Mini-proceedings: 2nd MaPhiSto Conference on Lévy Processes: Theory and Applications*, 103-107, (2002), Eds: Ole E. Barndorff-Nielsen

- A finitely additive version of the law of the iterated logarithm. (with Lijoi, A.). *Theory of Probability and its Applications*, Theory Probab. Appl. **44**, 633–649, (2000).
- Some considerations on a version of the Law of the Iterated Logarithm due to F.P. Cantelli. (with Lijoi, A.) *Rendiconti dell'Istituto Lombardo di Scienze e Lettere*, Serie A, vol. **131**, 89-116, (1997)
- Analisi di Serie storiche. *Quaderni del corso estivo di statistica e calcolo delle probabilità* **9**, Istituto Metodi Quantitativi, Università L. Bocconi, (1997)

Preprint

- A novel multi-parametric score for the detection and grading of prosthetic mitral valve obstruction in cases with different disc motion abnormalities, (with Meskin, M., Dimasi, A., Votta, E., Jaworek, M., Fusini, L., Zappa, E., Epifani, I., Pepi, M. and Redaelli, A.) (2018) (under revision)
- Modeling local spatial dependence in shaping population distribution, (with Ghiringhelli, C. and Nicolini, R.) Available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3136302, (2018) (submitted)
- On the moments of a vector of functionals of a Dirichlet process *Technical Report* **487/P** Department of Mathematics, Politecnico di Milano, (2001)
- A Characterization for Mixtures of Minimal Continuous Time Markov Chains. (with Fortini S. and Ladelli L.) *Technical Report*, **00.17**, CNR-IAMI, Milano (2000)
- A note on the law of the random Bernstein polynomials, *Technical report* **381/P** Department of Mathematics, Politecnico di Milano, (1999)

Work in Progress

- Bayesian inference for hidden semi-Markov panel models, (with Bassetti, F. and Ladelli, L.) (2018)
- Bayesian Cox competing risk analysis of the dropping out of Undergraduate Engineering Students. The case of Politecnico di Milano, (with Giordano, M. and Tantardini, M.) (2018)

Research Projects

- Research group Generalitat de Catalunya (SGR, official recognition: 2017SGR207) (2017-2019). Project: Public policies and economic analysis. (Project head: Miguel Ángel López García)
- Research grant Ministerio de Economía y Competitividad (2015-2018): “Socio-economic and territorial challenges: a new proposal for new empirical strategies and its applications”. (Project head: Michael Creel; reference: ECO2014-52506-R)
- MIUR research project (PRIN) 2008: “Metodi bayesiani: sviluppi teorici e nuove applicazioni”
- MIUR research project (PRIN) 2006: “Il punto di vista di de Finetti sul paradigma di Bayes-Laplace: nuovi sviluppi metodologici e applicazioni”
- MIUR research project (PRIN) 2002: “Impiego di metodi non parametrici nell’inferenza bayesiana”
- MIUR research project (PRIN) 2001: “Processi Stocastici e applicazioni a Filtraggio, Controllo, Simulazione e Finanza Matematica”
- MIUR research project (PRIN) 1999: “Processi Stocastici, Calcolo Stocastico e Applicazioni”

Presentations

- 2018, “49th Scientific meeting of the Italian Statistical Society”, Palermo, 20th - 22th
- 2013, “Third Symposium on Games and Decisions in Reliability and Risk”, Kinsale, County Cork, Ireland July 8th - 10th
- 2009, “III World Conference of Spatial Econometrics”, Barcelona 8th - 10th July
- 2009, “XXXIV Simposio de la Asociación Espanola de Economía (SAEe)”, Valencia, 10 December
- 2005, “Fourth Workshop on Bayesian Inference in Stochastic Processes”, Varenna 2nd - 4th June
- 2004, “Fourth Workshop on Bayesian Nonparametrics”, Roma 13th - 16th June
- 2003, “Joint Statistical Meeting (JSM)”, San Francisco (California) 3rd - 7th August
- 2002, “Second MaPhySto conference on *Lévy processes Theory and Applications*”, Aarhus (Denmark) 21th - 25th January
- 2001, “Convegno Nazionale del progetto di ricerca: Processi Stocastici, Calcolo Stocastico e Applicazioni”, Pisa September 13th - 15th
- 2001, “Bayesian Non Parametrics Summit”, Ann Arbor, Michigan July 27th - August 2nd
- 2001, “Second Workshop on Bayesian Inference in Stochastic Processes”, Varenna May 31st - June 2nd

Scientific collaborations

- Institut d’Anàlisi Econòmica - CSIC, Campus de la Universitat Autònoma de Barcelona
- Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano
- Department of Statistics, The Ohio State University, Columbus (OH), USA
- Dipartimento di economia politica e metodi quantitativi, Università degli Studi di Pavia
- Dipartimento di scienze delle decisioni, Università Commerciale L. Bocconi, Milano
- Istituto di matematica applicata e tecnologie informatiche (IMATI), CNR, Milano

Editorial work

Reviewer for Communications in Mathematical Sciences (International Press), *The American Statistician* (American Statistical Association), *Journal of the American Statistical Association* (American Statistical Association), *Test* (Springer), *Statistica Sinica*, *Journal of Statistical Planning and Inference* (Elsevier)