

## Curriculum Vitae et Studiorum

01/06/2017

### Personal Information

Name / Surname Mario Santoro  
Address  
Phone Mobile:  
E-mail santoro.ma@gmail.com  
P.E.C santoro.mario@mypec.eu  
Citizenship Italian  
Born Date 23/04/1979

Sex M

### Actually I'm working on

- Creating an R package for Bayesian inference on spatio-temporal circular data.
- Applying the Latent Dirichlet Allocation and Structural Topic Model (STM) in R to data from PiazzaCopernico online courses.
- Doing some explaining graphs (using ggplot2, htmlwidgets) for Interlab, the allergy electronic record by Allergy Data Laboratories.
- Trying to find right HMM models for clustering and visualizing large amount of word vectors (1M words) in order to reduce the vocabulary of a Topic Model (one reference word for every cluster).

### Education

**01/01/2005 - 30/06/2009**

Qualification Mathematics Ph.D.

Main issues and occupational skills BioMathematics.

Thesis Title: *Mathematical modelling of HIV-1 dynamics in vivo.*

Numerical Modeling, ODE, Time-series and phylogenesis analysis

Institution Dipartimento di Matematica – Tor Vergata Università di Roma

**29/10/2004**


Qualification Physics Degree

Main issues and occupational skills Theoretical Physics: Quantum mechanics, Dynamical Systems, Statistical Mechanics, Probability. Thesis Title: *Evoluzione di sistemi complessi nel global change: modelli numerici applicati a crisi climatica e crisi energetica.*

Graduation Mark: 110/110 *cum laude*

Institution Dipartimento di Fisica - Università di Roma La Sapienza

Professional Experiences

Job/Position	<b>1/06/2017- today</b> Research Associate at Dipartimento Scienze Statistiche – Sapienza University - Roma “Environmental processes and Human Activities: Capturing their Interactions via Statistical Methods (EPHASTAT)”
Job/Position	<b>1/12/2016- 28/02/2017</b> Research Consultant at PiazzaCopernico srl “Topic Modeling of internal corpora”
Job/Position	<b>1/12/2014- 30/11/2016</b> Research Associate at IAC, Istituto per le Applicazioni del Calcolo, Italian National research Council (CNR) DG Home Affairs ISEC Programme 2013 - Project IANCIS “Indexing of Anonymous Networks for Crime Information Search”, 2014-2016 GA n.HOME/2013/ISEC/AG/INT/ www.ianics.eu Contracts' numbers: 0001486 – 26/11/2014 from 01/12/2014 to 30/11/2015 0001399 – 25/11/2015 from 01/12/2015 to 30/5/2016 0000547 – 26/05/2016 from 01/06/2016 to 30/11/2016
Main activities and responsibilities	Structural Topic Modeling, Risk Estimation, Data Visualization.
Institution name and address	IAC -CNR , via dei Taurini, 19, Roma.
Sector	Applied Mathematics
Job/Position	<b>1/12/2012-30/11/2014</b> Research Associate at Sportello Matematico per l'Industria Italiana. Assegno IAC (prot. 1281 del 20/11/2012)
Main activities and responsibilities	Industrial Mathematics; Project Management; Technology Transfer; Applied Mathematics
Institution name and address	SM[i] <sup>2</sup> IAC -CNR , via dei Taurini, 19, Roma.
Sector	Innovation
Job/Position	<b>1/02/2012-30/11/2012</b> Research Associate. 
Main activities and responsibilities	Statistical Inference for molecular and allergy data. Development of automatic statistics and graphical representations in R and PHP
Institution name and address	CAM. Center for Molecular Allergology. Istituto Dermatologico dell'Immacolata. Via dei monti di Creta, Roma.
Sector	Biostatistics
Job/Position	<b>01/01/2010-31/12/2011</b> Research Associate
Main activities and responsibilities	Statistical Inference for molecular and allergy data. Development of automatic statistics and graphical representations in R and PHP

Institution name and address	CAM. Center for Molecular Allergology. Istituto Dermatologico dell'Immacolata. Via dei monti di Creta, Roma.
Sector	Biostatistics
Job/Position	<b>01/10/2011 – 31/12/2011</b> Research Associate
Main activities and responsibilities	Drug users dynamics. A compartmental model of drug users to make scenario analyses.
Institution name and address	Centro Interdipartimentale di Biostatistica e Bioinformatica – Università di Roma Tor Vergata – via Montpellier, Roma
Sector	Applied Mathematics
Job/Position	<b>01/01/2010-30/09/2011</b> Research Associate
Main activities and responsibilities	Analysis and model for managing data of patient under anti-AIDS treatments.
Institution name and address	Facoltà di Medicina – Università di Roma Tor Vergata – Via Montpellier, Roma
Sector	Biostatistics
Job/Position	<b>12/03/2011 - 03/04/2011</b> Research contract
Main activities and responsibilities	HIV and Immune systems modeling
Institution name and address	Université de Cergy-Pontoise - <a href="http://www.u-cergy.fr/index.php">http://www.u-cergy.fr/index.php</a>
Sector	Biomathematics
Job/Position	<b>27/05/2010 - 30/06/2010</b> Research contract
Main activities and responsibilities	HIV and Immune systems modelling
Institution name and address	Université de Cergy-Pontoise - <a href="http://www.u-cergy.fr/index.php">http://www.u-cergy.fr/index.php</a>
Sector	Biomathematics
Job/Position	<b>01/07/2009 - 31/12/2009</b> Temporary collaborator
Main activities and responsibilities	Epidemiological databases and probabilistic linkage using Oracle and R
Institution name and address	Dipartimento Epidemiologia - ASL ROMA E - Via di S. Costanza - Roma
Sector	Data Manager
Job/Position	<b>01/03/2009 - 07/04/2009</b> Research Grant
Main activities and responsibilities	HIV and Immune systems modelling

Institution name and address Sector	GREFI-MEFI LPTM-Université de Cergy-Pontoise Biomathematics
Job/Position	<b>01/01/2007 - 31/12/2007</b> Research contract
Main activities and responsibilities	Mortality for cause in the town of Ciampino and surrounding municipalities in the years 1987-2002
Institution name and address Sector	Dipartimento Statistica, Probabilità e Statistica Applicata Università di Roma La Sapienza, Piazzale A. Moro, Roma Environmental Statistics
Job/Position	<b>13/10/2005 - 13/02/2006</b> Annual scholarship winner
Main activities and responsibilities	Use of models for the study and forecast of air quality in the Ciampino municipality: current status, future scenarios, possible solutions
Institution name and address Sector	Ciampino Municipality, Largo Felice Armati, Ciampino (RM) Environmental Statistics
Job/Position	<b>01/12/2004 - 01/06/2005</b> Research Grant
Main activities and responsibilities	Dynamics and evolution of HIV. Statistical characterization of patient during therapy interruption
Institution name and address Sector	Facoltà di Medicina – Università di Roma Tor Vergata – Via Montpellier, Roma Biostatistics
<b>Personal skills and competences</b>	
Native Speaker	Italian
Other Languages	English, French

Informatics | Installation and use of most popular O.S: (Windows, Unix, BSD, Linux, MacOS X, ...)  
Server linux-based administration.

**R deep expert: packages customization, parallelization, use of R as a client in statistical elaboration (time-series, survival, numerical models, natural language processing, ggplot2 graphs,...) and as a server (multi-user web interface Rstudio e automated R-script interacting with PHP , Shiny or simply in tcl-tk)**

**Deep use of Php, Mysql, MS Sql, MongoDB, Fortran, C++, Mathematica, Matlab and open-source equivalent (octave, maxima,...), Gnuplot.**

**In particular: very deep Text editing with rmarkdown, LaTeX and MS Office-like suite.**

Installation and customization of WordPress for websites creation  
([www.scienzadiffusa.it](http://www.scienzadiffusa.it), <http://bupa.altervista.org/>,  
<http://www.glicemiaspecchiomente.it/>)  
A little bit of image editing with GIMP



#### Publications List

- Authors: M. Bertsch, F. Visconti, M. Ceseri, G. Felici, R. Natalini, **M. Santoro**, A. Sgalambro.  
Title: Mathematical Desk for Italian Industry: an applied and industrial mathematics project  
Journal: AIRO Winter 2013 Procedia in publication
- Authors: **M Santoro**, L Triolo, C Rossi  
Title: Drug user dynamics: a compartmental model of drug users for scenario analyses  
Journal: Drugs: education, prevention and policy, June 2013; 20(3): 184–194
- Authors: C Alessandri, S Sforza, P Palazzo, F Lambertini, S Paoella, D Zennaro, C Rafaiani, R Ferrara, M L Bernardi, **M Santoro**, S Zuzzi, I Giangrieco, A Dossena, A Mari  
Title: *Tolerability of a Fully Matured Cheese in Cow's Milk Allergic Children: Biochemical, Immunochemical, and Clinical Aspects*  
Journal: PLoS ONE 7(7): e40945, July 2012

- Authors: D Pomponi, M L Bernardi, M Liso, P Palazzo, L Tuppo, C Rafeiani, **M Santoro**, A Labrada, M A Ciardiello, A Mari, E Scala  
 Title: *Allergen Micro-Bead Array for IgE Detection: A Feasibility Study Using Allergenic Molecules Tested on a Flexible Multiplex Flow Cytometric Immunoassay*  
 Journal: PLoS ONE 7(4): e35697, April 2012
- Authors: C Alessandri, D Zennaro, E Scala, R Ferrara, M Livia Bernardi, **M Santoro**, P Palazzo, A Mari  
 Title: *Ovomucoid (Gal d 1) specific IgE detected by microarray system predict tolerability to boiled hen's egg and an increased risk to progress to multiple environmental allergen sensitisation*  
 Journal: Clinical & Experimental Allergy, vol. 42(3):441-450, March 2012
- Authors: Gobron T., **Santoro M.**, Triolo L.  
 Title: *Competing HIV strains and immune system response*  
 Journal: Submitted to Bulletin of Mathematical Biology 2012. Minor revisions  
 Early draft on arXiv (<http://arxiv.org/abs/1101.2851>)
- Authors: Bernardi M.L., Giangrieco I., Camardella L., Ferrara R., Palazzo P., Panico M.R., Crescenzo R., Carratore V., Zennaro D., Liso M., **Santoro M.**, Zuzzi S., Tamburrini M., Ciardiello M.A., Mari A.  
 Title: *Allergenic Lipid Transfer Proteins from Plant-Derived Foods Do Not Immunologically and Clinically Behave Homogeneously: The Kiwifruit LTP as a Model*  
 Journal: PLoS ONE 6(11): e27856, November 2011
- Authors: E Scala, C Alessandri, P Palazzo, D Pomponi, M Liso, ML Bernardi, R Ferrara, D Zennaro, **M Santoro**, C Rasi, A Mari  
 Title: *IgE Recognition Patterns of Profilin, PR-10, and Tropomyosin Panallergens Tested in 3,113 Allergic Patients by Allergen Microarray-Based Technology*  
 Journal: PLoS ONE 6(9): e24912, September 2011
- Authors: ML Bernardi, I Giangrieco, L Camardella, MR Panico, D Zennaro, R Ferrara, P Palazzo, L Tuppo, M Tamburrini, V Carratore, **M Santoro**, M A Ciardiello, A Mari  
 Title: *Biochemical and immunological characterisation of Act d 10 a lipid transfer proteins from green kiwifruit*  
 Journal: Clinical and Translational Allergy, Vol.1(Suppl 1):O23, August 2011
- Authors: M Trignetti, T Sing, V Svicher, MM Santoro, F Forbici, R D'arrigo, MC Bellocchi, **M Santoro**, P Marconi, M Zaccarelli, MP Trotta, R Bellagamba, P Narciso, A Antinori, T Lengauer, CF Perno, F Ceccherini  
 Title: *Dynamics of NRTI resistance mutations during therapy interruption*  
 Journal: AIDS Research and Human Retroviruses, Vol. 25(1): 57-64, January 2009

- Authors: S Aquaro, R D'Arrigo, V Svicher, G Di Perri, S Lo Caputo, U Visco-Comandini, **M Santoro**, A Bertoli, F Mazzotta, S Bonora, V Tozzi, R Bellagamba, M Zaccarelli, P Narciso, A Antinori, CF Perno
- Title: *Specific mutations in HIV-1 gp41 are associated with immunological success in HIV-1-infected patients receiving enfuvirtide treatment*
- Journal: Journal of Antimicrobial Chemotherapy, vol. 58 (4):714-722, August 2006
- Technical Papers
- Authors: G. Jona Lasinio, **M. Santoro**, S. Zuzzi
- Title: *Mortalita' per cause nel comune di Ciampino e comuni limitrofi negli anni 1987-2002*
- Date: May 2007 (Printed by Ciampino Municipality)
- Authors: S. Zuzzi, **M. Santoro**, G. Jona-Lasinio
- Title: *Valutazione del rischio ambientale nel territorio del comune di Ciampino in relazione all'inquinamento atmosferico*
- Date: January 2007 (Printed by Ciampino Municipality)
- Other Activities
- President of ScienzaDiffusa, cultural association for science divulgation.  
[www.scienzadiffusa.it](http://www.scienzadiffusa.it)  
Owner and manager of Bed and Breakfast Campani Slow  
([airbnb.it/rooms/1698263?s=E1e1](https://www.airbnb.it/rooms/1698263?s=E1e1))



Autorizzo la pubblicazione ai sensi del D.Lgs. n. 33/2013 “Riordino della disciplina riguardante gli obblighi di pubblicità, trasparenza e diffusione di informazioni da parte delle pubbliche amministrazioni” e acconsento all’utilizzo delle informazioni ivi contenute ai sensi del D.L. n. 196/2003 “Codice in materia di protezione dei dati personali”.