

Personal Details

Full Name and Title: **Dr Chiara SIMEONI, Ph.D.**

Address: **via dei Latini 28**

Postcode: **00185 Rome - Italy**

Telephone: **+393494646831**

Email: **simeoni@unice.fr**

<http://math.unice.fr/laboratoire/fiche&id=257>

Higher Education

Sept. 2000 – Nov. 2002, Doctorate in Mathematical Sciences, University “*Pierre et Marie Curie*” - Paris VI

with affiliation to the Department of Mathematics and their applications of the *École Normale Supérieure Paris*

final grade: *mention très honorable* (Summa Cum Laude)

scholarship awarded by the INdAM (Italian Institute of Higher Mathematics) for pursuing doctoral studies in a foreign country and research fellowship of the INRIA Paris Rocquencourt

Sept. 1999 – July 2000, *Diplôme d'études approfondies* (Master of Advanced Studies) in Numerical Analysis, University “*Pierre et Marie Curie*” - Paris VI

final grade: 14/20 *mention bien* (Magna cum Laude)

scholarship awarded by the INdAM (Italian Institute of Higher Mathematics) for pursuing graduate studies in a foreign country

Sept. 1994 – March 1999, *Laurea* (Master's Degree) in Mathematics, “*Sapienza*” University of Rome

final grade: 110/110 Summa cum Laude

entrance scholarship for the highest final grade at the Lyceum (High School)

exoneration from the payment of tuition and fees for high academic achievement (all years)

Membership of Professional Bodies, Learned Societies etc.

French Society of Applied and Industrial Mathematics (SMAI) - <http://smai.emath.fr/>
and regional correspondent for the quarterly news bulletin MATAPLI, from 2003 to 2009

European Women in Mathematics – <http://europeanwomeninmaths.org/>, from 2012

Italian Society for Applied and Industrial Mathematics (SIMAI) – <http://www.simai.eu/>, from 2013

The European Mathematical Society – <http://www.euro-math-soc.eu/>, from 2013

Appointments

Title of Appointment:

Research Fellowship

Dates (from and to)

from June 2001 to May 2002, and from Oct. 2002 to Nov. 2002

Organisation, Department/Division

INRIA Paris Rocquencourt, France

Brief Description of Responsibilities

Development of Fortran-based codes for the numerical approximation through kinetic schemes of shallow water equations, with application to the modeling of debris avalanches and the simulation of experimental data, in the framework of the ACI-CatNat project "Prevention of Natural Catastrophes: modeling of free-surface hydraulic processes in presence of singularities" sponsored by the French Ministry of Higher Education and Research.

Title of Appointment:

Marie Curie Postdoctoral Fellowship

Dates (from and to)

from Dec. 2002 to May 2003

(the fellowship was originally awarded for two years and resignation was given before termination to hold a subsequent permanent position)

Organisation, Department/Division	Institute of Applied and Computational Mathematics, Foundation for Research and Technology – Hellas, Heraklion-Crete, Greece
Brief Description of Responsibilities	Research and development in the framework of the project “Modelling and Computations in Wave Propagation” (Project Reference: MCFH-2001-00637) coordinated by Prof. George N. Makrakis.

Title of Appointment:	Postdoctoral Fellowship of the European Research Training Network HYKE - HYperbolic and Kinetic Equations: Asymptotics, Numerics, Analysis (Project Reference: HPRN-CT-2002-00282)
Dates (from and to)	from June 2003 to July 2003
Organisation, Department/Division	Institute of Applied and Computational Mathematics, Foundation for Research and Technology – Hellas, Heraklion-Crete, Greece
Brief Description of Responsibilities	Research on relaxation finite element schemes for the incompressible Navier-Stokes and Euler equations, coordinated by Prof. Ch. Makridakis and Prof. A.E. Tzavaras.

Title of Appointment:	<i>Maître de conférences</i> (Assistant Professor, permanent faculty) in Applied Mathematics and Applications of Mathematics
Dates (from and to)	from Sept. 2003 to date (tenured from Sept. 2004)
Organisation, Department/Division	<i>Laboratoire J.A. Dieudonné</i> , University of Nice-Sophia Antipolis, France
Brief Description of Responsibilities	To undertake a self-directed research program, producing publications and generating grant income. Teaching students at undergraduate and graduated level (including a statutory number of 192 hours of frontal instruction per year). Advising postgraduate students and act as external assessor for selections committees. Promoting scientific meetings and other events, managing staff and resources in support of major research and teaching activities.

Title of Appointment:	Research Assistant Professor in Numerical Analysis in the framework of the Individual Training Leave Programme “ <i>Congé pour Recherche et Conversion Thématique</i> ” funded by the French Ministry of Higher Education and Research
Dates (from and to)	from March 2007 to July 2007
Organisation, Department/Division	Division of Mathematics for Engineering, Department of Pure and Applied Mathematics, University of L'Aquila, Italy
Brief Description of Responsibilities	Research on numerical simulation of shallow water flows for reproducing the results of real experiments at the Environmental and Maritime Hydraulic Laboratory of the University of L'Aquila.

Title of Appointment:	CNRS Researcher in Mathematics
Dates (from and to)	from Sept. 2008 to Feb. 2009
Organisation, Department/Division	<i>Laboratoire J.A. Dieudonné</i> , University of Nice-Sophia Antipolis, France
Brief Description of Responsibilities	To undertake personal training and development, attending conferences and international scientific meetings, and to generate grant income by initiating projects funded by national and international institutions.

Title of Appointment:	Research Assistant Professor in Applied Mathematics in the framework of the “Brain Gain Programme 2009-2013” funded by the Italian Ministry of Education, University and Research
Dates (from and to)	from Oct. 2009 to Sept. 2013
Organisation, Department/Division	Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila, Italy
Brief Description of Responsibilities	To undertake a self-directed research program, producing publications for refereed journals. To develop collaborative projects within the department and elsewhere in the university. MSc teaching in the specialty area of numerical analysis and scientific computing (including a statutory number of 60 hours of frontal instruction per year) and act as examiner for postgraduate students.

Details of Past and Current Contributions to Education

Undergraduate Teaching

From Sept. 2003 to August 2005 I have been affiliated with the School of Computer Science (ESSI) at the University of Nice-Sophia Antipolis, where I have taught the following courses :

Refresh course in Mathematics for Engineering – lectures and tutorials – 49 hours (Fall 2003, Fall 2004)

Numerical Mathematics – tutorials and laboratory sessions – 84 hours (Spring 2004, Spring 2005)

From Sept. 2005 to Sept. 2009 I have been affiliated with the Engineering School “Polytech Nice-Sophia” at the University of Nice-Sophia Antipolis, where I have taught the following courses :

Numerical Mathematics – tutorials and laboratory sessions – 84 hours (Fall 2005, Fall 2006)

Applied Analysis for Engineers – lectures and tutorials – 49 hours (Fall 2005, Fall 2006)

Mathematical and Numerical Modelling – project supervision – 24 hours (Summer 2005, Summer 2006)

Numerical Analysis and Algorithms – lectures, tutorials and laboratory sessions – 77 hours (Spring 2008, Spring 2009)

Advanced Numerical Analysis – lectures and laboratory sessions – 49 hours (Spring 2008, Spring 2009)

From October 2009 to Sept. 2013 I have been affiliated with the Department of Information Engineering, Computer Science and Mathematics at the University of L'Aquila (Italy), where I have taught the following courses :

Complex Variables with Applications – lectures and laboratory sessions – 60 hours (Fall 2009)

Numerical Analysis and Scientific Computing – lectures, tutorials and laboratory sessions – 60 hours (Fall 2010, Spring 2012, Spring 2013)

From October 2013 to date I have been affiliated with the Engineering School “Polytech Nice-Sophia” at the University of Nice-Sophia Antipolis, where I have taught the following courses :

Introduction to Scientific Computing with Scilab – tutorials and laboratory sessions – 26 hours (Fall 2013)

Post Graduate Teaching

At the University of Nice-Sophia Antipolis I have accomplished the following teaching duties :

MSc course in Partial Differential Equations and Numerics – tutorials and laboratory sessions – 28 hours (Fall 2003, Fall 2004)

MSc course in Discrete Time Models in Finance – lectures and laboratory sessions – 49 hours (Spring 2005)

MSc course (taught in English) in Scientific Computing and Numerical Simulation of Partial Differential Equations – lectures and laboratory sessions – 49 hours (Spring 2008)

MSc course (taught in English) in Numerical Mathematics – lectures and laboratory sessions – 30 hours (Summer 2009) in the framework of the Erasmus Mundus MSc Course “EuroAqua : Hydro-Informatics and Water Management” - <http://master.euroaqua.eu/>

MSc course in Finite Volume Methods for Conservation Laws – lectures and laboratory sessions – 32 hours (Fall 2013)

MSc course in Numerical Methods for Hydrodynamics – lectures and laboratory sessions – 94 hours (Fall 2013)

At the University of L'Aquila (Italy) I have accomplished the following teaching duties :

MSc project supervision “User Interface Design for Numerical Simulation Software” – 24 hours (Spring 2007)

Lectures on Numerical Methods for Mathematical Models – 6 hours (Summer 2008) in the framework of the Erasmus-Socrates Intensive Programme “Mathematical Models in Life and Social Sciences” - <http://www.mathmods.it/ip/mathmods/2008>

MSc course (taught in English) in Introduction to Bio-Mathematics – lectures and laboratory sessions – 60 hours (Fall 2012) in the framework of the Erasmus Mundus MSc Course “MathMods : Mathematical Modelling in Engineering” - <http://www.mathmods.eu/>

Innovation and/or Creativity in Teaching to Improve Student Learning

In order to attain the specific objectives of an international higher education at the University of Nice-Sophia Antipolis, I have invested my competences for developing innovative teaching projects in Mathematical Modelling for the Applied Sciences, which is becoming an essential tool in various domains of engineering and technology especially for its inherent multidisciplinary approach.

In collaboration with Prof. Bruno Rubino at the University of L'Aquila and Prof. Philippe Gourbesville at the Engineering School "Polytech Nice-sophia", we have started an Integrated Bi-national Master Curriculum including a Double Diploma Programme, that has been funded by the Franco-Italian University in the framework of the Vinci Programme 2006 - <http://www.universite-franco-italienne.org/>

This has constituted a first step towards the realization of a more ambitious project, namely the creation of a European Erasmus Mundus Master course funded by the European Commission, which is an integrated programme of the highest level coordinated by an international consortium of European Universities and delivering a joint diploma.

We have benefited from long-standing and well-established research collaborations for selecting the partner institutions and founding the MathMods consortium composed of the University of Nice-Sophia Antipolis, the University of L'Aquila, the Hamburg University of Technology, the Autonomous University of Barcelona, and the Gdansk University of Technology. The international Master MathMods – Mathematical Modelling for engineering: Theory, Numerics, applications" has finally been recognized by the Erasmus Mundus Programme in 2007 (and then confirmed after evaluation in 2012) as the unique in Europe on that subject, and receive an approximate funding of 570,000 Sterlings per year to manage its various activities (third country students grants, scholars mobility, teaching equipment, etc...)

From September 2006 I have been the coordinator of this Master based at the Engineering School "Polytech Nice-Sophia" and I have directed and managed all the activities (student selection, teaching supervision, industrial contacts, legislative issues, administrative questions, etc...)

<http://www.mathmods.edu>

Inside the MathMods Master courses, various innovative teaching techniques have been experimented, and I have personally developed most of them, and in particular :

- the organization of Industrial Seminars for students, where applied scientists present their companies and achievement ;
- a three months training in industry, to develop an actual sensibility inside the professional framework of industries and engineers companies, with the agreement of several international companies inside the technological campus of Sophia-Antipolis as well as with companies in foreign European or non-European countries ;
- computational projects in small groups to develop collaborative attitude and introduce young students to the typical research-based activities ;
- evaluations in the form of students workshops for improving communication skills (for example, how to prepare slides, how to deal with time constraints, how to select main points of some topic, etc.)

The working possibilities of young engineers in applied mathematics, which are able to formalize and solve real problems, are extremely rich nowadays. In such an economic and social landscape, the master MathMods aims to train engineers provided with a double strong ability, in both rigorous mathematics and tools from the specific application fields (finance, biology, imaging, ...), together with a deep experience in informatics. Public research institutions and private industrial groups are the principal employers for engineers issued from the master MathMods, including banks, hospitals, universities, companies specialized in simulation and consulting from any industrial field, etc...

Research Grants and Contracts

Source of Funds	Title of Project	Duration (months)	Date of Start	Total Value of Support*	Names of other Grant or Contract Holders (if any)	Other Comments
Université Franco-Italienne - http://www.universita-italo-francese.org/	Integrated Bi-national Master Curriculum in Mathematical Engineering – Programme Vinci 2006	72 months	Sept. 2006	25,000 Sterlings	Prof. Bruno Rubino (University of L'Aquila)	Principal grant holder; funding for students and scholars mobility
INDAM (Italian Institute of Higher Mathematics)	Hyperbolic models for chemotaxis and numerical simulations.	12 months	Feb. 2007	3,200 Sterlings	Project coordinator: Prof. Corrado Mascia ("Sapienza" University of Rome)	Joint principal investigator, funding for research visiting
National Agency for Research - France	Optimal transport: Theory and Applications to cosmological Reconstruction and Image processing.	48 months	Sept. 2007	187,000 Sterlings	Project coordinator: Prof. Andrei Sobolevskii (The Independent University of Moscow)	Associate researcher in the local team coordinated by Prof. Yann Brenier (University of Nice-Sophia Antipolis)
CNRS France and CNR Italy	Mathematical problems for the biological damage of monuments.	48 months	Jan. 2008	15,000 Sterlings	Project coordinator: Prof. Roberto Natalini (IAC-CNR Rome)	Joint principal investigator, funding for research visiting
Italian Ministry of Education, University and Research	Brain Gain Programme 2009-2013	96 months	Oct. 2009	13,000 Sterlings		Principal investigator
Italian Ministry of Foreign Affairs and National Council for Science and Technology of Mexico	Analytical study and numerical simulation of transport-reaction partial differential equations characterized by the formation of complex structures.	72 months	Jan. 2011	14,000 Sterlings	Prof. R.G. Plaza (Autonomous University of Mexico)	Principal investigator and local coordinator of the Italian team
Fondazione CARISPAQ - http://www.fondazionecarispaq.it/	CALIBAN - High Performance Computing Cluster at the University of L'Aquila		July 2012	49,000 Sterlings	Project coordinator: Prof. Nicola Guglielmi (University of L'Aquila)	Member of the scientific committee for the grant application, funding for the CUDA GPUs equipment

Publications

a) Refereed Full Papers

- M. Pulvirenti, C. Simeoni, L^∞ -estimates for the Vlasov-Poisson-Fokker-Planck equation, *Math. Methods Appl. Sci.* 23 (2000), no. 10, 923–935 --- <http://hal.archives-ouvertes.fr/hal-00905933/>
- B. Perthame, C. Simeoni, A kinetic scheme for the Saint-Venant system with a source term, *Calcolo* 38 (2001), no. 4, 201–231 --- <http://hal.archives-ouvertes.fr/hal-00922664>
- A. Mangeney, J.-P. Vilotte, M.O. Bristeau, B. Perthame, F. Bouchut, C. Simeoni, S. Yemini, Numerical modeling of avalanches based on Saint Venant equations using a kinetic scheme, *J. Geophys. Res.* 108 (2003), no. B11, 2527–2544 --- <http://hal.archives-ouvertes.fr/hal-00922781>
- Th. Katsounis, B. Perthame, C. Simeoni, Upwinding sources at interfaces in conservation laws, *Appl. Math. Lett.* 17 (2004), no. 3, 309–316 --- <http://hal.archives-ouvertes.fr/hal-00922830>
- Th. Katsounis, C. Simeoni, First and second order error estimates for the upwind source at interface method, *Math. Comp.* 74 (2005), no. 249, 103–122 --- <http://hal.archives-ouvertes.fr/hal-00922829>
- C. Simeoni, Remarks on the consistency of upwind source at interface schemes on nonuniform grids, *J. Sci. Comput.* 48 (2011), no. 1-3, 333–338 --- <http://hal.archives-ouvertes.fr/hal-00922834>
- Th. Katsounis, C. Simeoni, Three-points interfacial quadrature for geometrical source terms on nonuniform grids: application to finite volume schemes for parameter-dependent differential equations, *Calcolo* 49 (2012), no. 3, 149–176 --- <http://hal.archives-ouvertes.fr/hal-00922835>
- C. Malaga, A.A. Minzoni, R.G. Plaza, C. Simeoni, A chemotactic model for interaction of antagonistic microflora colonies: front asymptotics and numerical simulations, *Stud. Appl. Math.* 130 (2013), no. 3, 264–294 --- <http://hal.archives-ouvertes.fr/hal-00922960>
- C. Lattanzio, C. Mascia, R.G. Plaza, C. Simeoni, Analytical and numerical investigation of traveling waves for the Allen–Cahn model with relaxation, *M3AS Mathematical Models and Methods in Applied Sciences* 26 (2016), no. 5, 931–985 --- <http://hal.archives-ouvertes.fr/hal-01072141>

b) Refereed Conference Publications

- B. Perthame, C. Simeoni, Convergence of the upwind interface source method for hyperbolic conservation laws, *Hyperbolic problems: theory, numerics, applications*, 61–78, Springer, Berlin, 2003 (invited paper) --- <http://hal.archives-ouvertes.fr/hal-00922680>
- Th. Katsounis, C. Simeoni, Second order approximation of the viscous Saint-Venant system and comparison with experiments, *Hyperbolic problems: theory, numerics, applications*, 633–644, Springer, Berlin, 2003 --- <http://hal.archives-ouvertes.fr/hal-00922694>
- Th. Katsounis, Ch. Makridakis, C. Simeoni, Stability and convergence of relaxation finite element schemes for the incompressible Navier-Stokes equations, *Hyperbolic problems: theory, numerics and applications*, Vol. II, 87–92, Yokohama Publ., Yokohama, 2006 --- <http://hal.archives-ouvertes.fr/hal-00922833>

c) Other original-research documents

- C. Simeoni, Existence and uniqueness of solutions for the Vlasov-Fokker-Planck equation in the two-dimensional space, *Research Essay* (1999), Sapienza Università di Roma, 21 pages, in italian --- <http://hal.archives-ouvertes.fr/hal-00932402>
- C. Simeoni, On the Cauchy problem for the Vlasov-Poisson-Fokker-Planck equation, Master Thesis (Tesi di Laurea), Sapienza Università di Roma (1999-03-18), 66 pages, in italian --- <http://hal.archives-ouvertes.fr/hal-00932394>
- C. Simeoni, Méthodes numériques pour des équations hyperboliques de type Saint-Venant, *Doctoral Dissertation (Thèse de Doctorat)*, École Normale Supérieure et Université Pierre et Marie Curie - Paris VI (2002-11-07), 176 pages, in french --- <http://tel.archives-ouvertes.fr/tel-00922706>

f) Technical / Research Reports

- A. Mangeney, J.-P. Vilotte, M.O. Bristeau, F. Bouchut, B. Perthame, C. Simeoni, S. Yemini, A new kinetic scheme for Saint-Venant equations applied to debris avalanches, *INRIA Report RR-4646* (2002)
- H. Belghazi, A. Cuglietta, E. Dessalles, F. Marrone, I. Merzoug, C. Simeoni, SVS LOGI - a software for Saint-Venant system - installation and reference manual (with source codes), *Université Nice Sophia Antipolis* (2006), 56 pages --- <http://hal.archives-ouvertes.fr/hal-00940389>
- Mikolaj Szydlarski, Chiara Simeoni, Numerical simulation of Shallow Water equations and comparison

with experimental data, Università degli Studi dell'Aquila (2007), 83 pages – <http://hal.archives-ouvertes.fr/hal-00959087>

R. Dani, C. Simeoni, Discrete maximum principle and the Ultraviolet Catastrophe of finite difference schemes on staggered Cartesian grids for heterogeneous and anisotropic diffusion equations, Université Nice Sophia Antipolis (2014), 137 pages -- <http://hal.archives-ouvertes.fr/hal-00950849>

R. Krenzler, C. Simeoni, Relaxation finite element schemes for the incompressible Navier-Stokes equations - implementation in FreeFem++ (with source codes), University of Nice-Sophia Antipolis (2009)

Research Students Supervised

Type of Degree	Start Date/End Date	Name	Title of Project	Sole Supervisor	Co-Supervisor
Master of Advanced Studies in Mathematical Engineering (University of L'Aquila)	June - November 2013	Roberta Dani (Research Engineer at the University of L'Aquila)	Discrete maximum principle of finite difference schemes for anisotropic and heterogeneous diffusion equations	Yes	
Erasmus Mundus Master Course MathMods (University of L'Aquila)	February - September 2013	Petar Sapun currently Ph.D. student at the Hamburg University of Technology, Germany)	Modeling of the spread of populations through reaction systems with anisotropic diffusion using Finite Elements	Yes	
Erasmus Mundus Master Course MathMods (University of L'Aquila)	February - September 2013	Vicente Yperez (currently Ph.D. candidate at the Faculty of Chemistry and Pharmacy of the Ludwig-Maximilians University Munich, Germany)	Modeling of the spread of populations through reaction systems with anisotropic diffusion using Finite Differences	Yes	
Doctorate in Engineering and Physical-Mathematical Modelling (University of L'Aquila)	from February 2011 to date (Thesis defence on March 15th 2013) http://genealogy.math.ndsu.nodak.edu/id.php?id=83097	Donato Pera (Research Engineer at the University of L'Aquila)	Parallel simulations of anisotropic and heterogeneous diffusion equations using GPGPU technologies.	Yes	
Master of Advanced Studies in Mathematical Engineering (University of L'Aquila)	February - September 2011	Danielle Díaz Dussan (currently employed at the Chemical Engineering Institute of the RWTH Aachen University)	Numerical simulation using FreeFem++ for the equations of visco-elastodynamics with relaxation.	Yes	
Erasmus Mundus Master Course MathMods (University of Nice-Sophia Antipolis)	February - July 2009	Nilgoon Irani (currently Ph.D. student at the Department of Mechanical Engineering of the Eindhoven University of Technology)	Relaxation finite element schemes for one-dimensional visco-elastodynamic equations.	Yes	
Erasmus Mundus Master course MathMods (University of Nice-Sophia Antipolis)	February - July 2009	Ruslan Krenzler (currently Ph.D. student at the Center of Mathematical Statistics and Stochastic Processes of the Hamburg University of Technology)	Relaxation finite element schemes for the incompressible Navier-Stokes equations.	Yes	

Bi-national Master of Advanced Studies in Mathematical-Physics (University of L'Aquila and Gdansk University of Technology)	February - July 2007	Mikolaj Szydlarski (currently Postdoctoral Researcher in Computer Science at the INRIA-Saclay (France))	Numerical simulation of shallow water on complex topography and comparison with experimental data.	Yes	
---	----------------------	---	--	-----	--

Management, Administrative and other Relevant Activities

- ≡ Member of the board of the Department of Mathematics and their applications at the *École Normale Supérieure Paris*, nominated as a representative of the PhD students, from Sept. 2000 to Nov. 2002
- ≡ Member of the selection committee for Pure and Applied Mathematics at the University of Nice-Sophia Antipolis, nominated as a representative of the Assistant Professors, from Sept. 2004 to July 2008
- ≡ Member of the board of the Department of Applied Mathematics and Modelling at the Engineering School "Polytech Nice-Sophia", from Sept. 2005 to October 2009
- ≡ Member of the scientific and executive board for the development of an Integrated Franco-Italian Curriculum in Mathematical Engineering, from Sept. 2005 to July 2006, and Local Coordinator of the newly created Bi-national Master of Advanced Studies in "Mathematical Modelling for Engineering" of the University of Nice-Sophia Antipolis and the University of L'Aquila, from Sept. 2006 to October 2009
- ≡ Member of the scientific and executive board for the development of an Integrated European Curriculum in Mathematical Engineering, from Sept. 2006 to July 2008, and Local coordinator of the newly created Erasmus Mundus International Master Course "MathMods - Mathematical Modelling in Engineering" of the Consortium formed by the University of Nice-Sophia Antipolis, the University of L'Aquila, the Hamburg University of Technology, the Autonomous University of Barcelona, and the Gdansk University of Technology, from Sept. 2008 to October 2009
- ≡ Member of the scientific committee of the Doctoral School in "Engineering and Physical-Mathematical Modelling" at the University of L'Aquila, from Sept. 2011 to date
- ≡ Member of the Scientific Committee of the Interdepartmental Laboratory of High Performance Parallel Computing (CALIBAN) at the University of L'Aquila, from September 2011 to September 2013
- ≡ Member of the Standing Committee of the European Women in Mathematics, from September 2011 to September 2013
- ≡ Member of the Scientific Committee of the Mathematical Modelling Workshop: MathMods & EMA Alumni meeting at the University of L'Aquila, 14-19 July 2014 – www.mathmods.eu/alumni/workshop
- ≡ Special session on PDEs: ambitious mathematics for real-life applications at the [AMS-EMS-SPM International Meeting 2015](http://ams-emspm-international-meeting-2015) -- <http://aep-math2015.spm.pt/> -- Porto (Portugal), 10-13 June 2015

Personal Development and Developing Others

I have attended the following training programmes and events,

≡ for improving my skills in scientific computing :

CEA-EDF-INRIA Research School on "Robust methods and algorithms for solving large algebraic systems on modern high performance computing systems", INRIA Sophia Antipolis-Méditerranée, 30 March – 3 April 2009

"The first tutorial and workshop on FreeFem++", Institut Henri Poincaré, Paris, 14–15 September 2009

≡ for extending my theoretical background :

INRIA Workshop on "Optimal processes, propagation phenomena and Hamilton-Jacobi equations", Institut Henri Poincaré, Paris, 2–4 October 2000

XXVII Summer School in Mathematical Physics, Ravello (Italy), 9–21 September 2002

Summer School on "Modeling and numerical methods for multi-scale problems", IACM-FORTH Heraklion, Crete, 2–7 June 2003

The Sixth International Workshop on "Mathematical aspects of fluid and plasma dynamics", Kyoto University (Japan), 19–23 September 2004

INDAM International Workshop on "Nonlinear hyperbolic problems: a perspective view on conservation laws", "Sapienza" University of Rome, 28 May – 1 June 2007

Winter School on Fast and Anomalous Diffusion, IndAM Sapienza Università di Roma – course held by Henri Berestycki on Reaction-diffusion equations in non-homogeneous media, 20-22 February 2013

TENTH MEETING ON HYPERBOLIC CONSERVATION LAWS AND FLUID DYNAMICS: RECENT RESULTS AND RESEARCH PERSPECTIVES, L'Aquila – Italy, 11-12 July 2013

IperGSSI2015 16th Italian Meeting on Hyperbolic Equations, GSSI – Gran Sasso Science Institute, L'Aquila -- Italy, 22-24 October 2015 <https://ipergssi2015.wordpress.com/>

11th Meeting on Nonlinear Hyperbolic PDEs and Applications. On the occasion of the 60th birthday of Alberto Bressan. 13-17 June 2016 [S.I.S.S.A - I.S.A.S. Trieste -- Italy http://www.math.unipd.it/~marson/TS16/](http://www.math.unipd.it/~marson/TS16/)

≡ for acquiring knowledge of different topics :

Final Meeting of the European Network TMR in Nonlinear Hyperbolic Problems, École Normale Supérieure Paris, 11–13 September 2000

Thematic Programme on "Optimal transportation structures, gradient flows and entropy methods for applied PDE's", Wolfgang Pauli Institute, Vienna, 17–26 September 2007

European Intensive Programme on "MathNanoSci - when mathematics meets nano-sciences: models and simulation of semiconductor devices", University of L'Aquila (Italy), 6–17 June 2011

Sixth Summer School in Analysis and Applied Mathematics, "Sapienza" University of Rome, 20–24 June 20–24 2011 - <http://www.mat.uniroma1.it/~garroni/School2011.html>

Numerical methods for PDEs: optimal control, games and image processing. A conference on the occasion of the 60th birthday of Maurizio Falcone. Rome, 4-5 December 2014 at the Dipartimento di Matematica, Sapienza Università di Roma – <http://www.mat.uniroma1.it/maurizio60>

≡ for discussing with applied scientist in my research field :

Workshop "Discussions on the formation and dynamics of ripples, dunes and related systems", École Supérieure de Physique et Chimie Industrielle de la Ville de Paris, 2–5 May 2001

Applied Mathematics Workshop on "Saint-Venant equations: theory and applications", University of Savoy at Chambéry (France), 16–17 May 2002

CEA-EDF-INRIA Research School on "Nonlinear applied problems: systems of free-surface shallow water flows", INRIA Paris Rocquencourt, 7–10 October 2002

≡ for presenting the results of my research :

Euroconference on "Asymptotic methods and applications in kinetic and quantum-kinetic theory", Granada (Spain), 17–21 September 2001

Ninth International Conference on "Hyperbolic problems: theory, numerics, applications", California Institute of

Technology, Pasadena, 25–29 March 2002

First annual meeting of the HYKE European Network "Around HYperbolic and Kinetic Equations", Technical University of Vienna, 24–28 February 2003

Tenth International Conference on "Hyperbolic problems: theory, numerics, applications", Osaka (Japan), 13–17 September 2004

Fifth Meeting on "Hyperbolic conservation laws and fluid dynamics: recent results and research perspectives, SISSA Trieste (Italy), 21–22 June 2007

Seventh Meeting on "Hyperbolic conservation laws and fluid dynamics: recent results and research perspectives, SISSA Trieste (Italy), 31 August – 4 September 2009

First International Workshop on "Numerical approximations of hyperbolic systems with source terms and applications", CIEM Castro Urdiales (Spain), 7–11 September 2009

Conference on "Perspectives of GPU computing in Physics and Astrophysics", Rome (Italy), 15–17 September 2014 – www.roma1.infn.it/conference/GPU2014/

Moreover, I have participated in the following developmental activities :

- ≡ Training course on "Advanced English for Research Purposes" – 40 hours – at the University of Nice-Sophia Antipolis, 25 January – 9 February 2007
- ≡ Annual meeting of Young Researchers and Assistant Professors on Career Development and Perspectives, Institut Henri Poincaré, Paris, 28 January 2005
- ≡ ACCADEMIA NAZIONALE DEI LINCEI – CONVEGNO <<I MODELLI MATEMATICI: STRUMENTI DI CONOSCENZA E DI INNOVAZIONE TECNOLOGICA>> 11-12 DICEMBRE 2013

Evidence of Esteem, External Visibility and Professional Activities

I have been an invited lecturer at the following scientific events :

- ≡ Workshop on Flow Problems", Technische Universität Darmstadt (Germany), 16 June 2001
- ≡ Young Researchers Meeting on Hydrodynamical Limits, Institut Henri Poincaré, Paris, 4–6 December 2001
- ≡ Conference on "Advances on nonlinear partial differential equations", University of L'Aquila (Italy), 5–8 June 2002
- ≡ Oberwolfach Workshop on "Classical and quantum mechanical models of many-particles systems", Mathematisches Forschungsinstitut Oberwolfach (Germany), 23–29 November 2003
- ≡ ARCC Workshop on "Stiff sources and numerical methods for conservation laws", American Institute of Mathematics, Palo Alto (California), 4–8 April 2005
- ≡ SIAM Conference on Analysis of Partial Differential Equations – Minisymposium on "Compressible and incompressible fluid systems and the analysis of hydrodynamic models", Boston, 10–12 July 2006
- ≡ Oberwolfach Workshop on "Classical and quantum mechanical models of many-particles systems", Mathematisches Forschungsinstitut Oberwolfach (Germany), 4–8 December 2006
- ≡ Workshop on "Efficient mesh adaptation methods for evolution problems: theory and applications", Wolfgang Pauli Institute Vienna, 14–17 December 2011
- ≡ <http://www.acmac.uoc.gr/ICAM2013/index.php>
- ≡ International Conference on Applied Mathematics Heraklion, September 16 - 20, 2013 [Department of Applied Mathematics](#) of the [University of Crete](#) and the [Archimedes Center for Modeling, Analysis and Computation \(ACMAC\)](#) Mini-Symposium Numerical Methods for PDEs
- ≡ The 7th Workshop on Numerical Methods for Evolution Equations will be held at [FORTH](#) Heraklion - [Crete](#) on 19-20 September 2014 – <http://nmee.iacm.forth.gr/> (cancelled for official leave for health problems)
- ≡ Also, I have been selected for organising a minicourse at the Fifth Women in Mathematics Summer

School on “Mathematical theories towards environmental models” to be held at the ICTP in Trieste (Italy) from May 27th to June 1st 2013 – <http://europeanwomeninmaths.org/activities/summer-school/women-in-mathematics-summer-school-ictp-2013> – as part of the Mathematics For Planet Earth Programme for 2013 – <http://www.mpe2013.org/>

- ≡ Special session on PDEs: ambitious mathematics for real-life applications at the [AMS-EMS-SPM International Meeting 2015](http://aep-math2015.spm.pt/) -- <http://aep-math2015.spm.pt/> -- Porto (Portugal), 10-13 June 2015

Beside those given during long research visits (listed below), and invited talks at conferences/workshops (sparsely listed in this same section), I have been invited to give seminars at the following institutions :

- ≡ CEMAGREF Lyon (France), 19 December 2001 - <http://www.irstea.fr/>
 - ≡ IAC-CNR Roma (Italy), 14 February 2002 - <http://www.iac.cnr.it/>
 - ≡ ISITV Université du Sud-Toulon-Var (France), 27 January 2005 - <http://isitv.univ-tln.fr/>
 - ≡ Department of Mathematics, “Sapienza” University of Rome, 29 May 2007 - <http://www.mat.uniroma1.it/>
 - ≡ ACSIOM Université Montpellier II (France), 6 October 2009 - <http://ens.math.univ-montp2.fr/SPIP/>
 - ≡ MOX Politecnico di Milano (Italy), 4 April 2011 - <http://mox.polimi.it/>
 - ≡ Université Paris XIII – Séminaire d'Analyse Appliquée – 19 Aprile 2013
- LAGA : *Laboratoire Analyse, Géométrie et Applications (Institut Galilée)*
- ≡ *Department of Mathematics, Sapienza University of Rome, 14 January 2014*
 - ≡ *École Centrale Paris – Laboratoire MAS (Mathematics Applied to Systems), 12 June 2014*
 - ≡

I have been an active member of the CNRS Research Group 2900 CHANT – Kinetic and Hyperbolic Equations: Theory, Numerics and Applications - <http://chant.univ-rennes1.fr/>

I am an active member of the National Research Project PRIN 2011-2013 on “Systems of Conservation Laws and Fluid Dynamics: Methods and Applications” coordinated by Prof. Stefano Bianchini (SISSA Trieste – Italy)

I regularly act as referee for the following scientific journals :

- ≡ SIAM Journal on Numerical Analysis
- ≡ Journal of Computational Physics
- ≡ Comptes Rendus Mécanique
- ≡ Mathematical Problems in Engineering
- ≡ Journal of Scientific Computing

I have made research visiting at the following institutions :

- ≡ Department of Applied Mathematics, University of Crete at Heraklion, January, June and July 2004
- ≡ Department of Mathematics, Autonomous University of Barcelona, June 2005
- ≡ CRM – Mathematics Research Center, Barcelona, May 2006
- ≡ Department of Mathematics, Indiana University at Bloomington, April 2008
- ≡ IAC-CNR Roma, October and December 2008
- ≡ Department of Mathematics, Hamburg University of Technology, January 2009
- ≡ Institute of Applied Mathematics and Systems, National Autonomous University of Mexico, December 2010 and January 2011
- ≡ BCAM – Basque Center for Applied Mathematics at Bilbao, July 2011
- ≡ Institute of Engineering Sciences, University of South Toulon-Var, March 2012
- ≡ Institute of Mathematics, Johannes Gutenberg University at Main, May 2012
- ≡ Department of Mathematics, University of Milan, January and November 2012