

## Luciano Lopez Curriculum Vitae

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DATE OF BIRTH



CONTACT  
INFORMATION

Dipartimento di Matematica,  
University of Bari,  
Via Orabona 4,  
I 70125, Italy.

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RESEARCH  
INTERESTS

Numerical methods for ODEs, Numerical geometrical integration; Evaluation of matrix functions; Lyapunov exponents evaluations; Discontinuous ODEs: theoretical aspects and numerical methods; Mimetic spatial discretization in PDEs.

POSITION

- Full Professor in Numerical Analysis, Department of Mathematics, University of Bari, (January 95-current)
- PhD Coordinator, Math Dept., University of Bari, (January 2004-2011; 2015-current).
- Master Coordinator, Math Dept., University of Bari, (January 99- December 2003).

PREVIOUS  
ACADEMIC  
POSITIONS

- Assistant Professor, University of Bari (December, 1981 - July 1987).
- Associate Professor, University of Bari (July, 1987 - January, 1995).

EDUCATION

- University of Bari, Italy, Laurea in Mathematics, March 1979.
- CNR fellowship, University of Bari (March, 1979 - December, 1981).

VISITING  
PROFESSOR

Georgia Tech Institute, Atlanta, USA: March 23-31, 2001; December 16, 2001 January 4, 2002; September 17-28, 2003; October 14-30, 2004; July 1, 2006 - June 30, 2007 (sabbatical year); January, 2008; January, 2009; January, 2010, January, 2011, January, 2012, January, 2013; January, 2014.

PROCEEDINGS

L. Galeone, L. Lopez, *A Galerkin numerical method for a class of nonlinear reaction-diffusion systems*, V. Lakshmikantham (Ed.), Nonlinear Phenomena in Mathematical Sciences, Academic Press, 401-418, 1982.

L. Lopez, D. Trigiante, *On the solution of linear systems arising in the numerical treatment of population dynamic models*, K.N. Murty & J. Gopalakrishna (Ed.), Nonlinear Analysis and Applications to Biomathematics, Visakhapatnam University Press, 135-145, 1987.

L. Lopez, D. Trigiante, *Some numerical problems arising in the discretization of population dynamic models*, L.M. Ricciardi (Ed.), Biomathematics and Related Computational Problems, Kluwer Academic Publishers, 505-522, 1988.

L. Lopez, D. Trigiante, *A projection procedure for integrating separable stiff ODE's*, A.R. Aftabizadeh (Ed.), Differential Equations and Applications, Ohio University Press, Vol. II, 463-469, 1988.

N. Del Buono, F. Diele, L. Lopez, T. Politi, *Experiences with numerical methods for the solution of orthogonal dynamical systems*, IRMA-CNR Report nr. 3/97 and A. Sydow (Editor), Proceedings of 15th IMACS World Congress, Berlin 1997, Vol. 2, 33–38.

N. Del Buono, L. Lopez, *Numerical methods for Hermitian unitary differential systems*, Proceedings of the International Conference on Numerical Methods for Differential Equations, Coimbra, Portugal, 25-28 Feb. 1998.

L. Lopez, C. Mastroserio, T. Politi, *Piecewise interpolation on matrix Lie groups*, Lipitakis, Elias A., (Editor), HERCMA 1998, Proceedings of the 4th Hellenic-European conference on Computer Mathematics and Applications. Athens, Greece, September 24-26, 1998. In 2 vols. Athens: LEA, Athens, Univ. of Economics and Business, Dep. Informatics. 713-720 (1998).

L. Lopez ed altri, *Conservative methods for ordinary differential equations on quadratic groups*, Atti Convegno di Analisi Numerica: metodi e software matematico, Ferrara 19-21 Gennaio 2000, Ann. Univ. Ferrara, Sez. VII, Sc. Mat. Suppl. Vol XLV, (2000), 267–278.

N. Del Buono, C. Elia, L. Lopez, *Symplectic methods based on the matrix variational equation for Hamiltonian systems*, P.M.A. Sloot et al. (Eds): ICCS 2002, Lecture Notes in Computer Sciences nr. 2331, Springer-Verlag Berlin, 2002, pp 526–535.

N. Del Buono, L. Lopez. *A survey on methods for computing matrix exponentials in numerical schemes for ODEs*, P.M.A. Sloot et al. (Eds): ICCS2003, Lecture Notes in Computer Sciences nr. 2658, Part II, Springer-Verlag Berlin, 2003, pp 111–120.

N. Del Buono, L. Lopez. *A hybrid numerical technique for the solution of a class of implicit matrix differential equation* P.M.A. Sloot et al. (Eds): ICCS2004, Lecture Notes in Computer Sciences nr. 3039, Part IV, Springer-Verlag Berlin, 2004, pp. 459–466.

N. Del Buono, L. Lopez, *Geometrical integration of a class of ODEs evolving on the general linear group of matrices*. Applied and Industrial Mathematics in Italy, Vol. 69, pp. 270-281. Proceedings of the 7th Conference of SIMAI, 20-24 Settembre 2004, Venice. Editors: M. Primicerio, R. Spigler, V. Valente. World Scientific Publishing, 2005.

L. Lopez, C. Mastroserio, A. Pugliese, *Semi-explicit time-stepping methods for dynamical systems with complementary constraints*. Applied and Industrial Mathematics in Italy, Vol. 69, pp. 381-392. Proceedings of the 7th Conference of SIMAI, 20-24 Settembre 2004, Venice. Editors: M. Primicerio, R. Spigler, V. Valente. World Scientific Publishing, 2005.

L. Lopez, A. Pugliese, *Decay behaviour of functions of skew-symmetric matrices*. Lipitakis, Elias A., (Editor), HERCMA 2005, Proceedings of the 7th Hellenic-European Conference on Computer Mathematics and Applications, HERCMA 2005. Athens, Greece, September 22-24, 2005.

L. Dieci, L. Lopez, *On Filippov and Utkin sliding solutions of discontinuous systems*. In: Applied and Industrial Mathematics in Italy III. Rome, Italy, September 15-19, 2008, LONDON: World Scientific, (2009) p. 323-330.

L. Dieci, L. Lopez, *Numerical Solution of Discontinuous Differential Systems: Approaching the Discontinuity Surface from One-Side*. In: Proceedings of NumAn2010 Conference. Chania, Crete, Sept 15-18. Eds: V. Dougalis, E. Gallopoulos, pp. 61-66. ISBN/ISSN: 978-960-8475-14-4.

PUBLICATIONS ON  
SCIENTIFIC  
JOURNALS

L. Lopez, *Uno schema per la risoluzione numerica di un problema di diffusione di epidemie*, IAC, Serie III 126, 1981.

L. Galeone, L. Lopez, *Decay to spatially homogeneous states for the numerical solution of reaction-diffusion systems*, Calcolo XIX, (1982), 193-208.

L. Lopez, D. Trigiante, *An hybrid scheme for solving a model of population dynamics*, Calcolo XIX, (1982), 379-95.

L. Lopez, *Stability and asymptotic behaviour for the numerical solution of reaction-diffusion model for a deterministic diffusive epidemic*, IMA J. Num. Anal. 3, (1983), 341-351.

L. Lopez, *Correction iterative methods for separably stiff systems of ordinary differential equations*, Rendiconti di Matematica, (1985), 67-80.

L. Lopez, D. Trigiante, *A finite difference scheme for a stiff problem arising in the numerical solution of a population dynamic model with spatial diffusion*, Nonlinear Analysis: TMA 9, (1985), 1-12.

L. Lopez, *Metodi ad un passo fortemente stabili per equazioni integrali di Volterra di seconda specie di tipo stiff*, Calcolo XXIII, (1986), 249-264.

L. Lopez, *An explicit two-step method for solving stiff systems of ordinary differential equations*, Inter. Jour. Comp. Math. 22, (1987), 271-285.

L. Lopez, D. Trigiante, *A projection method for the numerical solution of linear systems in separable stiff differential equations*, Inter. Jour. Comp. Math. 30, (1989), 191-206.

L. Lopez, *One-step collocation methods for differential-algebraic systems of index 1*, J. Comput. Appl. Math. 2, (1990), 145-159.

L. Lopez, *A method for the numerical solution of parabolic equations with nonlinear diffusion*, Rocky Mountain Jour. Math., (1991), 1083-1097.

L. Lopez, *The invertibility of a class of tridiagonal matrices*, Appl. Math. Letters 5, (1992) 47-51.

L. Lopez, T. Politi, *Parallel methods for the numerical treatment of population dynamic models*, Parallel Computing 18, (1992) 767-777.

L. Lopez, *Stability of a three-point scheme for linear second order singularly perturbed BVPs with turning points*, Appl. Math. and Comp. 52, (1992) 279-300.

L. Lopez, D. Trigiante, *Boundary value methods and BV-stability in the solution of initial value problems*, Appl. Numer. Math. 11, (1993) 225-239.

L. Lopez, *Two-step boundary value methods in the solution of ODEs*, Comp. Math.

with Appl. 26, (1993) 91–100.

L. Lopez, *Boundary conditions and conditioning in the solution of discrete BVPs*, Appl. Math. Letters, 6 (1993) 43–49.

L. Lopez, *Methods based on boundary value techniques for solving parabolic equations on parallel computers*, Parallel Computing 19, (1993) 979–991.

L. Lopez, *Bounds for the solutions of a class of tridiagonal linear systems*, Linear Algebra Appl. 202, (1994), 221–233.

F. Diele, L. Lopez, *The use of the factorization of five diagonal matrices by tridiagonal Toeplitz matrices*, Appl. Math. Letters, 11 (3), (1998) 61–69.

L. Lopez, T. Politi, *Tridiagonal splitting in the conditioning and parallel solution of banded linear systems*, Linear Algebra Appl. 251, (1997), 249–265.

L. Lopez, T. Politi, *Numerical procedures based on Runge-Kutta methods for solving isospectral flows*, Appl. Numer. Math. 25, (1997) 443–459.

L. Lopez, C. Mastroserio, T. Politi, *Variable step-size techniques in continuous Runge-Kutta methods for isospectral dynamical systems*, J. Comput. Appl. Math. 82 (1997), 261–278.

F. Diele, L. Lopez, R. Peluso, *The Cayley transform in the numerical solution of unitary differential systems*, Adv. Comput. Math. 8 (1998), 317–334.

F. Diele, L. Lopez, T. Politi, *One-step explicit methods based on the Cayley transform in the numerical solution of isospectral flows*, J. Comput. Appl. Math. 89 (1998), 219–223.

N. Del Buono, L. Lopez, *Numerical methods for Hermitian unitary differential systems*, J. Comput. Appl. Math. 111 (1999), 133–145.

L. Lopez, C. Mastroserio, T. Politi, *Newton type methods for solving nonlinear equations on quadratic matrix groups*, J. Comput. Appl. Math. 115, (2000), 357–368.

L. Lopez, T. Politi, *Application of the Cayley approach in the numerical solution of matrix differential systems on quadratic groups*, Rapp. 13/98 Dip. Matem. Bari., Appl. Numer. Math. 36 (2001), 35–55.

L. Lopez, C. Mastroserio, T. Politi, *Numerical methods for dynamical systems in the Lorentz group*, Nonlinear Anal., Theory Methods Appl. 47, (2001) 2585–2596.

N. Del Buono, L. Lopez, *Runge-Kutta type methods based on geodesics for solving ODEs on the Stiefel manifold*, BIT 41, 5, (2001) 912–923.

N. Del Buono, L. Lopez, *Geometric integration on manifold of square oblique rotation matrices*, SIAM J. Matrix Anal. Appl. 23, 4, (2002) 974–989.

N. Del Buono, L. Lopez, C. Mastroserio, *Runge Kutta type methods for isodynamical matrix flows: applications to balanced realizations*, Computing 68, 3, (2002) 255–274.

- L. Dieci, L. Lopez, *Lyapunov exponents of systems evolving on quadratic groups*, SIAM J. Matrix Anal. Appl. 24, 4, (2003) 1175–1185.
- N. Del Buono, L. Lopez, *Differential approaches for computing Euclidean diagonal norm balanced realizations in control theory*. Future Generation Computer Systems, 19 (7), (2003), 1155–1163.
- C. Elia, L. Lopez, *Exponential monotonicity of quadratic forms in ODEs and preserving methods*. Future Generation Computer Systems, 19 (7), (2003), 1187–1195.
- N. Del Buono, L. Lopez, *The numerical integration of ordinary differential equations on the general linear group of matrices*, Numerical Algorithms, Vol. 34, pp 271–282, 2003.
- L. Dieci, C. Elia, L. Lopez, *Smooth SVD on the Lorentz group with application to computation of Lyapunov exponents*, J. Comput. Appl. Math. Vol. 164–165, pp. 255–264, 2004.
- M. Chu, N. Del Buono, L. Lopez, T. Politi, *On the rank approximation of data on the unit sphere*, SIAM J. Matrix Anal. Appl., Vol 27, Number 1, (2005) pp. 46–60.
- N. Del Buono, L. Lopez, R. Peluso, *Computation of exponentials of large real skew-symmetric matrices*, SIAM J. Scientific Comp. Vol. 27, No. 1, (2005) pp. 278–293.
- L. Dieci, L. Lopez, *Smooth singular value decomposition on symplectic group and Lyapunov exponents approximation*. CALCOLO, vol. 43 (2006) pp. 1–15.
- L. Lopez, V. Simoncini, *Analysis of projection methods for rational function approximation to the matrix exponential*. SIAM J. Numer. Anal. Vol. 44, No. 2, (2006) pp. 613–635.
- L. Lopez, *Numerical methods for ordinary differential equations on matrix manifolds*. J. Comput. Appl. Math. vol. 210 (2007) pp. 232–243.
- L. Lopez, V. Simoncini, *Preserving geometric properties of the matrix exponential by block Krylov subspace methods*. BIT, vol. 46 (4) (2006) pp. 813–830.
- N. Del Buono, L. Lopez, T. Politi, *Computation of function of Hamiltonian and skew-symmetric matrices*. Mathematics and Computers in Simulation, vol. 79 (4) (2008) pp. 1284–1297.
- L. Dieci, L. Lopez *Sliding Motion in Filippov Differential Systems: Theoretical Results and a Computational Approach*. SIAM J. Numer. Anal., vol. 47, (2009) pp. 2023–2051.
- L. Dieci, L. Lopez *Sliding motion on discontinuity surfaces of high co-dimension. A general construction for selection a Filippov vector field*. Numerische Mathematik, vol. 117, (2011) pp. 779–811.
- L. Dieci, L. Lopez *Fundamental matrix solutions of piecewise smooth differential systems*. Mathematics and Computers in Simulation, 81, (2011), pp. 932–953.
- L. Dieci, L. Lopez, *A survey of numerical methods for IVPs of ODEs with discontinuous right-hand side* Journal of Computational and Applied Mathematics. Vol.

236 (16), 2012, 3967-3991.

M. Berardi, L. Lopez, *Numerical Methods for Discontinuous Singularly Perturbed Differential Systems*. Chaotic Modeling and Simulation, Vol. 1, 2012, pp 3-15,

M. Berardi, L. Lopez, *On the continuous extension of Adams-Bashforth methods and the event location in discontinuous ODEs*. Applied Mathematics Letters, Vol. 25 (6), 2012, 995-999.

L. Dieci, L. Lopez *Numerical solution of discontinuous differential systems: Approaching the discontinuity surface from one side*. Applied Numerical Mathematics, Vol 67, (5) 2013 pp 98-110.

L. Dieci, C. Elia, L. Lopez, *A Filippov sliding vector field on an attracting codimension 2 discontinuity surface, and a limited loss-of-attractivity analysis*. Journal of Differential Equations, Vol. 254 (4) (2013), pp 1800-1832.

N. Del Buono, C. Elia, L Lopez, *On the equivalence between the sigmoidal approach and Utkin's approach for piecewise-linear models of gene regulatory networks*. SIAM Journal on Applied Dynamical Systems, Vol. 13 (3), (2014) pp 1270-1292.

L. Dieci., Elia C., L. Lopez, *Sharp sufficient attractivity conditions for sliding on a codimension 2 discontinuity surface*. Mathematics and Computers in Simulation, Vol. 110, (2015), pp 3-14.

L. Dieci, L. Lopez, *One-sided direct event location techniques in the numerical solution of discontinuous differential systems*. BIT Numerical Mathematics, Vol. 55 (4), (2015), pp 987-1003.

N. Del Buono , L. Lopez *Direct event location techniques based on Adams multistep methods for discontinuous ODEs* . Applied Mathematics Letters, 49 (4), (2015), pp 152-158.

L. Dieci, C Elia, L. Lopez, *Uniqueness of Filippov Sliding Vector Field on the Intersection of Two Surfaces in  $R^3$  and Implications for Stability of Periodic Orbits*. Journal of Nonlinear Science, Vol. 25 (6), (2015) pp 1453-1471.

L. Lopez, G. Vacca *Spectral properties and conservation laws in mimetic finite difference methods for PDEs*. Journal of Computational and Applied Mathematics, Vol. 292, (2), (2016) pp 760-784.

M. DAbbicco, N. Del Buono, P. Gena, M. Berardi, G. Calamita, L. Lopez, *A model for the hepatic glucose metabolism based on Hill and step functions*. Journal of Computational and Applied Mathematics, Vol.1 292, (2), (2016), pp 746-759.

#### EDITORIAL ACTIVITY

Editor of *Mediterranean Journal of Mathematics*, Birkhauser.

Guest Editor (joint with N. Del Buono). Special Issue: *Important aspects on structural dynamical systems and their numerical computation*. Mathematics and Computers in Simulation, Vol. 81/5 (2011), pp. 929-1098, Elsevier Science Publ. Comp.

Guest Editor (joint with N. Del Buono, and T. Politi). Special Issue: *Structural Dynamical Systems, Computational Aspects*. Mathematics and Computer in Simulation, Vol. 79/4 (2008), pp. 1233-1421, Elsevier Science Publ. Comp.

Guest Editor (joint with N. Del Buono, and T. Politi). Special Issue: *Numerical Methods for Structured Systems*, Future Generation Computer Systems, Vol. 22, (2006), pp. 393-446, Elsevier Science Publ. Comp.

Guest Editor (joint with B. Brogliato, and P. Piiroinen and T. Kuepper). Special Issue: *Discontinuous Dynamical Systems: Theory and Numerical methods*. Mathematics and Computer in Simulation, Vol. 81 (2011), Elsevier Science Publ. Comp.

Guest Editor (joint with L. Dieci, and N. Guglielmi). Special Issue: *Advanced Numerical methods for Dynamical Systems*. Journal of Computational and Applied Mathematics, Vol. 292 (2016), Elsevier Science Publ. Comp.

REFeree  
ACTIVITY

Referee for: *SIAM Journal Numerical Analysis; Mathematics of Computation; BIT Numerical Mathematics; Applied Mathematics and Computation; Numerische Mathematik; Applied Numerical Mathematics; Journal of Computational and Applied Mathematics; Calcolo; Journal of Computational Methods in Science and Engineering; IEEE Transactions on Automatic Control; Mediterranean Journal of Mathematics; European Journal of Control*.

REFeree OF  
RESEARCH  
PROJECTS

- Referee for the National Research Project of the Italian Ministry of Research, PRIN 2004;
- Referee for the National Research Project of the Italian Ministry of Research, "Futuro Giovani e Ricerca" 2010;
- Referee for the Italian Agency for the Research Evaluation (CIRV), years 2003-2005.
- Referee for the Swiss National Science Foundation (SNSF), year 2014.

CONFERENCE:  
PARTICIPATIONS  
AND TALKS (SINCE  
2001)

- Capitulo, Bari, July 1-4, 2001: *Workshop Structural Dynamical Systems in Linear Algebra and Control: Computational Aspects*.
- Ferrara, February 12-13, 2002: *Annual GNCS Congress*.
- Bari, December 18-20, 2002: *International Workshop on Computational Codes*.
- Milan, Italy, February 10-11, 2003: *Annual GNCS Congress*.
- Pisa, Italy, 6-7 March 2003: *Giornate di Algebra Lineare Numerica 2003*.
- Saint Petersburg, Russian, June 2-4, 2003: *International Conference on Computational Science, ICCS2003*.
- Capitulo, Bari, June 22-25, 2003: *Workshop Structural Dynamical Systems in Linear Algebra and Control: Computational Aspects*.
- Trondheim, Norway, June 30-July 4, 2003. *International Conference on Scientific Computation and Differential Equations, SciCADE 2003*.
- Udine, Italy, January 22-23, 2004: *Giornate di Algebra Lineare Numerica e Applicazioni*.
- Shonan Village, Japan, March 7-12, 2004: *US-Japan Workshop on Dynamics and Computations*.
- Bari, May 27-28, 2004: *Workshop on Dynamical Systems on Matrix Manifolds: Numerical Methods and Applications*.
- Krakow (Poland), June 7-9, 2004: *International Conference on Computational Science, ICCS2004*.
- San Servolo Island, Venezia (Italy), September 20-24, 2004: *International Conference of SIMAI 2004*.
- Rende (Cosenza), 19-21 Maggio 2005: *Conference on Numerical Analysis: The State of Art*.
- Nagoya, Japan, May 23-27, 2005: *International Conference on Scientific Computation and Differential Equations, SciCADE 2005*.

- Capitulo, Bari, June 26-29, 2005: *Workshop Structural Dynamical Systems in Linear Algebra and Control: Computational Aspects*.
- Athens, Greece, September 22-24, 2005: *Hellenic-European Conference on Computer Mathematics and Applications, HERCMA 2005*.
- Zurich, 16-20 July, 2007: *6th International Congress on Industrial and Applied Mathematics*, ICIAM Conference.
- Bari, Italy, September 24-29, 2007: *XVIII Congresso Unione Matematica Italiana*.
- Bologna, Dipartimento di Matematica, March 6-7, 2008: *Due giorni di Algebra Lineare Numerica*. Dipartimento di Matematica, University of Bologna.
- Rome, Italy, September 15-19, 2008. *SIMAI 9th Conference*.
- Chania, Crete, Greece, September 15-18, 2010: *Conference in Numerical Analysis (NumAn 2010): Recent Approaches to Numerical Analysis: Theory, Methods and Applications*.
- Agios Nikolaos, Crete, May 31-June 3, 2011: *4th Chaotic Modeling and Simulation International Conference*.
- Urbino, Italy, Sept 21-23, 2011: *Topics in Nonlinear Dynamics of Piecewise-smooth dynamical systems*.
- Valladolid, Sept 16-20, 20013. Minisymposia *Discontinuous dynamical systems: theory and numerical methods* . SciCADE 2013: International Conference on Scientific Computation and Differential Equations.
- Urbino, Italy, Sept 23-25, 2013: *Topics in Nonlinear Dynamics of Piecewise-smooth dynamical systems*.
- Chania, Crete, Greece, September 2-5, 2014: *Conference in Numerical Analysis (NumAn 2014): Recent Approaches to Numerical Analysis: Theory, Methods and Applications*.

CONGRESSES AND  
MINISYMPOSIA  
ORGANIZATION

- Bari, June 5-7, 1998: *Workshop on Numerical Methods for ODEs*.
- Dobbiaco, July 3-7, 2000: *Summer School on Numerical Methods for ODEs*.
- Capitulo, Bari, July 1-4, 2001: *Workshop Structural Dynamical Systems in Linear Algebra and Control: Computational Aspects*.
- Saint Petersburg, June 2-4, 2003: *Minisimposia on Numerical methods for structured systems ICCS2003 International Conference*.
- Capitulo, Bari, June 22-25, 2003: *Workshop Structural Dynamical Systems in Linear Algebra and Control: Computational Aspects*.
- Bari, May 27-28, 2004: *Workshop on Dynamical Systems on Matrix Manifolds: Numerical Methods and Applications*.
- Krakow (Poland), June 7-9, 2004: *Technical Session on New Numerical Techniques for ODEs and Applications to Linear Algebra, Control and Engineering, ICCS2004 International Conference*.
- Edinburgh (Scotland) June 28-July 1st, 2004: *Workshop on Lie Group Methods and Control Theory*.
- San Servolo Island, Venezia (Italy), September 20-24, 2004: Invited minisymposia on *Dynamical Systems on Matrix Manifolds: Numerical Methods and Applications*, SIMAI Conference 2004.
- Capitulo, Bari, June 26-29, 2005: *Workshop Structural Dynamical Systems: Computational Aspects*.
- Capitulo, Bari, June 13-16, 2006: *Workshop Structural Dynamical Systems: Computational Aspects*.
- Capitulo, Bari, June 17-20, 2008: *5th Workshop Structural Dynamical Systems: Computational Aspects*.
- Geneva, June 17-20, 2009. Minisymposia (together with Prof. A. Bellen) *Discontinuous Differential Equations*. Conference in honour of E. Hairer's 60th birthday.
- Capitulo, Bari, June 8-11, 2010: *6th Workshop Structural Dynamical Systems:*

*Computational Aspects.*

- Capitolo, Bari, June 12-15, 2012: *7th Workshop Structural Dynamical Systems: Computational Aspects.*
- Valladolid, Sept 16-20, 20013. Minisymposia (together with Cinzia Elia) *Discontinuous dynamical systems: theory and numerical methods* . SciCADE 2013: International Conference on Scientific Computation and Differential Equations
- Capitolo, Bari, June 8-11, 2014: *8th Workshop Structural Dynamical Systems: Computational Aspects.*
- Potsdam, Sept 14-18, 20015. Minisymposia (together with Cinzia Elia) *Discontinuous dynamical systems: theory and numerical methods.* SciCADE 2015: International Conference on Scientific Computation and Differential Equations.

RESEARCH GRANTS 1992-2015: Local Funds for Research Activities, University of Bari.  
 1995: National Research Project of C.N.R. : *Numerical methods for parallel computing*;  
 1996: National Research Project of C.N.R. : *Numerical methods for isospectral problems*;  
 1997: National Research Project of C.N.R. : *Numerical methods for isospectral problems in Mathematics and Engineering.*  
 1998: National Research Project of C.N.R. : *Numerical methods for evolution problems.*  
 2000: National Research Project of GNCS (Institute of High Mathematics): *Numerical methods for ODEs.*  
 2001: National Research Project of GNCS (Institute of High Mathematics): *Numerical methods for ODEs and integral equations.*  
 2002: National Research Project of GNCS (Institute of High Mathematics): *Geometric numerical integration.*  
 2003-2004: Italian Ministry of Research, PRIN Project 2003: *Dynamical systems on matrix manifolds: numerical methods and applications.*  
 2005: National Research Project of GNCS (Institute of High Mathematics): *Differential problems: analysis and methods.*  
 2005-07: INDAM Research Project: *Numerical methods on differential manifolds for neural networks.*  
 2007-2010: Italian Ministry of Research, PRIN Project 2007: *Numerical methods for structural and variable structural differential systems.*  
 2011-2012: GNCS Research Grant. *Numerical methods for discontinuous ODEs.*  
 2011-2012: Cassa di Risparmio di Puglia Bank. *Discontinuous Mathematical Models in Gene regulatory Network.*

MAIN TEACHING EXPERIENCE	University of Bari, Italy	Years
	Instructor <i>Numerical Methods and Mathematical Models</i> , Dept. of Mathematics.	1981-2015
	Instructor <i>Numerical Analysis</i> , Dept. of Electronic Engineering.	1981-1992
	Instructor <i>Numerical Analysis</i> , Dept. of Computer Science.	1987-94
	Instructor <i>Operation Research</i> , Business School.	1988-91
	Instructor <i>Numerical Methods and Mathematical Models</i> , Dept. of Computer Science.	1992-95
	Instructor <i>Numerical Analysis</i> , Dept. of Computer Science.	1995-2012

*Numerical Methods for ODEs*, PhD School, Univ. Bari.

Instructor 1998-2002  
*Simulation Techniques*, Dept. of Computer Science.

Instructor 2013-2015  
*Numerical Methods for the Ecology*, Dept. of Mathematics

Georgia Tech Institute, Atlanta, USA Year  
Instructor 2006-2007  
*Numerical Analysis II*, School of Math.