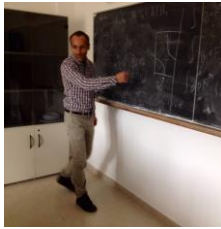


INFORMAZIONI PERSONALI



Stefano Galatolo

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Born 13/04/1969 | Nationality Italian

Languages: Italian, English , French

CURRENT POSITION

Since may 2015: Associate Professor at Department of Mathematics, University of Pisa.

Previous positions

2002: Research collaborator, projects "Cluster15 - Piano Tecniche per Immagini" and "Metodi variazionali e topologici per lo studio dei fenomeni non lineari" (granted by Italian Ministry of Research).

2002-2004: Assegno di ricerca (postdoc) at Univ. Pisa

2004-2015: Ricercatore Universitario (Assistant Professor) at Department of Mathematics, University of Pisa.

Education, habilitation

1992: Erasmus fellowship, "Universite Pierre et Marie Curie" Paris (Fr)

1997: Italian graduation (Laurea) "cum laude" in Mathematics with a thesis titled "Complessita' dei Nodi" (Complexity of Knots), advisors: R. Benedetti, F. Lazzeri, University of Pisa.

2002: PhD in Mathematics with a thesis titled "Information, Complexity and weak Chaos in Dynamical Systems. Theory and measurement methods", advisor: V. Benci, University of Pisa.

2013: Italian National habilitation for the position of associate professor in Mathematical analysis.

2014: Italian National habilitation for the position of full professor in Mathematical analysis.

2018: Italian National habilitation for the position of full professor in Mathematical analysis.

Institutional, editor responsibilities.

Since 2013: Scientific committee of Matematica (Inter-university centre for research, communication and informal teaching of Mathematics)

2013-2017: IRSES (Marie Curie Actions) project BREUDS: scientific coordinator for Pisa unit.

2012-2018 Editor for Chaos Solitons and Fractals (Elsevier)

Since 2013 Editorial board member of Discontinuity, Nonlinearity, and Complexity (L&H sci. Pub.)

Since 2014 Section Editor for Journal of Fixed Point Theory and Applications (Springer-Birkhäuser Basel)

Since 2016 Director of Centro Interdipartimentale per lo Studio dei Sistemi Complessi (Interdepartmental centre for the study of complex systems, Univ. Pisa)

Since 2015 Responsible for Job Placement activities, Dipartimento di Matematica, University of Pisa. (In this position I organized since 2017 several meetings between our students and companies or institutions interested to hire mathematicians this led to the formalization of the cycle of meetings "Matematici al Lavoro").

Since 2016 Member of the committee for the evaluation of research for the area of Mathematics and Computer Science for the University of Pisa.

Since 2019 Focus issues editor for Chaos Solitons and Fractals (Elsevier)

Teaching

I have experience in teaching:

Linear Algebra (first year, engineering students)

Analysis I (first year, engineering students)

Analysis II (first year or second year, engineering students)

Elements of probability (engineering students)

Ergodic Theory, random and deterministic dynamics (advanced course for mathematics students or PhD in applied sciences)

Visiting Positions

April 2008: Professeur invité at Ecole Normale Supérieure Paris, dept. of computer science (Fr)
 April 2009: Professeur invité at Université Bretagne Occidentale, Laboratoire de Mathématique (Fr)
 July 2010: Professeur invité at Université Bretagne Occidentale, Laboratoire de Mathématique (Fr)
 August 2010: Visiting researcher. IMPA, Rio de Janeiro (Br)
 July 2012: Professeur invité at Université Bretagne Occidentale, Laboratoire de Mathématique (Fr)
 October 2013: Visiting Researcher. Newton Institute, Cambridge (UK)
 April 2016: Visiting Researcher. ICERM, Brown University (USA)

Recent funded projects

2011: research project "Approssimazione rigorosa delle misure invarianti" funded by GNAMPA/INdAM, Italian National Institute for Advanced Mathematics. Principal investigator.
 2011 ISCR (Italian High Performance Computing Resources) research project "Rigorous Approximation of Invariant Measures in Dynamical Systems". Principal investigator.
 2013 Lond. Math. Soc. Grant Award 41216. Investigator.
 2013-2017: EU Marie-Curie IRSES "Brazilian-European partnership in Dynamical Systems" (FP7-PEOPLE-2012-IRSES 318999 BREUDS): participant and scientific coordinator for the Pisa unit.
 2014-2017 Leverhulm Trust grant IN-2014-021, "Statistical properties of non uniformly hyperbolic dynamical systems: computer assisted proofs and rigorous computation." investigator.
 2017-2019 University of Pisa research project "Dynamical systems in analysis, algebra, geometry and logic" Participant.
 2018-2019: research project "Stabilità e instabilità in sistemi con rumore, un approccio computer assistito." funded by GNAMPA/INdAM, Italian National Institute for Advanced Mathematics. Principal investigator.
 2019-2021: national research project PRIN "Regular and stochastic behaviour in dynamical systems" Participant.

Conferences and advanced courses recently organized

"School on Computation and Computability in Dynamics" ICTP, Trieste, 2014
 "Computation in Dynamics", ICERM, Brown University, USA, 2016
 "Chaotic phenomena in mathematical models", Centro De Giorgi, Pisa, 2016
 "Ergodic Theory, Algorithms and Rigorous Computations", Warwick University, 2017
 Director of the specialization course "Specialisti delle tecnologie per il digital Advertising" University of Pisa, 2017
 "Dynamics days Europe 2018", sessions on "Ergodic theory and Dynamical systems", 2018
 "PISA-HOKKAIDO-ROMA2 Summer School on Mathematics and Its Applications 2018", 2018
 "Dynamical systems and beyond" Pisa, Dipartimento di Matematica, March 25-27, 2019.
 "Dcp'19, Dynamics and Complexity, Pisa 2019" July 1-3, 2019.
 "Response Theory and Its Applications in Geophysical Fluid Dynamics" October 14-16, 2019 Institut Henri Poincaré, Paris

Participation to conferences and seminars

I usually speak in conferences, workshop or invited seminars several times every year, recently:
 September 2018: Dynamics Days Europe 2018, minisymposium "Random dynamical systems", invited talk.
 November 2018: Fakultät für Mathematik, Technische Universität München, invited seminar.
 May 2019: workshop "Incontri di Analisi Matematica tra Firenze, Pisa e Siena", invited talk.
 June 2019: intensive period: "Ecosystem dynamics : stakes, data and models" Université Paris Saclay", invited talk.
 June 2019: Département de Mathématiques d'Orsay, invited seminar.
 June 2019: workshop "DINAMICI VI - the sixth workshop of the Italian dynamicists", invited talk.
 July 2019: workshop "Ergodic theory and validated numerics" CIRM, Luminy, invited talk.
 September 2019: workshop « Dynamique-Probabilités-Mesure » Paris, Marne La Vallée, invited talk.

Intensive research courses

Two 6 hours research minicourses for graduate summer schools at Hokkaido University
 "Hokkaido University Summer Institute: Introduction to dynamical systems", 2017
 "Lectures on Differential Equations and Differential Geometry", 2015
 The lecture notes of such courses are available at arXiv:1510.02615.

20 hours phd course: Summer School of Mathematics for Economic and Social Sciences
 "An introduction to random dynamical systems and their perturbations" organized by Centro de Giorgi and Scuola Superiore S. Anna. Venue: Fondazione Conservatorio Santa Chiara, San Miniato, Italy.
 September 2019.

PhD. students advised

Mathieu Hoyrup, Université Paris Diderot-Paris VII, 2008. Thesis title: "Computability, Randomness and Ergodic Theory on Metric Spaces." (in cotutorship with G. Longo, ENS Paris)

Cristobal Rojas, École Polytechnique, 2008 Thesis title: "Randomness and Ergodic Theory: an Algorithmic point of view" (in cotutorship with G. Longo, ENS Paris)

Rafael Lucena, Univ. Fed. Rio de Janeiro, 2015. Thesis title: "Spectral Gap for Contracting Fiber Systems and Applications" (in cotutorship with Maria Jose Pacifico, UFRJ)

Ricardo Bioni Liberalquino, Univ. Fed. Rio de Janeiro, 2018. Thesis title: "Computation of stationary densities of systems with additive noise" (in cotutorship with Maria Jose Pacifico, UFRJ)

Currently advising:

Luigi Marangio, Université de Bourgogne Franche-Comté (in cotutorship with Christophe Guyeux, univ-fcomte).

Selected published papers

1. S. Galatolo, P. Giulietti Linear Response for dynamical systems with additive noise *Nonlinearity* Volume 32, Number 6 (2019)
2. S. Galatolo Quantitative statistical stability, speed of convergence to equilibrium and partially hyperbolic skew products *Journal de l'Ecole Polytechnique - Mathématiques* (2018), 5, 377–405.
3. M. Bakiri C. Guyeux J. Couchot L. Marangio S. Galatolo A hardware and secure pseudorandom generator for constrained devices, *IEEE Transactions on Industrial Informatics* (2018) 14(8) 3754-3765
4. Bahsoun W. Galatolo S. Nisoli I. Niu X. A rigorous computational approach to linear response *Nonlinearity* (2018) 31(3) 1073–1109
5. S. Galatolo, M. Pollicott. Controlling the statistical properties of expanding maps. *Nonlinearity* 30 (2017), no. 7, 2737–2751
6. S. Galatolo, I. Nisoli. Rigorous computation of invariant measures and fractal dimension for maps with contracting fibers: 2D Lorenz-like maps *Erg. Th. Dyn. Sys* 36 (2016), no. 6, 1865–1891
7. S. Galatolo, J. Rousseau, B. Saussol. Skew products, quantitative recurrence, shrinking targets and decay of correlations *Erg. Th. Dyn. Sys* 35 (2015), no. 6, 1814–1845.
8. S. Galatolo, I. Nisoli. An elementary approach to rigorous approximation of invariant measures *SIAM J. Appl Dyn Sys.* 13 (2014), no. 2, 958–985.
9. S. Galatolo, M. Hoyrup, C. Rojas. Dynamics and abstract computability: computing invariant measures *Discrete Contin. Dyn. Sys.* , 29 (2011), no. 1, 193–212.
10. S. Galatolo; M. J. Pacifico. Lorenz-like flows: exponential decay of correlations for the Poincaré map, logarithm law, quantitative recurrence. *Ergod. Th. Dyn. Sys.* 30 (2010), no. 6, 1703–1737.
11. S. Galatolo, M. Hoyrup, C. Rojas. Effective symbolic dynamics, random points, statistical behavior, complexity and entropy. *Inf. Comput.* 208 (2010), no. 1, 23–41.
12. F. Lorussi; S. Galatolo; D. De Rossi Textile-based electrogoniometers for wearable posture and gesture capture systems. *IEEE Sensors J.*(2009)
13. S. Galatolo. Dimension and hitting time in rapidly mixing systems *Math. Res. Lett.* 14 (2007), no. 5, 797–805.
14. S. Galatolo; D. H. Kim. The dynamical Borel-Cantelli lemma and the waiting time problems. *Indag. Math Indag. Math. (N.S.)* 18 (2007), no. 3, 421–434.

Other papers

1. Marangio L, Galatolo S, Fronzoni L, Chillemi S, Di Garbo A 4Phase-locking patterns in a resonate and fire neural model with periodic drive. *Bio Systems* (2019)
2. Bioni L. iberlquino R. Monge M. Galatolo S. Marangio L. Chaotic Itinerancy in Random Dynamical System Related to Associative Memory Models *Mathematics* (2018) 6(3) 3
3. Galatolo S Nisoli I Pacifico M Decay of Correlations, Quantitative Recurrence and Logarithm Law for Contracting Lorenz Attractors *Journal of Statistical Physics* (2018) 170(5) 862-882
4. Galatolo S. Quantitative statistical stability and convergence to equilibrium. An application to maps with indifferent fixed points *Chaos, Solitons and Fractals* (2017) 103 596-601
5. W. Bahsoun; S. Galatolo; I. Nisoli; X. Niu. Rigorous Approximation of Diffusion

- Coefficients for Expanding Maps. *J. Stat. Phys.* (2016)
6. S. Galatolo, M. Monge, I. Nisoli. Rigorous approximation of stationary measures and convergence to equilibrium for iterated function systems. *Journal of Physics. A, Mathematical and Theoretical* (2016)
 7. S. Galatolo, B. Saussol, I. Nisoli. An elementary way to rigorously estimate convergence to equilibrium and escape rates. *Journal of Computational Dynamics* (2015)
 8. S. Galatolo, I. Nisoli, C. Rojas. Probability, statistics and computation in dynamical systems. *Mathematical Structures in Computer Science* (2015)
 9. V. Araujo, S. Galatolo, M.J. Pacifico. Decay of correlations for maps with uniformly contracting fibers and logarithm law for singular hyperbolic attractors *Math. Zeitschrift* (2014)
 10. V. Araujo, S. Galatolo, M.J. Pacifico. Statistical Properties of Lorenz-like Flows, Recent Developments and Perspectives. *Int. J. of Bifurcation and Chaos* (2014)
 11. F. Lorussi; S. Galatolo; R. Bartalesi; D. De Rossi Modeling and characterization of extensible wearable textile-based electrogoniometers *IEEE Sensors J.* (2013)
 12. S. Galatolo, M. Hoyrup, C. Rojas. Statistical properties of dynamical systems – Simulation and abstract computation. *Chaos, Solitons and Fractals* (2012)
 13. S. Galatolo, I. Nisoli. Shrinking targets in fast mixing flows and the geodesic flow on negatively curved manifolds *Nonlinearity* (2011).
 14. S. Galatolo, M. Hoyrup, C. Rojas. Computing the speed of convergence of ergodic averages and pseudorandom points in computable dynamical systems. *Electronic Proc. in Theor. Comp. Sci.* (2010)
 15. L. Calcagnile; S. Galatolo; G. Menconi. Non-sequential recursive pair substitutions and numerical entropy estimates in symbolic dynamical systems. *J. Nonlinear Sci.* (2010)
 16. S. Galatolo, P. Peterlongo. Long hitting time, slow decay of correlations and arithmetical properties. *Disc. Cont. Dyn. Sys.* (2010)
 17. V. Benci, S. Galatolo, M. Ghimenti. An elementary approach to stochastic differential equations using the infinitesimals. *Contemporary Math., AMS* (2010)
 18. S. Galatolo. Hitting time in regular sets and logarithm law for rapidly mixing dynamical systems. *Proc. Am. Math. Soc.* (2010).
 19. F. Lorussi, C. Caudai, De Rossi D., S. Galatolo. Stiffness and compliance control in dynamical systems driven by muscle-like actuators. In: *Proceeding of ASME Dynamic Systems and Control Conference* (2010)
 20. S. Galatolo, F. Lorussi, C. Caudai. Stiffness control of biomimetic systems through recruitment of bundle elastomeric actuators. In: *Dielectric elastomers as electromechanical transducers.* (2008)
 21. S. Galatolo, M. Hoyrup, C. Rojas. A constructive Borel-Cantelli lemma. Constructing orbits with required statistical properties. *Theor. Comp. Sci.,* (2009)
 22. Galatolo S. Metric complexity for weakly chaotic systems. *Chaos* (2007)
 23. F. Lorussi, S. Galatolo, C. Caudai C., A. Tognetti, D. De Rossi D. Compliance control and Feldman's muscle model. In: *Proceedings of the First IEEE/RAS-EMBS International Conference on Biomedical Robotics and Biomechatronics* (2006)
 24. S. Galatolo; D. H. Kim; K. Park. The recurrence time for ergodic systems with infinite invariant measures. *Nonlinearity* (2006)
 25. S. Galatolo. Hitting Time and Dimension in Axiom A Systems, Generic Interval Exchanges and an Application to Birkoff Sums, *J. Stat. Phys.* (2006)
 26. S. Galatolo. Dimension via waiting time and recurrence, *Math. Res. Lett.* (2005)
 27. V. Benci, S. Galatolo. Optimal information measures for weakly chaotic dynamical systems. *Electr. Notes in Discrete Math.* (2005).
 28. S. Galatolo S, M. Degli Esposti. Recurrence near given sets and the complexity of the Casati-Prosen map. *Chaos, Solitons and Fractals,* (2005)
 29. C. Bonanno, S. Galatolo, S. Isola. Recurrence and algorithmic information, *Nonlinearity* (2004)
 30. C. Bonanno, S. Galatolo. Algorithmic information for interval maps with an indifferent fixed point and infinite invariant measure. *Chaos* (2004)
 31. M. Storrie-Lombardi, F. Corsetti, P. Grigolini, M. Ignaccolo, P. Allegrini, Galatolo S, G. Tinetti. Complexity Analysis to explore the structure of ancient stromatolites. *Chaos, Solitons and Fractals,* (2004)
 32. V. Benci, C. Bonanno C., S. Galatolo, G. Menconi, M. Virgilio. Dynamical systems and computable information. *Disc. Cont. Dyn. Sys. B* (2004)

33. S. Galatolo. Global and local complexity in weakly chaotic dynamical systems. Disc. Cont. Dyn. Sys. (2003)
34. S. Galatolo. Complexity, initial condition sensitivity, dimension and weak chaos in dynamical systems, Nonlinearity (2003)
35. F. Argenti, V Benci, P. Cerrai, A. Cordelli, S. Galatolo, G. Menconi. Information and dynamical systems: a concrete measurement on sporadic dynamics. Chaos, Solitons and Fractals, (2002)
36. C. Bonanno, S. Galatolo, G. Menconi. Information of sequences and applications. Phys. A (2002)
37. S. Galatolo. Orbit complexity and data compression. Disc. Cont. Dyn. Sys. (2001)
38. S. Galatolo. Orbit complexity by computable structures. Nonlinearity (2000)
39. S. Galatolo. A proof of the Beyer-Stein-Ulam relation between complexity and entropy. Discrete Math. (2000)
40. S. Galatolo. Pointwise information entropy for metric spaces. Nonlinearity (1999)
41. S. Galatolo. On a problem in effective knot theory. Atti. Acad. Naz. Lincei (1998)

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".