Curriculum Vitae of Sandro Vaienti

Updated July 2019

Positions Held

1993-present Full Professor (classe exceptionnelle) of mathematics, University of *Toulon*, and researcher at the *Centre de Physique Théorique* (CPT) at Luminy, Marseille. The CPT is a laboratory of the French CNRS (Centre National de la Recherche Scientifique, UMR 7332).

1992-1993 One year position as *Directeur de recherche associé au CNRS* at the Insitut of Mechanics and Statistics of Turbulence of Marseille and at the *Ecole Supérieure de Mécanique (ESM-2)* of the University of Aix-Marseille 2.

1990-1992 Two-years fellowship of the EEC at the CPT in Marseille under the direction of Prof. J. Bellissard.

1989-1990 Visiting Assistant Professor at the Département of Mathematics of the University of Southern California, Los Angeles, California.

1987-1989 Post-Doctoral Fellowship, CNR-NATO at the CPT in Marseille.

Education and Degrees

Graduate Studies at the University of Bologna (Italy), from 1984 to 1987. Advisor : Prof. G. Turchetti. Subject of the Ph. D. thesis : *Ergodic and geometric properties of mixing repellers.*

Undergraduate Studies at the University of Bologna (Italy), Department of Physics, from 1975 to 1982. *Tesi di laurea*, under the direction of Prof. G. Turchetti, title *Application of KAM theorem to relativistic hamiltonian systems.*

Service to Profession

— 2001-2011 : Director of the *Fédération de Recherche des Unités de Mathématiques de Marseille* (FRUMAM), FR 2291, which is a structure of the french CNRS composed by three mathematical laboratories in Marseille.
— From January 2002 to December 2007 : I was Vice-Director of the *Centre de Physique Théorique* in Marseille.
— From 2017 to December 2018 : elected president of the *Interdisciplinary Committee CID-51* of the French CNRS (*Modélisation, et analyse des données et des systèmes biologiques : approches informatiques, mathématiques et physique*).
— 2011-2014 : Appointed member of the *Scientific Advisory Board* (Conseil Scientifique), of INSMI : Institut National des Sciences Mathématiques et de leurs interactions, CNRS. From 2014 to 2022 : the same appointment at the Institut National de Physique (INP).
— 2011-2015 : elected member of the French CNU *Conseil National des Universités*, Sect. 26 (Mathématiques appliquées et applications des mathématiques).
— 2018- : Elected Member of the Board of the *Societé Mathématique de France.*
— From 2008 to 2017 I was the coordinator of the team *Dynamical Systems and Ergodic Theory* at the Centre de Physique Théorique in Marseille.
— 2012-2015 : in charge of the first year of the *Master* in mathematics at the University of Toulon.
— In the period 2006-2011 I had in charge the allocation of fellowships and other funding for PhD students of my University (chargé de mission *Recherche/Relations Internationales*). I am still in charge of the *International Exchanges* at the Faculty of Sciences.
— From 1997 to 2001 I was the Director of the Mathematics Department of the University of Toulon.

International Funded Research and Grants

— Since 1996 I hold the **PEDR**, (*Prime prime d'encadrement doctoral et de recherche*) ; it is a bonus given by the University for high standard research and supervision of PhD students.
— **ANR** Grant from the *Agence Nationale de la Recherche*, Project *PERTURBATIONS*, for four years : 2011-2014, principal investigator.
— **Délegations** from CNRS : to work in my laboratory in the periods : February-July 2006 and February-July 2007 ;
from February 2012 and for six months : UMI 2807-CMM, *Center for Mathematical Modeling*,

University of Santiago, Chili ;
from February 2019 and for 6 months : UMI 3483, Laboratoty *Fibonacci*, Pise. Renewed for 6 months in February 2020.

— **CONYCIT** Four months Fellowship to work at the **University of Valparaiso** Chili (2014-2016) under a CONYCIT contract.
— **MATH-AmSud** Two years grant MATH-AmSud between France and South-America (Chili, Uruguay), for the years 2016-2017, Director of the project.
— Member of the Board of the **Laboratoire International Associé LIA LYSM Laboratoire Ypatia des Sciences Mathématiques** between France and Italy.
— Chief investigatore of the Project **New mathematics to quantify fluctuations and extremes in dynamical systems**, Australian Arc Project DP180101223, from 2018, resp. G. Froyland, University of South Wales.
— Member of the project **SPADYS** "Analyse Spectrale et Probabiliste des Systémes Dynamiques", resp. S. Troubetzkoy, with Japan, for three years, starting in 2017.
— Member of the project PAD **Systèmes Dynamiques : Probabilités et Approximation Diophantienne**, suppported by the French Region PACA for the period 2015-2017, (resp. S. Troubetzkoy).
— **PICS** Grant from the CNRS for the Program PICS *Projet International de Coopération Scientifique*, for three years 2012-2014 with the University of Houston : *Propriétés statistiques des systèmes dynamiques detérministes et aléatoires*, principal investigator.
— **Leverhulme** I am local responsible of the Projet *Statistical Properties of Non-Uniformly Hyperbolic Dynamical Systems : Computer Assisted Proofs and Rigorous Computations*, with a Leverhulme Trust contract managed by the University of Loughborough (UK).
— **Indam** I got a two months grant from the University of Insubria (Como, Italy), in 2014 and financed by the Italian INDAM, Istituto Nazionale di Alta Matematica.
— **PEPS** Grant from *Projets Exploratoires Pluridisciplinaires*, CNRS, Project *Mathematical method of climate models*, 2010-2011, principal investigator.
— **NEWTON INSITUTE** I organized together with M. Cullen, K. Fraedrich, V. Lucarini and B Pelloni, the Project *Mathematics for the Fluid Earth*, at the Isaac Newton Institute for Mathematical Sciences in Cambridge from October 21 to December 20, 2013.
— **BREUDS** I was member of the Project **DynEurBra**, between France and Bresil and in the framework of the *Seventh Program* "Marie Curie Actions", 2009-2012. The project has been renewed under the name of *Breuds* for the period 2013-2016
— **GREFI-MEFI** From 2005 to 2013 I was the French coordinator of the CNRS European Research Group (GDRE) GREFI-MEFI in mathematical physics, between France and Italy.

Scientific organisation

— In charge of the *Socrates-Erasmus* Project between the Department of Mathematics of the University of Toulon and the Universities of : Bologna (Italy) ; Como (Italy) ; Porto (Portugal), Cosenza (Italy).
— Summer School and Conference em Dynamical systems, from cristal to chaos, organised (with S. Ferenczi, P. Hubert, R. Lima) at CIRM in Luminy, Marseille June-July 1998.
— Summer School and Conference *Return times, entropy and complexity*, organised (with A. Asselah, X. Bressaud, P. Picco) at CIRM (Luminy), March 2000.
— Summer School and Conference *Dynamical Systems 2001 : a Dynamic Odissey* (organised with X. Bressaud, J-Y. Briend, J. Cassaigne, P. Hubert, P. Liardet, J. Los, M. Lustig, C-A. Pillet, S. Troubetzkoy) at CIRM and IML (Luminy), from January 29 to March 2 2001.
— Conference on *Piecewise Isometries*, co-organised at IML in Marseille, June 2002.
— Conference and Summer School *Systèmes dynamiques multidimensionels non-uniformement hyperboliques*, at CIRM 17-28 Mai 2004
— Member of the organization committee of the Summer School and Conference on *Probability, Dynamical Systems and Statistical Mechanics* at CIRM (Luminy, France) in February 2008 (5 weeks)
— Co-organiser with I. Melbourne, M. Nicol and D. Volny of the Conference at CIRM *Large Deviations and Dynamical Systems*, 4-8 July 2011.
— Co-organiser with B. Hasselblatt, J. Schmeling, Y. Pesin and S. Troubetzkoy, of the Conference at CIRM *Hyperbolicité et dimension*, 2-6 December 2013.
— Co-organiser with V. Lucarini of the Conference *Non-equilibrium Statistical Mechanics and the Theory of Extreme Events in Earth Science*, Newton Institute for Mathematical Science,

Cambridge, 29 October 2013 - 1 November 2013.
— Co-organiser with M. Cullen, K. Fraedrich, V. Lucarini and B. Pelloni, of the two months Workshop *Mathematics for the Fluid Earth*, at the Newton Institute for Mathematical Science, Cambridge, 21 October - 20 December 2013.
— Co-organiser with FranÃ§oise Pène, BenoÃ®t Saussol and Jean-René Chazottes of the Workshop *Rare et extrême*, Mzrch 24-28 2014, Aber Wrac'h, Bretagne.
— Co-organiser of the two Conferences at CIRM :
- 7 july-11 july 2014 : *Limit Theorems in Dynamics and Applications*, with D. Volny, G. Reinert and S. Olla ;
- 14 july-18 july 2014 *Extreme Value Theory and laws of rare events*, with A. C. Freitas, J. Freitas and M. Todd.
— Co-organiser of the Conference *Chaos, Complexity and Transport*, Marseille 1-5 Juin 2015.
— Organiser in June-July 2015 on the Porquerolles island (VAR) of the final conference of the *ANR PERTURBATIONS.* project.
— Organiser with F. Naud of the *Journée FRUMAM Avignon-Marseille* "Hyperbolic dynamical systems" Avignon, June 14, 2016.
— Co-organiser of the week *Non-uniformly and partially hyperbolic dynamical systems ; coupling and renewal* during the five weeks Workshop *Thematic Month on Dynamical Systems and Interactions*, CIRM, Marseille, January 30- March 3, 2017.
— Co-organiser of the Workshop *Ergodic Theory, Algorithms and Rigorous Computations*, a Warwick (UK) du 3 au 7 Avril 2017.
— Member of the scientific committee of the *MATHAMSUD MEETING "PHYSECO"*, Montevideo,December 11-13, 2017.

Chaire Morlet Local support of the *Chaire Jean Morlet*, hosted by M Pollicott on the second semester 2019 with two international conferences, one workshop and several research groups, see https ://www.chairejeanmorlet.com/2019-2-pollicott-vaienti.html

1 Teachnig Experience

1.1 Courses given at the University of Toulon

- Thèorie des distributions, cours en Maîtrise, (1993-1998)

- Thèorie de la mesure, cours en L3 Math., (1997-2002, 2008-2012)

- Topologie, en L3 Math., (2002-2007)

- Analyse réelle et complexe, cours et TD en L1 et L2, Math. et PC (1998- 2007)

- Probabilité, en L1 et L2, M1, M2 et pour la préparation au CAPES, (2000-2004), (2008-)

- Algébre linèaire, en L2, PC, cours et TD (2007-)

- Mathématique pour la Biologie, cours L1 (2007-)

- Cours de mathématique dans le cadre du Diplôme FLE (Francais Langue Etrangére), (2008-2011)

1.2 Courses in Master M2

- From 2007 to 2012 : "Systèmes Dynamiques" at DEA (later Master M2) em Physique des Particules, Physique Mathématique et Modélisation, du Centre de Physique Théorique, commun aux Universités d'Aix-Marseille et Toulon.

- From 2004 I give a cours in *Systémes Dynamiques et Aléatoires* at Master M2 *Physique Mathématique* of the University of Toulon.

-**Mémoires de DEA** B. Saussol, M. Pisani, D. Baro, Ph. Marie.
Stage de Licence L3 : six étudiants en 2016.
Stage de Master M1 Mathématique Kevin M. Kouakou (2009), J. Weimer (2014), F. Larsen (2015).
Stage de Master M2 Mathématique Mohamed H. Abidi (2010) ; R. Aimino (2011), F. Ducros

(2014), T. Caby (2016).
Direction équipes pédagogiques

As former Directeur of the Department of Mathemtics (1997 to 2001), I contributed to the redaction of teaching programs.

2 Ph. D. thesis

Supervisor of **16** doctoral thesis : S. Siboni, B. Saussol, V. Penné, J. Luevano, G. Poggiaspalla, M. Kupsa, L. Rossi, J. Nilsson, Ph. Marie, H. Aytac, R. Aimino, R. Lambert, M. Abdelkader, G. Hamza, R.Tarek, Th. Caby.

3 Referee

— I evaluated scientific applications for local Institutions in Marseille ; for the French ANR and for foreign Universities, in particular : *NWO-EW Competion 2009* University of Amsterdam ; *Academy of Sciences of the Czech Republic* (2008) ; *P. Universidad Catòlica de Chile* ; *Conseil de recherches en sciences naturelles et en génie du Canada* ; *National Science Centre. Polish Ministry of Science and Higher Education (MNiSW)* ; *Ministère italien de l'instruction de l'Université et de la recherche* ; *Macquarie University in Sydney* ; french CNRS, *Momentum*.
— I am **Editor** of the journal *Chaos, Solitons and Fractals*.

4 Visits, Conferences, Talks : last 4 years

4.1 Research visits (I gave talks during these visits)

— May- August 2012 : CNRS International Funded Research at UMI 2807-CMM, *Center for Mathematical Modeling*, University of Santiago, Chili.
— Departement of Mathematics, University of Lund, Sweden, (J. Schmeling), 18-27 December 2013 in the framework of the *CNRS-GDR- Multifractal Analysis*.
— Visit at the University of Houston from April 20 to May 4, 2013, in the framework of the project PICS *Propriétés statistiques des systèmes dynamiques detérministes et aléatoires*.
— Research residence at the Newton Institute (Cambridge), November and December 2013 for the Workshop *Mathematics for the Fluid Earth*, which I organised together with M. Cullen, K. Fraedrich, V. Lucarini and B. Pelloni.
— Visit at the University of Houston from February 22 to March 16, 2014, in the framework of the project PICS *Propriétés statistiques des systèmes dynamiques detérministes et aléatoires*.
— Visit at the University of Amherst, Massachusetts, from March 16 to April 6 2014 invited par Hongkun Zhang.
— Visit at the Gran Sasso Scientific Institute, (GSSI), L'Aquila (Italie), August 16-30, 2014 during the Workshop *Blowup for the equations of Fluid Dynamics and Renormalization Group methods* .
— Two weeks visit (February 15-March 1) to the Departement of Mathematics of the University of South Wales, Sydney.
— Two weeks at the ESI Institut in Vienna, May 2016, for the ESI Programme on "Mixing Flows and Averaging Methods".
— Three weeks participation at the *Conference on Statistical Properties of Nonequilibrium Dynamical Systems* at SUSTC, Shenzhen, China, on July 27 - August 2, 2016
— August 2017 :Two weeks at the Mathematical Department of the University of Pisa (Italy) in the framework of the Leverhulme project *Statistical Properties of non-uniformly hyperbolic dynamical systems*.
— 2017 : October 28 to November 5 at the Physics Department of the University of Bologna (Italy) 2017 in the framework of the Erasmus Project.

4.2 Talks and Conferences

— 7-10 May 2012 ; *Progress and Problems in Dynamics*, Houston, 14-16 May 2012, invited.

— Pontificia Universidad Catòlica de Chile (Santiago), 28 May 2012 : Escape Rates Formulae and Metastablilty for Randomly perturbed maps.
— Pontificia Universidad Catòlica de Valparaiso , 6 July 2012 : Extreme value theory for randomly perturbed dynamical systems.
— USACH (Universidad de Santiago de Chile) : 23 July 2012 : On the extreme value Theory in Dynamical Systems
— Centro de Modelamiento Matematico (Santiago) : 27 July 2012 : On statistical properties of randomly perturbed dynamical systems.
— Congreso de Matemàtica Capricornio (CONCA 2012), Antofagasta (Chili),1-4 August 2012 (invited) : On some properties of randomly perturbed dynamical systems.
— Montevideo Dynamical Systems, Montevideo (Uruguay), 13-17 August 2012, (invited) : A survey on new results about statistical properties of deterministic and random dynamical systems.
— Conference *Non-equilibrium Statistical Mechanics and the Theory of Extreme Events in Earth Science*, January 8th-11th, 2013, University of Reading, UK, invited.
— Conference *Large deviations and thermodynamical formalism* - 18 to 22 March 2013 and 2 to 8 June 2013 - EPFL, Lausanne, invited.
— Conference *Random Perturbations and Statistical Properties of Dynamical Systems*, Leipzig, 8-12 July 2013, invited.
— Department of Mathematics University of Warwick (UK), November 2013, *Loss of memory for non-uniformly expanding mapd*, invited.
— Department of Mathematics University of St. Andrews (UK), November 2013, *Loss of memory and extreme value theory in randomly perturbed dynamical systems*, invited.
— Conference *Non-equilibrium Statistical Mechanics and the Theory of Extreme Events in Earth Science*, Cambridge, October 2013, *Extreme value theory for randomly perturbed systems : getting the local dimensions*, invited.
— Conference *Mathematics for the Fluid Earth*, London, February20 14, *Sequential dynamical systems : loss of memory and extreme value theory*, invited.
— Department of Mathematics, University of Houston, March 3 2014, *Random and sequential extreme value theory.*
— Department of Mathematics, Northeastern University, Boston, March 27 2014, *On a few statistical properties of sequential dynamical systems.*
— Department of Mathematics, University of Amherst, MA, April 3 2014, *On a few statistical properties of sequential dynamical systems.*
— Département de Mathématique, Université de Versailles et Saint Quentin, 25 Novembre 2014, Séminaire *Perte de mémoire et lois limites dans les systèmes séequentiels.*
— June 1 to June 5, 2015, *Stochastic methods for non-equilibrium dynamical systems*, American Institute of Mathematics, San Jose, California
— Workshop *Recurrence, mixing and fluctuations : statistics of dynamical systems*, Porto, 10th-13th June 2015, held in conjunction with the AMS-EMS-SPM International Meeting in Porto : *On recent results of Extreme Value Theory applied to dynamical systems.*
— Dipartimento di Matematica Università di Pisa (Italy) : *On recent results of extreme value theory applied to dynamical systems*, 17 juillet 2015.
— Dipartimento di Matematica Università di Bologna (Italy), *On a few recents results on statistical properties for sequential systems*, 29 Octobre 2015.
— Institut d'études scientifiques de Cargèse (IESC), Workshop *Statistical and mathematical tools for the study of climate extremes*, 9-13 Novembre 2015 :*Extreme values for random and sequential systems and couple map lattices.*
— Dipartimento di Matematica Università di Bologna (Italy), March 14, 2016 : *Optimal decay of correlations in low-dimensional dynamical systems*
— Instituto de Matematica y Estadastica, University of Montevideo, April 1, 2016, *Optimal decay of correlations for non-uniformly hyperbolic systems.*
— Pontificia Universidad Catòlica de Valparaiso, Avril 15, 2016, *Optimal decay of correlations for non-uniformly hyperbolic systems.*
— Pisa (Italie), participation at the Conference *Analytical Methods in Classical and Quantum Dynamcial Systems*, June 26, July 2 2016.
— Workshop *Fractals, Ergodic Theory and Number Expansions*, Utrecht, August 30, September 2, 2016 : *On a few statistical properties of sequential and random fibred systems.*
— Workshop *Statistical Properties of Dynamical Systems*, Porto (Portugal), September 6 to 9, 2016, *Limit theorems for randomly perturbed systems.*

— Workshop *Applications of statical-mechanics and dynamical systems to climate*, November 15-16, 2016, LSCE CEA Saclay : *Extreme Value theory in Dynamical Systems.*
— Workshop *Advances in Ergodic Theory, Hyperbolic Dynamics and Statistical Laws*, Canberra (Australie), 28 Novembre, 2 Décembre, 2016 invit
— Several invitations during 2016 and 2017 (Canberra November 28-December 2, Warwick 3-7 Avril, Rome 5-9 Juin, Trieste 19-23 Juin)which I could not attend for familiar issues.
— CNRS WORKSHOP IGAFD : *Interdisciplinary Geo-Astro Fluid Dynamics*, Paris, 16-18 December 2017, invited.
— Workshop *Random Dynamical Systems*, Lorentz center in Leiden, the Netherlands, December 4-8, 2017, invited.
— Workshop *Dynamical systems in atmospheric sciences*, CEA- Orme des Merisiers, 8-9 Octobre 2018, invited.
— Workshop DinAmicI VI, Pisa, week of June 3, 2019, *Quenched limit theoems for random hyperbolic dynamical systems*, invited.

Publication list S. Vaienti

http ://www.cpt.univ-mrs.fr/ vaienti/liste%20of%20publications.html

Book *Extremes and Recurrence in Dynamical Systems*, Wiley Interscience, 2016, Pure and Applied Mathematics : A Wiley Series of Texts, Monographs and Tracts, 9781118632192, hal-01258387v1
Auteurs : Valerio Lucarini, Davide Faranda, Ana Cristina Moreira Freitas, Jorge Milhazes Freitas, Mark Holland, Tobias Kuna, Matthew Nicol, Mike Todd, Sandro Vaienti, https ://arxiv.org/pdf/1605.07006.pdf

Referred journals : submitted

6. N. HAYDN, S. VAIENTI, Limiting entry times distribution for arbitrary null sets, submitted, https ://arxiv.org/pdf/1904.0873
5. A.C.M. FREITAS, J.M. FREITAS, M. MAGALHAES, S . VAIENTI, Point processes of non stationary sequences generated by sequential and random dynamical systems, submitted, https ://arxiv.org/pdf/1904.05761.pdf
4. Th. CABY, D. FARANDA, S. VAIENTI, P. YIOU, On the computation of the extremal index for time series, submitted, https ://arxiv.org/pdf/1904.04936.pdf
3. P. ESLAMI, I. MELBOURNE, S. VAIENTI, Sharp Statistical Properties for a Family of Multidimensional Nonmarkovian Nonconformal Intermittent Maps, submitted, https ://arxiv.org/pdf/1904.03184.pdf
2. M. GIANFELICE, S. VAIENTI, Stochastic stability of the classical Lorenz flow under impulsice type forcing, submitted,https ://arxiv.org/pdf/1806.04737.pdf
1. S. VAIENTI, H. ZHANG, Optimal bounds for decay of correlations and α-mixing for nonuniformly hyperbolic dynamical systems, arxiv : 1605.01793, submitted

Referred journals : published

97. D . DRAGICEVIC, G. FROYLAND, C. GONZALEZ-TOKMAN, S. VAIENTI, A spectral approach for quenched limit theorems for random hyperbolic dynamical systems, to appear on *Trans. Amer Math. Soc*, arXiv : 1812.07340
96. Th. CABY, D. FARANDA, G. MANTICA, S. VAIENTI, P. YIOU, Generalized dimensions, large deviations and the distribution of rare events, to appear on *PHYSICA D*, https ://arxiv.org/pdf/1812.00036.pdf
95. D. FARANDA, S. VAIENTI : Correlation dimension and phase space contraction via extreme value theory, *Chaos*, **28**, 041103 (2018) https ://arxiv.org/pdf/1711.03021.pdf
94. D. FARANDA, H, GHOUDI, P. GUIRAUD, S. VAIENTI, Extreme Value Theory for synchronization of Coupled Map Lattices, *Nonlinearity*, **31**, 7, 3326-3358 (2018)
https ://arxiv.org/pdf/1708.00191.pdf
93. D. DRAGICEVIC, G. FROYLAND, C. GONZALEZ-TOKMAN, S. VAIENTI, Almost sure invariance principle for random piecewise expanding maps, *Nonlinearity*, **31**, 5, 2252-2280, (2018), https ://arxiv.org/abs/1611.04003.
92. D. DRAGICEVIC, G. FROYLAND, C. GONZALEZ-TOKMAN, S. VAIENTI, A spectral approach for quenched limit theorems for random expanding dynamical systems, *Communication in Mathematical Physics*, **360**, pp 1121-11873, (2018),
https ://doi.org/10.1007/s00220-017-3083-7
91. A.C.M. FREITAS, J.M. FREITAS, S. VAIENTI, Extreme value laws for sequences of intermittent maps, *Proceedings of the AMS*, **146**, (2018) 2103-2116,
http ://arxiv.org/pdf/1605.06287.pdf
90. H. HU, S. VAIENTI, Lower Bounds for the Decay of Correlations in Non-uniformly Expanding Maps, *Ergodic Theory and Dynamical Systems*, 43 p., doi.org/10.1017/etds.2017.107,
https ://arxiv.org/abs/1307.0359.
89. M. NICOL, A. TÖRöK, S. VAIENTI, Central limit theorem for sequential and random intermittent dynamical systems, *Ergodic Theory and Dynamical Systems* DOI :
https ://doi.org/10.1017/etds.2016.69, pp. 1-27.
88. A.C.M. FREITAS, J.M. FREITAS, S. VAIENTI, Extreme value laws for nonstationary processes generated by sequential and random dynamical systems, *Annales de l'Institut Henri Poincaré*, **53**, 1341–1370, (2017), arxiv : 1510.04357.
87. A.C.M. FREITAS, J.M. FREITAS, M. TODD, S. VAIENTI, Rare events for the Manneville-Pomeau map, *Stochastic Processes and their Applications*, **126**, Issue 11, (2016), Pages 3463-3479
86. N. HAYDN, M. NICOL, A. TOROK, S. VAIENTI, Almost sure invariance principle for sequential and non-stationary dynamical systems, *Trans. Amer Math. Soc.*, **369**, (2017), Pages 5293-5316,
https ://arxiv.org/submit/1002
85. D. FARANDA, J.M. FREITAS, P. GUIRAUD, S. VAIENTI, Extreme Value Theory for Piecewise Contracting Maps with Randomly Applied Stochastic Perturbations, *Stochastic and Dynamics*, **16**, 3, 23 p., (2016) http ://arxiv.org/abs/1501.02913, hal-01127758v1

84. G. TURCHETTI, S. SINIGARDI, G. SERVIZI, F. PANICHI, S. VAIENTI, Errors, correlations and fidelity for noisy hamiltonian flows. theory and numerical examples, *Journal of Physics A : Mathematical and Theoretical*, **50**, Number 6, (2017), doi :10.1088/1751-8121/aa5192.

83. D. FARANDA, J.M. FREITAS, P. GUIRAUD, S. VAIENTI, Statistical properties of random dynamical systems with contracting direction, *J. Phys. A : Math. Theor*, **49**, 204001, (2016), hal-01258390v1

82. R. AIMINO, M. NICOL, S. VAIENTI, Annealed and quenched limit theorems for random expanding dynamical systems, *Probability Theory and Related Fields*, June 2015, **162**, Issue 1, pp 233-274, http ://arxiv.org/abs/1310.4359, hal-01126718v1

81. H. AYTAC, J.M. FREITAS, S. VAIENTI, Laws of rare events for deterministic and random dynamical systems, *Trans. Amer Math. Soc.*, **367**, no. 11, 8229-8278, 2015, arxiv.org/pdf/1207.5188, hal-01126671v1

80. R. AIMINO, H. HU, M. NICOL, A. TOROK, S. VAIENTI, Polynomial loss of memonry for maps of the interval with a neutral fixed point, *Discrete and Continuous Dynamical Systems*, **A3 5**, 3, 793-806 (2015) http ://arxiv.org/pdf/1402.4399.pdf, hal-01126735v1

79. R. AIMINO, S. VAIENTI, *A note on the large deviations for piecewise expanding multidimensional maps*, in Nonlinear Dynamics : New Directions, Theoretical Aspects 1 , Edgardo Ugalde, Gelasio Salazar, Editors, Series Mathematical Method and Modeling, Springer, 1-10, 2015, http ://arxiv.org/abs/1110.5488, hal-01126638v1

78. W. BAHSOUN, J. SCHMELING, S. VAIENTI, On transfer operator and maps with random holes, *Nonlinearity*, **28**, 713-731, 2015, http ://arxiv.org/pdf/1405.0361.pdf, hal-01126738v1

77. L. BOUCHARA, O. OURRAD, X. LEONCINI, S. VAIENTI, Anomaluos transport and observable average in the standard map, *Chaos, Solitons and Fractals*, Volume **78**, September 2015, Pages 277-284, hal-01258380v1

76. D. FARANDA, F.M.E. PONS, E. GIACHINO, S. VAIENTI, B. DUBRULLE, Early Warnings Indicators of Financial Crises via Auto Regressive Moving Average Models, *Communications in Nonlinear Science and Numerical Simulation*, Volume **29**, Issues 1-3, December 2015, Pages 233-239, hal-01258385v1

75. D. FARANDA, J.M. FREITAS, P. GUIRAUD, S. VAIENTI, Sampling local properties of attractors via extreme value theory, *Chaos, Solitons and Fractals*, Volume **74**, May 2015, Pages 55-66, http ://arxiv.org/pdf/1407.0412.pdf, hal-01126747v1

74. W. BASHOUN, H. HU, S. VAIENTI, Pseudo-Orbits, Stationary Measures and Metastability, *Dynamical Systems : an International Journal*, **29**, Issue 3, (2014), p. 322-336, http ://arxiv.org/pdf/1211.2952.pdf, hal-01126704v1

73. D. FARANDA, S. VAIENTI, Extreme Value laws for dynamical systems under observational noise, *Physica D*, **280-281**, (2014), 86-94, 2014, arXiv :1308.5624, hal-01126706v1

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