

Allegato B

ANTONIO SICONOLFI

Curriculum Vitae

Part I – General Information

Spoken Languages	Italian (native), English, French
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Part II – Education

Type	Year	Institution	Notes
University graduation	1974	Università di Roma “La Sapienza”	Grade 110/110 cum laude

Part III – Appointments

IIIA – Academic Appointments in Italy

Start	End	Institution	Position
1987	-----	Sapienza Università di Roma	Professore Associato
1986	1987	Università della Calabria	Professore Associato
1984	1986	Università della Calabria	Professore incaricato stabilizzato
1980	1984	Università della Calabria	Professore incaricato
1976	1978	Università di Roma “La Sapienza”	Assegnista di ricerca (Postdoc fellowship)

IIIB – Academic Appointments abroad

Start	End	Institution	Position
Sept. 15, 2018	Decemb. 15, 2018	Mathematical Sciences Research Institute - Berkeley	Eisenbud Professor (see the attached letter by MSRI)
Oct. 1, 2012	January 31, 2013	Graduate School of Mathematical Sciences – University of Tokyo	Visiting Professor , giving a PhD course (invited by prof. Y. Giga)
1978	1980	CEREMADE, Univ. Paris-Dauphine	Postdoc fellowship

IIIC – Shorter Appointments (short visiting positions) (I am listing the ones of the last 15 years)

Period	Institution	Position
August 2019	Hokkaido Summer Institute	Invited Professor, teaching and advanced course

		(10 days)
March 2018	University of Toyama	Visiting Professor (2 weeks)
January 2016	Kukul Kam School- Merida	Invited Professor teaching and advanced course (2 weeks)
September 2014	Mittag–Leffler Institute - Stockolm	Invited professor (2 weeks)
May 2012	Ecole National Superieure de Techniques Avancees - Paris	Visiting Professor (2 weeks)
October 2011	Centro de Investigacion en Matematica (CIMAT) - Guanajuato	Visiting Professor (2 weeks)
May 2011	Ecole National Superieure de Techniques Avancees - Paris	Visiting Professor (2 weeks)
June 2010	Ecole Normale Superieure de Lyon	Visiting Professor (2 weeks)
May 2010	Ecole National Superieure de Techniques Avancees - Paris	Visiting Professor (2 weeks)
April 2009	Universidade Tecnica de Lisboa	Visiting Professor (2 weeks)
May 2007	Ecole Normale Superieure de Lyon	Visiting Professor (1 month)
October 2006	Fukuoka University	Visiting Professor (2 weeks)
January 2004	Ecole Normale Superieure de Lyon	Visiting Professor (2 weeks)

Part IV – Habilitation

Habilitation to full professor in Mathematical Analysis obtained in 2013. This was the first time that the habilitation was introduced in Italy.

Remark : I could not apply for an upgrade to full professor in my department since an Italian law prevented me to do so because my wife is professor in the same department. This law has been cancelled in April 2019.

Part V – Nomination Award

Nomination for a Clay Senior Award 2018 by the Clay Mathematical Institute	See the attached letter by Prof. A. Fathi
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Part VI – Invited Speaker at International Conferences or Scientific Institutions (I am listing the main ones of the last 15 years)

VI A – Colloquia

October 2012 – Colloquium of the Graduate School of Mathematical Sciences – University of Tokyo

November 2012 – Colloquium of the Mathematics Department – Tohoku University - Sendai

VI B – Invited Talks at International Conferences

June 2020 – “Géométrie, Topologie et Dynamique en basses dimensions” – Sète, France

July 2019 – “Recent Trends in Hamilton Jacobi Equations” - Fudan University, Shanghai

November 2018 – “Viscosity Solutions and Related Topics” - Tohoku University, Sendai

October 2018 – “Hamiltonian Systems, from Topology to Applications through Analysis” - MSRI Berkeley

July 2018 – “Weak KAM” - ICM Satellite Conference, Rio de Janeiro

June 2017 – "Non-regular Spacetime Geometry" - Università di Firenze

January 2017 – “Beyond Hamilton Jacobi Equations, last call to Bordeaux”- Bordeaux

July 2016 – “Hamilton Jacobi Equations” – Fudan University - Shanghai

July 2015 – “Banff Homogenization Workshop” – Banff

May 2015 – “Lebanese International Conference on Mathematics and Applications” - Beirouth

January 2015 – “Hamiltonian Dynamical Systems”- Shanghai

June 2014 – “New Trends in Optimal Control”- Tours

April 2014 – “Weak KAM beyond Hamilton-Jacobi”- Avignon

February 2014 – “International Workshop on PDE’S and Related Topics in Nonlinear Problems”- Hiroshima

June 2013 – “Meeting of HJnet” - Rennes

January 2013 – “Fukae Workshop on PDE’s”- Kobe

September 2013 – “ Control Day “ - Padova

September 2012 – “New Trends in Optimal Control” - Ravello

April 2012 – “Geometric PDE’s and applications” - Padova

December 2011 – “Dynamical Optimization in PDE and Geometry Applications to Hamilton-Jacobi Equations” - Bordeaux

August 2011 – “Hamiltonian Dynamics” - Nanjing

June 2011 – “ UT Austin-Portugal Conference” - Lisbon

March 2011 – “ ITN Sadco Kick off Meeting” - Paris

October 2010 – “Rencontre KAM faible de Calvi” - Calvi (Corsica)

October 2009 – “Asymptotics in complex systems” , Corinaldo

June 2009 – “ Viscosity Solutions of Differential Equations and Related Topics”- Kyoto

February 2009 – “Nice Weak KAM Methos in Nice”- Nice

September 2008 – “Nonlinear PDE’s “- Roma

February 2008 – “Meeting of GREFI-MEFI“ - Luminy

October 2007 – “Hamilton Jacobi days”- Madrid

June 2007 – “25th Anniversary of Viscosity Solutions“- Tokyo

October 2006 – “Mathematical Models of Phenomena and Evolution Equations”- Kyoto

July 2006 – “New Trends in Viscosity Solutions and Nonlinear PDE’s”- Lisboa

November 2005 – “MSRI Workshop on Optimal Transport and Applications”- Berkeley

July 2005 – “Homogeneisation Aleatoire” - Luminy

March 2005 – “ PDE Real Aalysis Seminar” - Tokyo

VI C – Invited Talks at Scientific Institutions

At all universities visited (see III B and III C) I have given a talk. In addition I have been invited to give talks at some italian universities, like the University of Pavia, University of Pisa, University of Roma “Tor Vergata”, University of Padova, University of Roma 3, University of Modena, University of Firenze.

Part VII – Organization of Workshops and Seminars (in the last 15 years)

- INDAM workshop : Hamilton-Jacobi equations at the crossroads of PDE’s, Dynamical Systems and Geometry, Cortona (June 2015) – coorganizer
- PDE Real Analysis Symposium : Weak KAM Theory and Related Topics Tokyo (January 2013) – coorganizer

- INDAM workshop :Weak KAM Theory in Italy, Cortona (September 2011) – coorganizer
- Meeting : Viscosity, Metric and Control Theoretic Methods in Nonlinear PDE's, Roma (September 2008)- coorganizer
- French-Italian SIMAI Meeting : Workshop on Viscosity Solutions : qualitative theory and applications, Torino (July 2006) – coorganizer

Part VIII– Member of the Council of the PhD school : Dottorato di Ricerca in Matematica at the University of Roma “Sapienza” from November 2010 until October 2018.

Part IX – Supervision of PhD students and Postdocs / young researchers.

IX A – PhD Students

- Marco Pozza - University of Roma “Sapienza”, thesis due in November 2019
- Sahar Zabad - University of Roma “Sapienza”, PhD obtained in 2016
- Nguyen Thuong – PhD student of the TMR European Network SADCO , PhD obtained in 2013
- Maxime Zavidovique (jointly with A. Fathi (official advisor)), Ecole Normale Supérieure de Lyon, PhD obtained in 2010
- Gabriele Terrone (jointly with M. Bardi (official advisor)), University of Padova, PhD obtained in 2007
- Fabio Camilli (jointly with M. Falcone (official advisor)), University of Roma “Sapienza”, PhD obtained in 1996.

IX B – Postdocs and young researchers

- Kazushige Nakagawa (from University of Fukushima) – visiting young researcher at the University of Roma Sapienza, June – September 2019
- Mohammad Al Haj – postdoc at University of Roma “Sapienza”, 1 year, 2014
- Antonio Marigonda, postdoc at University of Roma “Sapienza”, 6 months 2010
- Annalisa Cesaroni – (young researcher at the University of Padova) , 6 months, 2007
- Olga Bernardi – postdoc at the University of Padova , 1 year 2007-2008
- Andrea Davini – post doc at the University of Roma “Sapienza”, 2 years, 2004-2006
- Fabio Camilli – young researcher at the University of Torino, 2 years, 1998-1999

Part X – Teaching experience

X A – PhD courses and advanced courses

Year	Institution	Lecture/Course
August 2019	Hokkaido Summer Institute	Introduction to the Theory of Geometric Equations
January 2016	Kukul Kam School, Merida (Mexico)	Weak KAM Theory
October - December 2012	Graduate School of Mathematical Sciences – University of Tokyo	PhD course : Weak KAM Theory and Hamilton Jacobi Equations
Spring 2017	University of Roma Sapienza	PhD course : Hamilton Jacobi equations on graphs
Spring 2010	University of Roma Sapienza	PhD course : Time dependent Hamilton Jacobi Equations
Spring 2006	University of Roma Sapienza	PhD course : Weak KAM theory

X B – Courses at italian universities (Laurea triennale, magistrale e quadriennale)

- 1987 – 2019 ; Università di Roma “Sapienza” (mostly 2 courses each year)
Courses for the degrees in Matematica, Fisica, Informatica, Scienze Biologiche, Scienze Naturali, Farmacia, Architettura, Ingegneria Elettrotecnica :

Matematica : Analisi Matematica 1 , Analisi Matematica 2, Calcolo 1, Equazioni Differenziali Ordinarie, Ottimizzazione, Equazioni Differenziali alle Derivate Parziali, Analisi Reale, Equazioni Differenziali Non Lineari, Teoria delle Funzioni

Fisica : Analisi Matematica, Analisi Vettoriale

Informatica : Calcolo Differenziale, Calcolo Integrale

Scienze Biologiche e Scienze Naturali : Calcolo Biostatistica Metodi Matematici e Informatici in biologia, Istituzioni di Matematica

Architettura : Analisi Matematica 2

Farmacia : Fondamenti di Matematica e Statistica

Ingegneria Elettrotecnica : Analisi Matematica 2

- 1980 – 1987 ; Università della Calabria
Courses for the degree in Scienze Economiche : Analisi Matematica

X B – Master and diploma theses

- Advisor for about 40 theses for the degrees of Laurea Magistrale, Triennale and Quadriennale in Mathematics

Part XI – Participation in Funded Research Groups (as I-investigator or PI – principal investigator)

XI A – European projects

Years	Role	Name of Project
2011-2014	I	Initial Training Network Marie Curie " Sensitivity Analysis for Deterministic Controller Design (SADCO)
1998-2001	I	TMR Project "Viscosity Solutions and Applications (1998-2001)

XI B – National Projects PRIN

Years	Role	Name of Project
2009	I	PRIN : Metodi di viscosità e di controllo nello studio di modelli diffusivi non lineari con degenerazioni
2007	I	PRIN : Metodi metrici e del principio di massimo per equazioni di Hamilton-Jacobi ed ellittiche non lineari
2005	I	PRIN : Metodi di viscosità e metrici per l'analisi di alcune equazioni alle derivate parziali completamente non lineari
2002	I	PRIN : Metodi di viscosità e metrici per equazioni di Hamilton-Jacobi e equazioni alle derivate parziali completamente non lineari
2000	I	PRIN : Soluzioni di viscosità di equazioni ellittiche degeneri non lineari ed applicazioni a problemi di controllo ottimo e giochi differenziali deterministici e stocastici, evoluzioni di fronti e analisi multiscale di modelli di trattamento di immagini
1998	I	PRIN : Equazioni non lineari di evoluzione alle derivate parziali

XI C – Projects funded by the University of Roma Sapienza

Years	Role	Name of Project
2018	I	Progetto Ateneo Sapienza : Analisi qualitativa e asintotica di EDP non lineari
2017	PI	Progetto Accordo Interuniversitario con la Universidade Federal do Rio de Janeiro e con la Universidade Federal do Rio Grande do Sul, dal titolo : Grafi e networks con applicazioni all'analisi di dati multidimensionali
2017	PI	Progetto Ateneo Sapienza : Flussi di misure ed equazioni alle derivate parziali
2016	I	Progetto Ateneo Sapienza : Tecniche EDP, dinamiche e probabilistiche per lo studio di perturbazioni di equazioni e sistemi di di Hamilton Jacobi

2015	PI	Progetto Ateneo Sapienza : Asintotica e omogeneizzazione di dinamiche Hamiltoniane: tecniche probabilistiche e di viscosità
2014	I	Progetto Ateneo Sapienza : Metodi probabilistici nella teoria KAM debole
2013	I	Progetto Ateneo Sapienza : Tecniche KAM deboli e di grandi deviazioni per l'analisi asintotica di modelli deterministici e stocastici
2012	PI	Progetto Ateneo Sapienza : Modelli level-set applicati alla fluidodinamica, alla combustione turbolenta, alla dinamica dei materiali granulari: analisi matematica e approssimazione numerica
2011	I	Progetto Ateneo Sapienza : Analisi ed approssimazione di modelli differenziali non lineari in fluidodinamica e scienza dei materiali
2010	I	Progetto Ateneo Sapienza : Analisi ed approssimazione di modelli differenziali non lineari in fluidodinamica e scienza dei materiali
2009	I	Progetto Ateneo Sapienza : Analisi ed approssimazione di modelli differenziali non lineari in fluidodinamica e scienza dei materiali
2009	I	Progetto Ateneo Federato Sapienza : Analisi, algoritmi e metodi di calcolo per una classe di equazioni alle derivate parziali non lineari
2008	PI	Progetto Ateneo Federato Sapienza : Tecniche di viscosità e metriche per l'omogeneizzazione e la stabilità di equazioni alle derivate parziali non lineari
2008	I	Progetto Ateneo Sapienza : Analisi qualitativa di equazioni alle derivate parziali non lineari
2007	PI	Progetto Ateneo Federato Sapienza : Regolarità e stabilità di soluzioni di viscosità di EDP non lineari
2007	I	Progetto Ateneo Sapienza : Regolarità e stabilità di soluzioni di viscosità di EDP non lineari
2006	PI	Progetto Facoltà SMFN : Tecniche metriche e di viscosità per equazioni alle derivate parziali non lineari
2005	PI	Progetto Facoltà SMFN : Tecniche metriche e di viscosità per equazioni alle derivate parziali non lineari
2005	I	Progetto Ateneo Sapienza : Metodi di viscosità, metrici e di teoria del controllo in equazioni alle derivate parziali non lineari.
2004	PI	Progetto Facoltà SMFN : Metodi di viscosità per equazioni alle derivate parziali non lineari
2004	I	Progetto Ateneo Sapienza : Metodi di viscosità, metrici e di teoria del controllo in equazioni alle derivate parziali non lineari.
2002	I	Progetto Facoltà SMFN : Metodi di viscosità e metrici per equazioni alle derivate parziali completamente non lineari
2002	I	Progetto Ateneo Sapienza: Metodi di viscosità per equazioni alle derivate parziali completamente non lineari
2001	PI	Progetto Facoltà SMFN : Tecniche di viscosità per equazioni di Hamilton Jacobi e per equazioni alle derivate parziali completamente non lineari

XI C – Projects funded by INDAM

Since 2002, I have been PI of 5 INDAM-GNAMPA projects on viscosity solutions and I have participated as investigator in other 10 INDAM-GNAMPA projects on viscosity solutions

Part XII – Other qualifications and Scientific Support Activities

- Member of the Committee for a position of Associate professor at the Dipartimento di Matematica of the University of Roma Sapienza (2019)
- Member of the Committee for a position of Associate professor at the Dipartimento di Matematica of the University of Catania (2002)
- Member of the Committee for a position of “ Ricercatore” at the Dipartimento di Matematica of the University of Lecce (2008)
- Member of the Committee for a position of “ Ricercatore” at the Dipartimento di Matematica of the University of Napoli- Partenope (2005)
- Member of the Committee for a position of “ Ricercatore” at the Dipartimento di Matematica of the University of Pisa (2005)
- Member of the Committee for a position of “ Ricercatore” at the Dipartimento di Matematica of the University of Pavia (1998)
- Member of a Committee for assigning postdoc positions (assegni di ricerca) at the Dipartimento di Matematica of the University of Roma Sapienza (2016)
- Member (and rapporteur) of the PhD Dissertation Committee for the student Thi Tuyen Guyn, University of Rennes (2016)
- Member of the PhD Dissertation Committee for the student Joao Meireles, University of Padova (2015)
- Member (and rapporteur) of the PhD Dissertation Committee for the student Mohammad Al Haj, Ecoles de Mines, Paris (2013)
- Member of the PhD Dissertation Committee for the student Maxime Zavidoviques, Ecole Normale Supérieure de Lyon (2010)
- Invited to write two papers for the “Encyclopedia of Mathematical Physics”, Elsevier (2006) and for the “Encyclopedia of Complexity and System of Science”, Springer (2012) (n. 11 and n. 22 of the list of publications).
- Referee for many mathematical journals, among which : *Inventiones Mathematicae*, *Advances in Mathematics*
- Coorganizer of the weekly seminar “Analisi Matematica” and of the seminar HAM and Co at the Dipartimento di Matematica of the University of Roma Sapienza

Part XIII – Research Areas

My research is focused on the qualitative analysis of Hamilton-Jacobi equations in the framework of viscosity solutions theory. A new point of view in this direction is given in the paper n. 29 (see the complete list of publications) where it has been proposed a metric interpretation of HJ equations both in the convex and nonconvex case. In two papers with Albert Fathi (n. 24, 26) it has been shown that weak KAM theory, which has been formulated in the framework of regular Hamiltonian dynamics, can be extended even for only continuous quasiconvex Hamiltonians. Indeed, in this case, a dynamics, at least in the traditional sense, cannot be defined. This apparatus has been combined with some stochastic tools to study, in particular, stationary ergodic homogenization (n. 13, 16, 19) and weakly coupled systems (n. 2, 4, 7). It has also been adapted to deal with problems posed on graphs and networks (n. 1, 5 and papers in preparation). Finally, in the preprint n.2 with H. Ishii the existence of generalized Mather measures has been proved via duality in an appropriate topological setting. This new point of view seems promising for further developments.

Key words for my research are :

- Viscosity solutions theory
- Weak KAM theory
- Deterministic and stochastic homogenization of Hamilton-Jacobi equations
- Inverse Lyapunov theorems
- Time functions on oriented Lorentzian manifolds
- Networks and graphs

Part XIV – Summary of Scientific Achievements, Complete List of Publications in the area “Mathematical Analysis” (SSD MAT05)

I have started to work in this area in the early 90’s, my first publication in the field has appeared in 1993)

XIV A Papers

- 1 M. Pozza, A. Siconolfi, Discounted Hamilton Jacobi equations on networks and asymptotic analysis, *Ind. Univ. Math. Journal* (to appear), <http://www.iumj.indiana.edu/IUMJ/Preprints/8435.pdf> (30 pages)
- 2 A. Davini, A. Siconolfi, M. Zavidovique, Random Lax--Oleinik semigroups for Hamilton--Jacobi systems, *Journal des Math. Pures et Appl.* (9) 120 (2018) 294-333
- 3 A.Siconolfi, S.Zabad, Scalar reduction techniques for weakly coupled Hamilton-Jacobi systems, *NoDea, Nonlinear Differential Equations Appl.* 25 (2018) no 6. Art. 50, 20 pp
- 4 H. Ibrahim, A. Siconolfi, S.Zabad, Cycle characterization of the Aubry Set for weakly coupled Hamilton- Jacobi systems, *Commun. Contemp. Math.* 20 (2018), no 6, 28 pp
- 5 A.Siconolfi, A. Sorrentino, Global Results for Eikonal Hamilton-Jacobi equations on networks, *Analysis and PDE* 11 (2018) no 1, 171-211

- 6 T. Nguyen, A. Siconolfi, Singularly perturbed control systems with noncompact fast variable, *J. Diff. Eq.* 261 (2016), no 8, 4593–4630
- 7 H. Mitake, A. Siconolfi, H. V. Tran, and N. Yamada, A Lagrangian approach to weakly coupled Hamilton--Jacobi systems, *SIAM J. Math. Anal.* 48 (2016) no 2., 821—846
- 8 A. Davini, A. Siconolfi, Existence and regularity of strict subsolutions in the stationary ergodic setting, *Ann. Inst. Poincaré, Anal. non linéaire*, 33 (2016), no 2, 243–272
- 9 G. Contreras, R. Iturriaga, A. Siconolfi, Homogenization on arbitrary manifolds , *Calc. of Variation and PDE*, 52 (2015), no 1-2, 237—252
- 10 Z. Rao, A. Siconolfi, H. Zidani, Transmissions conditions on interfaces for Hamilton--Jacobi Bellman equations. *J. Diff. Eq.* 257 (2014), no 11, 3978—4014
- 11 A. Siconolfi, Hamilton–Jacobi equations and weak KAM theory, *Mathematics of Complexity and Dynamical Systems*, Vols 1-3, 683–703, Springer, New York, 2012
- 12 A. Siconolfi, G. Terrone, A metric proof of the converse Lyapunov Theorem for semicontinuous multivalued dynamics, *J. Discr. Cont. Dyn. Sys*, 32, (2012), no 12, 4409-4427
- 13 A. Davini, A. Siconolfi, Weak KAM theory topics in the stationary ergodic setting, *Calc. of Variation and PDE*, 44 (2012), no 3-4, 319-350
- 14 A. Fathi, A. Siconolfi, On smooth time functions, *Math. Proc. Cambridge Phil Soc*, 152 (2012), no 2, 303—339
- 15 A. Marigonda, A. Siconolfi, Metric formulae for nonconvex Hamilton–Jacobi equations and applications. *Advances in Diff. Eq.*, (2011), no 7-8, 691–724
- 16 A. Davini, A. Siconolfi Metric techniques for convex stationary ergodic Hamiltonians, *Calc. of Variation and PDE*, 40 (2011), no 3-4, 391—421
- 17 O. Bernardi, F. Cardin, A. Siconolfi, Cauchy problems for stationary Hamilton–Jacobi equations under mild regularity assumptions. *Journal of Geometric Mechanics*, 1 (2009) , no 3, 271–294
- 18 F. Camilli, A. Cesaroni, A. Siconolfi, Randomly perturbed dynamical system and Aubry–Mather theory, *Int. J. Din. Syst. and Diffe. Equ.*, 2 (2009), no 3-4 139–169
- 19 A. Davini, A. Siconolfi, Exact and approximate correctors for stochastic Hamiltonians: the 1–dimensional case. *Math Annalen*, 345 (2009), no4, 749–782
- 20 A. Siconolfi, G. Terrone, A metric approach to the converse Lyapunov Theorem for continuous multivalued dynamics. *Nonlinearity*, 20 (2007), no 5, 1077—1093
- 21 F. Camilli, A. Siconolfi, Effective Hamiltonian and homogenisation for measurable Eikonal equations. *Arch. Rat. Mech. Anal.*, 183 (2007), no 1, 1–20

- 22 A. Siconolfi, Hamilton–Jacobi Equations and Dynamical Systems: Variational aspects, Encyclopedia of Mathematical Physics ed. by J.P. Francoise, G.L. Naber, T.S. Tsu, Elsevier 2 (2006) 636–644.
- 23 A. Davini, A. Siconolfi, A generalized dynamical approach to the large time behavior of solutions of Hamilton–Jacobi equations. *SIAM J. Math Anal.*, 38 (2006), no 2, 478–502
- 24 A. Fathi, A. Siconolfi, PDE aspects of Aubry-Mather theory for quasiconvex Hamiltonians. *Calc. Var. and PDE*, 22 (2005), no 2, 185—228
- 25 F. Camilli, A. Siconolfi, Time-dependent measurable Hamilton--Jacobi equations. *Comm. Partial Differential Equations*, 30 (2005), no 4-6, 813—847
- 26 A. Fathi, A. Siconolfi, Existence of C^1 critical subsolutions of the Hamilton-Jacobi equations. *Invent. Math.*, 155, (2004), no 2, 363—388
- 27 F. Camilli, A. Siconolfi, Hamilton-Jacobi equations with measurable dependence on the state variable. *Adv. Diff. Eq.*, 8, (2003), no 3, 733—76
- 28 A. Siconolfi, Almost continuous solutions of geometric Hamilton–Jacobi equations *Ann. Inst. H. Poincaré Non Linéaire* , 20, (2003), no 2, 237–269
- 29 A. Siconolfi, Metric character of Hamilton--Jacobi equations, *Trans. Amer. Math. Soc.*, 355, (2003), no 5, 1987—2009 and Errata to "Metric character of Hamilton–Jacobi equations" *Trans. Amer. Math. Soc.* 355 (2003), no 5, 4265.
- 30 F. Camilli, A. Siconolfi, Nonconvex degenerate Hamilton–Jacobi equations, *Math. Z.*, 242, (2002), no 2, 1–21
- 31 A. Siconolfi, Some formulae related to Hamilton–Jacobi equations, *RIMS Kokyu-Roku.*, no1287, (2002), 99–113
- 32 F. Camilli, A. Siconolfi, Maximal subsolutions for a class of degenerate Hamilton—Jacobi problems , *Indiana Univ. Math. J.* 48 (1999), no 3, 1111—1131
- 33 F. Camilli, A. Siconolfi, Discontinuous solutions of a Hamilton—Jacobi equation with infinite speed of propagation *SIAM J. Math. Anal.* 28 (1997) no 6, 1420—1445
- 34 A. Siconolfi, A first order Hamilton-Jacobi equations with singularity and the evolution of level sets, *Comm. Partial Differential Equations* 20 (1995), no 1-2, 277-307.
- 35 P. Loreti, A. Siconolfi, A first order A semigroup approach for the approximation of a control problem with unbounded dynamics, *J. Optim. Theory Appl.* 79 (1993), no 3, 599-610

XIV B Books

I.Capuzzo Dolcetta, F. Lanzara, A. Siconolfi, Lezioni di Ottimizzazione, *Nuova Cultura ed.* (2013).

XIV C Preprints

1. Y. Fujita, N. Hamamuki, A. Siconolfi, N. Yamaguchi, A class of nowhere differentiable functions satisfying some concavity-type estimate, arXiv 1908.00888 (submitted) (14 pages)
2. H. Ishii, A. Siconolfi, The vanishing discount problem for Hamilton-Jacobi equations in the Euclidean space, arXiv 1908.00869 (submitted) (35 pages)

XIV D Papers in preparation

- 1 A.Siconolfi, A. Sorrentino, Homogenization of Hamilton-Jacobi equations on networks.
- 2 A.Siconolfi, Time dependent Hamilton-Jacobi equations on networks and graphs.

XIV E Summary of published papers in Mathematical Analysis in the data bases.

Product type	Number	Data Base	Start	End
Papers	34 (in Math. Analysis)	MathSciNet	1993	2018
Papers	31 (in Math. Analysis)	Scopus	1993	2018

Total Impact factor	44,76 (papers in Math. Analysis)
Total Citations	470 (Scopus) – 447 (MathSciNet)
Average Citations per Product	15,1 (Scopus) – 13,1 (MathSciNet)
Hirsch (H) index	11 (MathSciNet) – 10 (Scopus)
Normalized H index*	0,44 (MathSciNet) – 0,4 (Scopus)

*H index divided by the academic seniority in the field Math. Analysis.


Part XV– Selected Publications of the last 10 years

List of the publications of the last 10 years selected for the evaluation. For each publication: title, authors, reference data, journal IF , citations (Scopus and MathSciNet).

- 1 M. Pozza, A. Siconolfi, Discounted Hamilton Jacobi equations on networks and asymptotic analysis, *Ind. Univ. Math. Journal* (to appear), <http://www.iumj.indiana.edu/IUMJ/Preprints/8435.pdf> (30 pages), 2019IF 1.09 Cit.0.
- 2 A. Davini, A. Siconolfi, M. Zavidovique, Random Lax--Oleinik semigroups for Hamilton--Jacobi systems, *Journal des Math. Pures et Appl.* (9) 120 (2018), 294-333, 2018IF 1.85, Cit.1 (Scopus) , Cit. 0 (MathSciNet).
- 3 H. Ibrahim, A. Siconolfi, S.Zabad, Cycle characterization of the Aubry Set for weakly coupled Hamilton- Jacobi systems, *Commun. Contemp. Math.* 20 (2018), no 6, 28 pp. , 2018IF 1.39, Cit.1 (Scopus) , Cit. 2 (MathSciNet).

- 4 A.Siconolfi, A. Sorrentino, Global results for Eikonal Hamilton-Jacobi equations on networks, *Analysis and PDE* 11 (2018) no 1, 171-211, 2018IF 1.75, Cit. 0
- 5 T. Nguyen, A. Siconolfi, Singularly perturbed control systems with noncompact fast variable, *J. Diff. Eq.* 261 (2016), no 8, 4593–4630, 2016IF 1.99, Cit. 0
- 6 H. Mitake, A. Siconolfi, H. V. Tran, and N. Yamada, A Lagrangian approach to weakly coupled Hamilton--Jacobi systems, *SIAM J. Math. Anal.* 48 (2016) no 2, 821—846. 2016IF 1.65, Cit.6 (Scopus) , Cit. 5 (MathSciNet).
- 7 A. Davini, A. Siconolfi, Existence and regularity of strict subsolutions in the stationary ergodic setting, *Ann. Inst. Poincaré, Anal. non linéaire*, 33 (2016), no 2, 243–272, 2016IF 1.60, Cit. 0
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