

**CURRRICULUM VITAE OF CIPRIANI FABIO (11 OCTOBER 2021):
SCIENTIFIC AND PROFESSIONAL ACTIVITIES**

Personal data

- Cipriani Fabio, born in Milano on 01-02-1961, resident in Desio (Mi), via Sciesa 22, 20832 (tel.0362-624460).
- Civil Service November 1996 - June 1998.

Educational qualifications

- Degree in Physics at Università degli Studi di Milano, graduation grade 110/110 cum Laude, November 1986 (supervisor Prof. R. Cirelli).
Title: "Functional integration in non relativistic Quantum Mechanics and in Field Theory".
- Degree of "Magister Philosophiae" in Mathematical Physics at International School of Advanced Studies Trieste-Italy, graduation grade 30/30 cum Laude, gained in October 1990 (supervisor Prof. G.F. Dell'Antonio).
Title: "Logarithmic Sobolev Inequalities".
- Degree of "Doctor Philosophiae" in Mathematical Physics at International School of Advanced Studies I.S.A.S. Trieste-Italy, gained in October 1992 (supervisor Prof. G.F. Dell'Antonio).
No graduation grade planned for the degree attainment.
Title: "Dirichlet forms and Markovian semigroups on standard forms of von Neumann algebras".

Academic qualifications and grants

- Scholarship holder, admission by competition, at International School of Advanced Studies I.S.A.S. Trieste-Italy, (4 positions available per year in each sector), period November 1988- October 1992.
- Grant Centro Nazionale delle Ricerche C.N.R. Italy, at Fakultät für Mathematik Ruhr-Universität Bochum-Germany, period March 1993- June 1994.
- Marie Curie Grant of European Community, contract number CHBICT941204, at Mathematics Department of the Nottingham University-United Kingdom, period July 1994- June 1996.
- Researcher in Mathematical Analysis at Dipartimento di Matematica Politecnico di Milano since 1st July 1996, confirmed since 1st July 1999.
- Associate Professor in Mathematical Analysis at Dipartimento di Matematica Politecnico di Milano since 1st March 2002, confirmed since 1st July 2005.
- Full Professor in Mathematical Analysis at Dipartimento di Matematica Politecnico di Milano since 7 January 2016.

Research interests

1. Noncommutative Potential Theory: Dirichlet forms and Markovian semigroups on C^* and von Neumann algebras
2. Noncommutative Geometry: Fredholm Modules and Spectral Triples
3. Fractals: differential calculus and topological invariants
4. Noncommutative Probability: Levy Processes on Quantum Groups

Direction of Italian and International Research Projects

5. Co-responsible of the bilateral research project I.N.D.A.M. Italy - C.N.R.S.-France 2007-2010, renewed 2011-2014
Groupement de Recherche Européen Franco-Italien en Geometrie Non Commutative G.R.E.F.I.-G.E.N.C.O.
4. Responsible of the I.N.D.A.M.-G.N.A.M.P.A. 2011 research project
Geometric aspects of the Potential Theory of Elliptic Differential Operators
3. Responsible of the I.N.D.A.M.-G.N.A.M.P.A. 2008 research project
Analysis and Spectral Geometry in Fractals Spaces and Complexes
2. Co-responsible of the MIUR-PRIN 2007 - prot. 2007 WECYEA004 (24 months) research project
Viscosity methods in control theory of partial differential equations.
1. Research Fellow (co-responsible) of the E.C. Human Capital and Mobility Program (24 months), period October 1994- June 1996, research project
Dirichlet Forms and Associated Quantum Processes.

Member of Research Projects

6. LYSM 2017-2021 - International Associated Laboratory IAL LYSM "Ypatia Laboratory of Mathematical Sciences", created on January 1st 2017 by agreement between the INdAM (Istituto Nazionale di Alta Matematica), AMU (Aix-Marseille University), CNRS (Centre National de la Recherche Scientifique), ECM (IEcole Centrale de Marseille).
5. MIUR-PRIN 2012 - prot. 2012TC7588-003 (36 months), period 08/03/2014-8/03/2017 research project
Elliptic and parabolic partial differential equations: geometric aspects, related functional inequalities
4. MIUR-PRIN 2009 - prot. 2009KNZ5FK-004 (24 months), period 17/10/2011-17/10/2013 research project
Degenerate elliptic and parabolic partial differential equations: geometric methods
3. MIUR-PRIN 2005 - prot. 2005010173-002 (24 months), period 30/01/2006-30/01/2008 research project
Degenerate elliptic and parabolic partial differential equations: convergence aspects
2. MIUR-PRIN 2002 - prot. 2002012589-002 (24 months), period 16/12/2002-16/12/2004 research project
Degenerate elliptic and parabolic partial differential equations: metric methods
1. MIUR-PRIN 1998 - prot. 9801262841-002 (24 months), period 20/12/1998-20/12/2000 research project
Dirichlet forms.

International Conferences Organizer.

9. *Noncommutative Geometry and Applications*
Abdus Salam ICTP International Center Theoretical Physics Trieste, February 72 - March 3, 2017
8. *Spectral Triples in Noncommutative Geometry*
Riemann International School of Mathematics, Villa Toeplitz Varese, May 2 - 5, 2016
7. NAOA 2014 *Noncommutative Analysis, Operator Theory and Applications*
Politecnico di Milano, June 23 - 27, 2014
6. INDAM Meeting GDRE *Noncommutative Geometry and Applications to Physics*
Politecnico di Milano, December 17 - 19, 2012
5. INDAM Meeting GDRE *Noncommutative Geometry, Index Theory and Applications*
Cortona-Italy, June 11-15 2012
4. *Spectral Theory and Schroedinger Operators*
Politecnico Milano March 2011

3. INDAM Meeting GDRE *Noncommutative Geometry and Quantum Physics*
Vietri sul Mare, August 31 - September 5, 2009

2. INDAM-CNRS France Meeting GDRE *1st French-Italian Inaugural Meeting on Noncommutative Geometry. Inaugural Meeting of the European research group GREFI-GENCO.*
Rome Università "La Sapienza", November 23-25 2007.

1. Italian Ministry University and Research M.U.R.S.T. Research Project *Potential Theory and Dirichlet Forms.*
Varenna-Como, September 2000.

Invited lecturer at international conferences.

26*. *SS14A - AMS Special Session on Advances in Functional Analysis and Operator Theory, I*
American Fall Western Virtual Sectional Meeting, 23-24 October 2021

25. *Conference on Operator Algebras and Related Topics In memory of Vaughan Jones*
Istanbul Center for Mathematical Sciences and Bogazici University, Istanbul, Turkey, 8-10 June 2021

24. *Operator algebras conference in memory of tienne Blanchard*
Universit Paris Diderot, paris France, 8-12 April 2019

23. *Random Transformations and Invariance in Stochastic Dynamics*
Braida Monastery, Universita' di Verona, Italia, 27-29 March 2019

22. *Analysis of non Local and non Smooth Models*
Bielefeld Universität, Bielefeld Germany, 25-29 March 2019

21. *Albeverio Fest*
Stockholm Universitet, Stockholm, Sweden 30 September- 1 October September 2018

20. *Workshop on PDEs/SPDEs and Functional Inequalities II*
Mathematical Research and Conference Center, Bedlewo, Poland, April 22-28, 2018

19. *Trails in Quantum Mechanics and Surroundings*
International School Advanced Studies I.S.A.S.-S.I.S.S.A. Trieste Italy 29-30 January 2018

18. *6th Cornell Conference on Analysis, Probability, and Mathematical Physics on Fractals*
Cornell University, Ithaca NY, U.S.A. June 13-17, 2017

17. *Noncommutative Geometry and Applications*
Abdus Salam International Center of Theoretical Physics, Trieste, Italy 27 February- 3 March 2017

16. *Deformability Rigidity Free probability and Subfactors*
Hausdorff Research Institute for Mathematics, Bonn, Germany 17-25 May 2016

15. *Noncommutative Potential Theory: Dirichlet forms on operators algebras*
Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany 19-25 October 2014

14. Mini course (4 lectures) on *Geometric aspects of Dirichlet Spaces*
INDAM-CNRS GREFI-GENCO Project, Villa Mondragone, Frascati Roma, 16-21 June 2014

13. *Noncommutative Geometry and Applications*
Poiana-Brasov Romania, 1-8 September 2013

12. *Intensive Month on Operator Algebras and Harmonic Analysis*
Madrid Spain, 20 May- 14 June 2013

11. *Probabilité Quantique: Theorie et Applications*
CIRM Marseille France, 1-5 October 2012

10. *A Neapolitan Workshop on Noncommutative Geometry*
Napoli, 20-22 September 2012

9. *Trails in a Noncommutative Land*
Trieste S.I.S.S.A., 18-20 May 2011

8. *4th Cornell Conference on Analysis, Probability, and Mathematical Physics on Fractals*
Cornell University Ithaca NY, 10-13 September 2011 (R. Strichartz org.)

7. *4th Rencontre du GDRE GREFI-GENCO*
Institut Henri Poincaré Paris, 30 Mai- 1er Juin 2011

6. *Groupes Quantiques et Geometrie Noncommutative*
CIRM Marseille France, 29 September - 1 October 2010

5. *Rencontre GDR Géométrie non commutative*
Aspet France, 30 Juin -4 Julliet 2008

4. *Workshop on Noncommutative Dynamics and Applications.*
Fields Institute Toronto-Canada, July 2007 (W. Arveson, R. Bath, R. Powers org.)
http://www.fields.utoronto.ca/programs/scientific/07-08/operator_algebras/noncom_dynamics/

3. *Stochastic Analysis and Mathematical Physics.*
Université de Bourgogne-C.N.R.S.-France, Dijon-France January 2006 (R. Leandre org.)

2. *Discretization of Continuous Operators.*
Bielefeld Germany, giugno 2001 (V. Metz org.)

1. *Noncommutativity - Geometry and Probability.*
Nottingham U.K., July 2000 (D. Applebaum, R. Hudson, J.M. Lindsay org.)

Visitor at Mathematics Departments of foreign Universities.

- 28. Imperial College, London, June 2018 (invited by Prof. B. Zegarlinski).
- 27. Banach Center Warsaw, Warsaw Poland, May 2018 (invited by Prof. A. Skalski).
- 26. Hausdorff Research Institute for Mathematics - Hausdorff Trimester Program von Neumann Algebras, Bonn Germany, May-June 2016 (invited by Professor Wolfgang Lck).
- 25. University of California Berkeley, September 2015 (invited by Professor Dan-Virgil Voiculescu).
- 24. "Alfried Krupp Wissenschaftskolleg" Greifswald, Germany, March 2015 (invited by Professors V. Liebscher, M.Schrmann).
- 23. Imperial College, London, December 2013 (invited by Prof. B. Zegarlinski).
- 22. Université Paris VI, October 2013 (invited by Prof. G. Skandalis and Prof. S. Vassout).
- 21. C.N.R.S. e Université Paris VI, Novemmber 2012 (invited by Prof. J.-L. Sauvageot).
- 20. C.N.R.S. e Université Paris VI, Novemmber 2011 (invited by Prof. J.-L. Sauvageot).
- 19. C.N.R.S. e Université Paris VI, Novemmber 2010 (invited by Prof. J.-L. Sauvageot).
- 18. C.N.R.S. e Université Paris VI, Novemmber 2009 (invited by Prof. J.-L. Sauvageot).
- 17. E.S.I. Schroedinger Institut Vienna, Novemmber 2008 (invited by Prof. R. Longo and Prof. W. Thiering)
- 16. C.N.R.S. e Université Paris VI, March 2008 (invited by Prof. J.-L. Sauvageot).
- 15. Fields Institute Toronto-Canada, August 2007 (invited by Prof. G. Elliott).
- 14. C.N.R.S. e Université Paris VI, April 2007 (invited by Prof. J.-L. Sauvageot).
- 13. C.N.R.S. e Université Paris VI, April 2005 (invited by Prof. J.-L. Sauvageot).
- 12. C.N.R.S. e Université Paris VI, July 2004 (invited by Prof. J.-L. Sauvageot).
- 11. C.N.R.S. e Université Paris VI, Frebruary 2004 (invited by Prof. J.-L. Sauvageot).
- 10. University of Bejing China, February 2003 (invited by Prof. J.-L. Sauvageot).
- 9. Academy of Mathematics Science Institute, Beijing, China, September 2002 (invited by Prof. Ma Zhi Ming).
- 8. C.N.R.S. e Université Paris VI, December 2000 (invited by Prof. J.-L. Sauvageot).
- 7. Rheinische Friedrich-Univerität Bonn, Novemmber 2002 (invited by Prof. S. Albeverio and Prof. K.Th. Sturm).
- 6. Universidad Catolica de Santiago de Chile, January 2000 (invited by Prof. R. Rebolledo).

5. Universidad Autonoma Metropolitana de Ciudad de Mexico, giugno 2000 (invited by Prof. R. Quezada).
4. Universidad Catolica de Santiago de Chile, January 1999 (invited by Prof. R. Rebolledo).
3. Universidad Catolica de Santiago de Chile, January 1998 (invited by Prof. R. Rebolledo).
2. Universita' di Lodz Polonia, December 1995 (invited by Prof. S. Goldstein).
1. Cornell University NY Ithaca U.S.A., March-April and July 1993 (invited by Prof. L. Gross).

Invited seminars.

20. *A noncommutative Sierpinski gasket*

New York City Noncommutative Geometry Seminar, New York, U.S., 14 July 2021
(Organizer Prof. I.V. Nikolaev)

19. *Densities and their measurability in Noncommutative Geometry*

Operator Algebra Seminar, Dipartimento di Matematica, Universita' Roma Tor Vergata, 26 may 2021
(Organizer Prof. V. Morinelli)

18. *On a noncommutative Sierpinski gasket*

Laboratoire des Mathematiques, Universite' France-Comte', Besancon France, 11 May 2021
(Organizer: Prof. U. Franz)

17. *Integrals and potentials of 1-forms on the Sierpinski gasket*

UC Berkeley Probabilistic Operator Algebra Seminar, Berkeley California U.S., 19 April 2021
(Organizer: Dan-Virgil Voiculescu)

16. *Logarithmic Sobolev Inequalities derived from Quantum Statistical Mechanics*

Imperial College, London, 14 June 2018 (invited by Prof. B. Zegarlinski)

15. *Noncommutative Dirichlet forms and Markovian semigroups on von Neumann algebras*

Imperial College, London, December 2013 (invited by Prof. B. Zegarlinski).

14. *Potential Theory on Noncommutative Spaces*

Université Orleans-France, April 2008 (invited by Prof. J. Renault).

13. *Nonlinear Dirichlet forms and Minimal Surfaces*

Università La Sapienza Roma, March 2008 (invited by Prof. M.A. Vivaldi).

12. *Characterization of positively curved manifolds by the Maximum Principle for the heat equation on differential forms and applications*

Università degli Studi Pavia, May 2006 (invited by Prof. G. Savaré).

11. *Dirichlet forms and Conformal Geometry on Fractals*

Università La Sapienza Roma, May 2005 (invited by Prof. I. Capuzzo-Dolcetta and prof. A. Siconolfi).

10. *Fredholm Modules and Conformal Geometry on Fractals*

Université Paris VI, April 2005 (invited by Prof. G. Choquet, Prof. A. de la Pradelle, Prof. G. Mokobodzki).

9. *Dirichlet problems for differential forms on Riemannian manifolds with positive curvature*

Università La Sapienza Roma, February 2003 (invited by Prof. G.F. Dell'Antonio).

8. *Derivations as square roots of Dirichlet forms*

Academy of Mathematics Science Institute, Beijing, China, September 2002 (invited by Prof. Ma Zhi Ming).

7. *Noncommutative Dirichlet forms and Curvature in Riemannian Geometry*

Rheinische Friedrich-Universität Bonn, November 2002 (invited by Prof. S. Albeverio and Prof. K.Th. Sturm).

6. *Noncommutative Potential Theory in Riemannian Geometry*

College de France, rue d'Ulm 1 Paris, January 2000 (invited by Prof. A. Connes and Prof. G Skandalis).

5. *Dirichlet forms and Orlicz-Sobolev embeddings*

Universidad Autónoma Metropolitana de Ciudad de México, June 2000 (invited by Prof. R. Quezada).

4. *Orlicz-Sobolev Inequalities and Spectrum*

Universidad Catolica de Santiago de Chile, January 1999 (invited by Prof. R. Rebolledo).

3. *Logarithmic Sobolev inequalities in Nonequilibrium Statistical Mechanics*

Università degli Studi di Genova, November 1996 (invited by Prof. F. Fagnola).

2. *Ergodic properties of Markovian semigroups*

University of Lodz Poland, December 1995 (invited by Prof. S. Goldstein).

1. *Dirichlet forms and Markovian semigroups on von Neumann algebras*

Cornell University NY Ithaca U.S.A., April 1993 (invited by Prof. L. Gross).

Awards

1. The article *Derivations as Square Roots of Dirichlet Forms*, published in *Journal of Functional Analysis 2003*, has been included by I.N.D.A.M. in a list of works submitted to the Italian Ministry of University and Research M.I.U.R., for the evaluation of the Italian research institutions.

2. In the comparative evaluation at Salerno University, for 1 position of full professor (professore ordinario) in Mathematical Analysis MAT05 (Supplemento Ordinario alla Gazzetta Ufficiale Repubblica Italiana (IV Serie Speciale) n. 54 del 11-7-2008), the candidate Cipriani Fabio obtained 2 favorable votes on 5.

3. The Department of Mathematics of Orleans-France, organized between autumn 2007 and spring 2008, a series of seminars dedicated to theory of Dirichlet forms as developed in the papers [6],[9],[12],[14],[18],[20],[22],[26] listed in the publications section (website <http://www.fdpoisson.org/agenda/index.php?type=51>):

- Prof. Pierre Julg: "Des formes de Dirichlet aux drivations" (d'après Cipriani)

Vendredi 11 avril 2008 - 14h00 - Salle de Séminaire.

- Prof. Pierre Clare (MAPMO): "Formes de Dirichlet et calcul différentiel sur les C^* -algbres" (d'après Cipriani)

Vendredi 04 avril 2008 - 14h00 - Salle de Séminaire.

- Prof. Alexandre Nou (MAPMO) Formes de Dirichlet non-commutatives (suite) (d'après Cipriani)

Vendredi 26 octobre 2007 - 14h00 - Salle S308.

- Prof. Alexandre Nou (MAPMO) Formes de Dirichlet non-commutatives (d'après Cipriani)

Vendredi 19 octobre 2007 - 14h00 - Salle S308.

Editorial activity.

Co-editor of the Proceedings of the conference "NAOA 2014, Noncommutative Analysis, Operator Theory and Applications", held at the Department of Mathematics of the Politecnico of Milano, 23-27 June 2014, edited by Birkhauser-Basel.

Referee for the following journals: Journal of Functional Analysis, Communications in Mathematical Physics, Journal of Noncommutative Geometry, Annales Institut Henry Poincaré, Letters in Mathematical Physics, Annali Scuola Normale Superiore, Math. Z., Infinite Dimensional Analysis and Quantum Probability, International Journal of Mathematics, Nuovo Cimento, Science China Mathematics, Journal Korean Mathematical Society, Nonlinear Analysis Series A: Theory, Methods and Applications, Potential Analysis, Reviews in Mathematical Physics, Discrete and Continuous Dynamical Systems Series A.

Member of commissions

Member of 2 commissions for permanent research positions at the Department of Mathematics of Milano Università and at the Department of Mathematics of Rome Università "La Sapienza".

Pre-prints

4. *A noncommutative Sierpinski Gasket*

Authors: Fabio E.G. Cipriani, Daniele Guido, Tommaso Isola, Jean-Luc Sauvageot

arXiv:2105.12233, 27 pages.

3. *KMS Dirichlet forms, coercivity and superbounded Markovian semigroups*

Authors: Fabio E.G. Cipriani, Boguslaw Zegarlinski

arXiv:2105.06000, 26 pages.

2. *The emergence of Noncommutative Potential Theory*

Authors: Fabio E.G. Cipriani

RarXiv:2012.14748, 49 pages.

1. *Listening to the shape of a drum*

Authors: Fabio E.G. Cipriani, J.-L. Sauvageot

arXiv:1909.02435 , 32 pages.

Articles Published in International Journals

37. *On the eigenvalue counting function for Schrödinger operator: some upper bound.*

Rend. Mat. Appl., (7) 39 (2018) 257-276.

36. *Amenability and subexponential spectral growth rate of Dirichlet forms on von Neumann algebras.*

Co-author J.-L. Sauvageot (C.N.R.S. et Université Paris 7 France).

Advances in Math., 322, (2017), 308–340.

35. *Logarithmic Sobolev Inequality for an Ideal Bose Gas.*

in "Advances in Quantum Mechanics: contemporary trends and open problems" (2017),

Springer Verlag Berlin-New York.

Pages 15.

34. *Negative definite functions on groups with polynomial growth.*

Co-author J.-L. Sauvageot (C.N.R.S. et Université Paris 7 France).

Noncommutative analysis, operator theory and applications,

Oper. Theory Adv. Appl., Linear Oper. Linear Syst. Series, 252, (2016), 97-104, Birkhuser/Springer.

33. *Noncommutative potential theory: a survey.*

J. Geom. Phys., 105, (2016), 25-59.

32. *Variations in Noncommutative potential Theory: finite energy functionals, potentials and multipliers.*

Co-author J.-L. Sauvageot (C.N.R.S. et Université Paris 7 France).

Transaction American Mathematical Soc., 367, (2015), no. 7, 4837-4871.

31. *Symmetries of Lvy processes on compact quantum groups, their Markov semigroups and potential theory.*

Co-authors U. Franz (Université Besancon, France); A. Kula (Wroclaw University, Poland).

J. Funct. Anal., 5, (2014), 2789-2844.

30. *Spectral Triples on the Sierpinski gasket.*

Co-authors D. Guido; T. Isola (Università Roma II "Tor Vergata"), J.-L. Sauvageot (C.N.R.S. et Université Paris 7 France).

J. Funct. Anal., 8, (2014), 4809–4869.

29. *Integrals and potentials of differential 1-forms on the Sierpinski gasket.*

Co-authors D. Guido; T. Isola (Università Roma II "Tor Vergata"), J.-L. Sauvageot (C.N.R.S. et Université Paris 7 France).

Advances in Math., 239, (2013), 128–163.

28. *A C^* -algebra of geometric operators on self-similar CW-complexes.*

Co-authors D. Guido; T. Isola (Università Roma II "Tor Vergata").

J. Funct. Anal., 256 no. 3, (2009), 603–634.

27. *Fredholm modules on P.C.F. self-similar fractals and their conformal geometry.*

Co-author J.-L. Sauvageot (C.N.R.S. Paris VI).

Comm. Math. Phys., 286 no. 2, (2009), 541–558.

26. *Hypercontractivity, Nash inequalities and subordination for classes of nonlinear semigroups.*

Co-author G. Grillo (Politecnico Torino).

Semigroup Forum, 78 no. 1, (2009), 77–98.

25. *Dirichlet Forms on Noncommutative Spaces*

Lectures Notes Mathematics 1954 "Quantum Potential Theory" (2008),

Springer Verlag Berlin-New York.

Pages 115.

24. *Positive maps in C^* -algebras.*

Encyclopedia of Mathematical Physics, Article 00454 (2006)

Elsevier Ltd, Amsterdam The Netherlands.

23. *Dirichlet forms as Banach algebras and applications.*

Pacific. J. Math., 223 n.2 (2006), 229-249.

22. *Strong solutions to the Dirichlet problem for differential forms: a quantum dynamical semigroup approach.*

Co-author J.-L. Sauvageot (C.N.R.S. Paris VI).

Contemp. Math., 335, 109-117, Amer. Math. Soc., Providence RI, 2003; (58J32, 35J25, 46L05, 47D07).

21. *Nonlinear Markov semigroups, nonlinear Dirichlet forms and applications to minimal surfaces.*

Co-author G. Grillo (Politecnico Torino).

J. Reine Angew. Math. 562 (2003), 201–235; (60J45, 31C25, 47H20, 58E12, 60J25).

20. *Noncommutative potential theory and the sign of the curvature operator in Riemannian geometry.*

Co-author J.-L. Sauvageot (C.N.R.S. Paris VI).

Geom. Funct. Anal., 13, (2003), no. 3, 521-545; (58J42,46L87).

19. *Ultracontractivity and convergence to equilibrium for supercritical quasilinear parabolic equations on Riemannian manifolds.*

Co-author G. Grillo (Politecnico Torino).

Adv. Differential Equations, 8 (2003), no. 7, 843–872; (58D07, 35K55, 35K65, 47H20, 58J35).

18. *Derivations as square roots of Dirichlet forms.*

Co-author J.-L. Sauvageot (C.N.R.S. Paris VI).

J. Funct. Anal., 201 (2003), no. 1, 78–120; (46L53, 47D07, 60J25).

17. *L^q - L^∞ Hlder continuity for quasilinear parabolic equations associated to Sobolev derivations.*

Co-author G. Grillo (Politecnico Torino).

J. Math. Anal. Appl., 270 (2002), no. 1, 267–290; (35K55, 35B65, 46L08, 58J35).

16. *The Markov property for classes of nonlinear parabolic equations.*

Co-author G. Grillo (Politecnico Torino).

Nonlinear Anal., 47 (2001), no. 5, 3549–3554; (31C25, 35K55, 37L05, 47H20).

15. *Uniform bounds for solutions to quasilinear parabolic equations.*

Co-author G. Grillo (Politecnico Torino).

J. Differential Equations, 177 (2001), no. 1, 209–234; (35K55, 35B45).

14. *Perron theory for positive maps and semigroups on von Neumann algebras.*

CMS Conf. Proc., 335, (2003), 115–123, Amer. Math. Soc., Providence RI; (47A35, 46L57, 47D06).

13. *Sobolev-Orlicz imbeddings, weak compactness, and spectrum.*

J. Funct. Anal., 177 (2000), no. 1, 89–106; (46E35, 47A10, 47B25, 47D03).

12. *Spectral analysis and Feller property for quantum Ornstein-Uhlenbeck semigroups.*
Co-authors F. Fagnola (Politecnico Milano), J.M. Lindsay (Nottingham University UK).
Comm. Math. Phys., 210 (2000), no. 1, 85–105; (47D07, 31C25, 60J35, 81S25).
11. *Estimates for capacities of nodal sets and polarity criteria in recurrent Dirichlet spaces.*
Forum. Math., 12 (2000), no. 1, 1–21; (31C25, 60J45, 60J60).
10. *On L^p -Agmon Theory.*
Co-author G. Grillo (Politecnico Torino).
Discrete and Continuous Dynamical Systems, 1 (1998), 167–176; (35J15, 35P05).
9. *The variational approach to the Dirichlet problem in C^* -algebras.*
Banach Center Publ., 43, (1998), 135–146, Polish Acad. Sci., Warsaw; (46L50, 46L57, 47D07).
8. *Pointwise properties of eigenfunctions and heat kernels of Dirichlet-Schrödinger operators.*
Co-author G. Grillo (Politecnico Torino).
Potential Anal., 8 (1998), no. 2, 101–126; (35J10, 35P05, 47D06, 60H30).
7. *L^p -exponential decay for solutions to functional equations in local Dirichlet spaces.*
Co-author G. Grillo (Politecnico Torino).
J. Reine Angew. Math., 496 (1998), 163–179; (35J40, 31C25, 35B40).
6. *Dirichlet forms and Markovian semigroups on standard forms of von Neumann algebras.*
J. Funct. Anal., 147 (1997), no. 2, 259–300; (46L50, 31C25, 47D07).
5. *Pointwise lower bounds for positive solutions of elliptic equations and applications to intrinsic ultracontractivity of Schrödinger semigroups.*
Co-author G. Grillo (Politecnico Torino).
Bollettino U.M.I., 10 (1996), no. 4, 927–941; (35J10, 35B45).
4. *A remark on trace properties of K -cycles.*
Co-authors D. Guido (Università Roma II), S. Scarlatti (Università Pescara).
J. of Operators Theory, 35 (1996), no. 1, 179–189; (46L87, 46L30, 46L80, 58B30).
3. *Contractivity properties of Schrödinger semigroups on bounded domains.*
Co-author G. Grillo (Politecnico Torino).
J. London Math. Soc., 52 (1995), no. 3, 583–593; (47F05, 35J10, 47D06).
2. *Intrinsic ultracontractivity of Schrödinger operators with deep wells potentials.*
Bollettino U.M.I., 8-B (1994), no. 2, 355–370; (47F05, 35J10, 47D06, 81Q10).
1. *Intrinsic ultracontractivity of Dirichlet Laplacians in nonsmooth domains.*
Potential Anal., 3 (1994), no. 2, 203–218; (47F05, 35P05, 47D03).

Textbooks

1. "Calcolo 2"

Editor: Progetto Leonardo Bologna, 2004.

Authors: Cipriani Fabio - Dulio Paolo (Politecnico Milano)

Courses held

- 12 courses *Mathematical Analysis and Geometry I* (64 hours)
during the Academic Years 2003-04, 2004-05, 2005-06, 2006-07, 2007-08, 2008-09, 2010-11, 2011-12, 2012-2013, 2013-14.
- 11 courses *Mathematical Analysis and Geometry II* (64 hours)
during the Academic Years 1999-2000, 2000-2001, 2001-02, 2002-03, 2003-04, 2009-10

- 8 courses *Mathematical Methods for Materials and Mechanics Engineering* (36 hours) during the Academic Years 2003-04, 2004-05, 2005-06, 2006-07, 2007-08, 2008-09, 2010-11, 2012-2013, 2013-14.
- 6 exercises classes in Mathematical Analysis and Geometry I (48 hours) and Mathematical Analysis II (48 hours) during the Academic Years 1996-97, 1997-98, 1998-1999.

PhD Courses held

1. "Nonlinear Dynamical Systems"

PhD course taught during the 16 academic years

1998-99, 1999-2000, 2000-01, 2001-02, 2002-03, 2003-04, 2004-05, 2005-06, 2006-07, 2007-08, 2008-09, 2009-10, 2010-11, 2011-12, 2012-13, 2013-14

at Faculty of Ingegneria Aerospaziale e Meccanica Politecnico di Milano.

2. "Noncommutative Geometry"

PhD course held during the period March - July 2011 at Dipartimento di Matematica Universita' Tor Vergata Roma.

Advanced Courses held

1. "Noncommutative Dirichlet Forms"

School "Quantum Potential Theory", Krupp Kolleg di Greifswald-Germany, March 2007.

<http://stubber.math-inf.uni-greifswald.de/algebra/qpt/>

2. "Logarithmic Sobolev Inequalities and applications: an introduction"

course held in November 1995 at Mathematics Department of the Nottingham University.

PhD Thesis Supervisor

1. "Noncommutative Potential Theory for Group Actions and Applications to Noncommutative Geometry" (2009)

Candidate: Dr. Mauri Lucio

XXI ciclo del Dottorato di Matematica, Dipartimento di Matematica "F. Enriques"

Università degli Studi di Milano Via Cesare Saldini 50 20133 Milano, Italy

Thesis Supervisor

1. "Teoria di Bloch per cristalli e quasi-cristalli con interazioni di Fermi"

("Bloch theory for crystals and quasi-crystals with Fermi interactions")

Candidate: Dr. Penati Mattia

Corso di Laurea Specialistica in Ingegneria Matematica, Politecnico di Milano, A.A. 2009-10.