Curriculum Vitæ

March 21, 2026

Name	:	Massimiliano Daniele
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Contents

Academic positions

01.06.2021→ onward Full Professor at the Institute of Mathematics of UMCS Lublin, Poland

01.04.2023→ onward Associate Professor at Department of Management and Business Administration of University "G. d'Annunzio" of Chieti-Pescara, Italy

01.11.2019→ 31.03.2023 Associate Professor at Department of Mathematics and Computer Science of University of Ferrara, Italy

01.11.2016→31.10.2019 Researcher at Department of Mathematics and Computer Science of University of Ferrara, Italy

01.10.2015→31.05.2021 Associate Professor at the Institute of Mathematics of UMCS Lublin, Poland

01.09.2009-31.08.2015 Assistant Professor at ICM, University of Warsaw, Poland

01.10.2008-31.08.2009 Assistant Professor at Institute of Mathematics of Polish Academy of Sciences, Warsaw, Poland

01.04.2006-30.09.2008 Post-Doc at University of Brescia, Italy, supervisor Prof. R.M. Colombo

01.04.2005-31.03.2006 Post-Doc at University of L'Aquila, Italy, supervisor Prof. B.Rubino

01.02.2005-31.03.2005 Post-Doc at University of Lyon, France, supervisor Prof. S.Benzoni-Gavage

01.12.2003-16.12.2004 Post-Doc at University of Brescia, Italy, supervisor Prof. R.M. Colombo

Titles

Scientific title of Professor in mathematical sciences, 20.01.2021
President of the Republic of Poland
http://isap.sejm.gov.pl/isap.nsf/download.xsp/WMP20210000183/O/M20210183.pdf

Ph.D. in Mathematics, 05.03.2004
University of Naples, Thesis "Existence and Stability of Transonic Shock Waves in the Hydrodynamic Model For Semiconductors", advisor Prof. Pierangelo Marcati, supervisor Prof. Angelo Alvino.

University Degree in Mathematics, 22.12.1999
University of L'Aquila, December 22th, 1999, 110 over 110 cum laude, Advisor Prof. Pierangelo Marcati, Thesis "Stabilità degli shock multidimensionali" (Stability of Multidimensional Shocks).

Habilitations

Italian habilitation – Full Professor, 07.05.2021–07.05.2032
Ministero dell'Istruzione, dell'Università e della Ricerca (Ministry of Education, University and Research), habilitation as Full Professor in Mathematical Analysis, Probability and Mathematical Statistics, research sector 01/A3.
https://asn18.cineca.it/pubblico/miur/esito-abilitato/01%252FA3/1/6

Italian habilitation – Associate Professor, 27.07.2018–27.07.2027
Ministero dell'Istruzione, dell'Università e della Ricerca (Ministry of Education, University and Research), habilitation as Associate Professor in Mathematical Analysis, Probability and Mathematical Statistics, research sector 01/A3.
https://asn16.cineca.it/pubblico/miur/esito-abilitato/01%252FA3/2/5

Italian habilitation – Associate Professor, 30.12.2013–30/12/2022
Ministero dell'Istruzione, dell'Università e della Ricerca (Ministry of Education, University and Research), habilitation as Associate Professor in Mathematical Analysis, Probability and Mathematical Statistics, research sector 01/A3.
https://abilitazione.cineca.it/ministero.php/public/esitoAbilitati/settore/01%252FA3/fascia/2

Polish habilitation, 25.04.2014
Instytut Badań Systemowych PAN (Systems Research Institute of the Polish Academy of Sciences), habilitation in Informatics, Thesis "New unified approach to large-scale computational modeling, simulation and control of traffic flows and crowd dynamics", referees Prof. dr hab. inż Tadeusz Burczyński, Prof. dr hab. inż Witold Dzwinel, Prof. dr hab. inż Antoni Żochowski.
https://www.ck.gov.pl/promotion/id/1901/type/l.html

Teaching activities

Master's thesis supervisor (2)

P. Verre Bachelor's student at Dipartimento di Economia Aziendale (Department of Management and Business Administration), Universyty of Chieti-Pescara, Chieti, Italy, Thesis "L'Equazione di Black-Scholes" (The Black–Scholes Equation), discussed on 05.11.2025

M. Żołędź Bachelor's student at Instytut Matematyki (Instytut of Mathematics), Uniwersytet Marii Curie-Skłodowskiej, Lublin, Poland, Thesis "Prawa zachowania w modelowaniu ruchu samochodowego" (Conservation laws in car traffic modeling)

Ph.D. supervisor (2)

N. Dymski Ph.D. student at Instytut Matematyki, Uniwersytet Marii Curie-Skłodowskiej, Lublin, Poland, Thesis "Prawa zachowania w modelowaniu zjawisk kolektynych" (Conservation laws in the modelling of collective phenomena), discussed on 11.10.2019.
https://www.ck.gov.pl/review/id/38170/type/ud.html

M. Benyahia Ph.D. student at the Gran Sasso Science Institute, L'Aquila, Italy, Thesis "A two-phase transition model in traffic flow modelling and point constraint on the density flux" discussed cum laude on 25.07.2018.
http://www.gssi.it/seminars/seminars-and-events-2018/item/4045-mathematics-phd-thesis-defence

Postdoc supervisor (2)

S. Pellegrino Postdoc at Instytut Matematyki, Uniwersytet Marii Curie-Skłodowskiej, Lublin, Poland, during the a.y. 2019-2020

E. Dal Santo Postdoc at Instytut Matematyki, Uniwersytet Marii Curie-Skłodowskiej, Lublin, Poland, during the a.y. 2015-2016

Undergraduate courses

a.y. 2025-2026, II semester, UMCS, Lublin, Poland
• 3rd year master course *"Ordinary differential equations"*, Instytut Matematyki

a.y. 2025-2026, I semester, UNICH, Pescara, Italy
• 1st year bachelor course *"Mathematics for Economics and Finance"*, Department of Management and Business Administration
• 1st year bachelor course *"Mathematics"*, Department of Architecture

a.y. 2024-2025, II semester, UMCS, Lublin, Poland
• 3rd year master course *"Ordinary differential equations"*, Instytut Matematyki

a.y. 2024-2025, I semester, UNICH, Pescara, Italy
• 1st year bachelor course *"Mathematics for Economics and Finance"*, Department of Management and Business Administration
• 1st year bachelor course *"Mathematics"*, Department of Architecture

a.y. 2023-2024, II semester, UMCS, Lublin, Poland
• 3rd year master course *"Ordinary differential equations"*, Instytut Matematyki

a.y. 2023-2024, I semester, UNICH, Pescara, Italy
• 1st year bachelor course *"Mathematics for Economics and Finance"*, Department of Management and Business Administration

a.y. 2022-2023, II semester, UMCS, Lublin, Poland
• 3rd year master course *"Ordinary differential equations"*, Instytut Matematyki

a.y. 2022-2023, I semester, UNIFE, Ferrara, Italy
• 1st year bachelor course *"Mathematical analysis"*, Informatics
• 2nd year bachelor course *"Mathematical analysis II"*, Electronic and Informatics Engineering

a.y. 2021-2022, II semester, UMCS, Lublin, Poland
• 3rd year master course *"Ordinary differential equations"*, Instytut Matematyki
• 3rd year master course *"Selected issues in mathematics"*, Instytut Matematyki
• 3rd year master course *"History of mathematics"*, Instytut Matematyki

a.y. 2021-2022, I semester, UNIFE, Ferrara, Italy
• 1st year bachelor course *"Mathematical analysis"*, Informatics
• 2nd year bachelor course *"Mathematical analysis II"*, Electronic and Informatics Engineering

a.y. 2020-2021, II semester, UMCS, Lublin, Poland
3rd year master course *"Ordinary differential equations"*, Instytut Matematyki

a.y. 2020-2021, I semester, UNIFE, Ferrara, Italy
• 1st year bachelor course *"Mathematical analysis"*, Informatics
• 2nd year bachelor course *"Mathematical analysis II"*, Electronic and Informatics Engineering

a.y. 2019-2020, II semester, UMCS, Lublin, Poland
• 3rd year master course *"Mathematical analysis III"*, Instytut Matematyki
• 3rd year master course *"Mathematical modeling"*, Instytut Matematyki
• 3rd year master course *"Numerical methods in optimizations and differential equations"*, Instytut Matematyki
• 3rd year master course *"Ordinary differential equations"*, Instytut Matematyki

a.y. 2019-2020, I semester, UNIFE, Ferrara, Italy
• 1st year bachelor course *"Mathematical analysis"*, Informatics
• 2nd year bachelor course *"Mathematical analysis II"*, Electronic and Informatics Engineering

a.y. 2018-2019, II semester, UMCS, Lublin, Poland
• 3rd year master course *"Mathematical analysis IV"*, Instytut Matematyki
• 3rd year bachelor course *"Differential equations I"*, Instytut Matematyki
• 3rd year bachelor course *"Discrete mathematics"*, Instytut Matematyki

a.y. 2018-2019, I semester, UNIFE, Ferrara, Italy
• 1st year bachelor course *"Mathematical analysis"*, Informatics
• 2nd year bachelor course *"Mathematical analysis II"*, Electronic and Informatics Engineering

a.y. 2017-2018, II semester, UMCS, Lublin, Poland
• 1st year master course *"Differential equations II"*, Instytut Matematyki
• 3rd year bachelor course *"Differential equations I"*, Instytut Matematyki
• 3rd year bachelor course *"Discrete mathematics"*, Instytut Matematyki

a.y. 2017-2018, I semester, UNIFE, Ferrara, Italy
• 2nd year bachelor course *"Mathematical analysis II"*, Electronic and Informatics Engineering

a.y. 2016-2017, II semester
• 1st year bachelor course *"Mathematical analysis"*, Mechanical Engineering

a.y. 2016-2017, I semester, UMCS, Lublin, Poland
• 3rd year bachelor course *"Differential equations I"*, Instytut Matematyki

a.y. 2015-2016, I semester, UMCS, Lublin, Poland
• 3rd year bachelor course *"Conservation laws and applications"*, Instytut Matematyki

Postgraduate courses (13)

a.y. 2021-2022, II semester, UMCS, Lublin, Poland
• 2nd year Ph.D course *"Macroscopic models for vehicular traffic"*, Instytut Matematyki
• 1st and 2nd year Ph.D course *"Introduction to hyperbolic conservation laws"*, Instytut Matematyki

a.y. 2020-2021, II semester, University of Padua
• Ph.D course *"Introduction to hyperbolic conservation laws"*, Department of Mathematics "Tullio Levi-Civita"

a.y. 2020-2021, I semester, UMCS, Lublin, Poland
• 1st year Ph.D course *"Conservation laws: theory and applications"*, Instytut Matematyki

a.y. 2019-2020, II semester, UMCS, Lublin, Poland
• 2nd year Ph.D course *"Analysis and approximation of one-dimensional scalar conservation laws with general point constraints on the flux"*, Instytut Matematyki

a.y. 2018-2019, II semester, UMCS, Lublin, Poland
• 1st and 2nd year Ph.D course *"Gas dynamics through valves"*, Instytut Matematyki

a.y. 2018-2019, I semester, UMCS, Lublin, Poland
• 1st and 2nd year Ph.D course *"Phase transition models for traffic modeling"*, Instytut Matematyki

a.y. 2017-2018, II semester, UMCS, Lublin, Poland
• 1st and 2nd year Ph.D course *"Conservation laws: theory and applications"*, Instytut Matematyki

a.y. 2016-2017, II semester, UMCS, Lublin, Poland
• 2nd year Ph.D course *"Phase transition models for traffic modeling"*, Instytut Matematyki

a.y. 2016-2017, I semester, UMCS, Lublin, Poland
• 2nd year Ph.D course *"Gas dynamics through valves"*, Instytut Matematyki

a.y. 2016-2017, I semester, UMCS, Lublin, Poland
• 1st year Ph.D course *"Conservation laws: theory"*, Instytut Matematyki

a.y. 2015-2016, II semester, UMCS, Lublin, Poland
• 1st year Ph.D course *"Conservation laws: applications"*, Instytut Matematyki

a.y. 2015-2016, I semester, UMCS, Lublin, Poland
• 1st year Ph.D course *"Conservation laws: theory"*, Instytut Matematyki

27.04.2015-20.05.2015, Gran Sasso Science Institute, L'Aquila, Italy
• 1st year Ph.D course *"Mathematical models for pedestrian flows and panic"*

Advance courses for master and PhD students (3)

09.07.2024 "Microscopic and macroscopic models in vehicular and pedestrian flows" for the "BIP-in Mathematical Modelling" at the University of L'Aquila, Italy, 08-12.07.2024

06.07.2023 "From microscopic to macroscopic models in vehicular and pedestrian flows" for the "BIP-in Mathematical Modelling" at the University of L'Aquila, Italy, 26.06-08.07.2023

07-09.09.2022 "Conservation laws and undercompressive shocks: theory and applications to car traffic and pedestrian flows" for the "BIP-MMiSI Mathematical Models in Social Innovations" at the University of L'Aquila, Italy, 05-10.09.2022

Stage for teachers of secondary school (1)

23.10.2019 "Modelli microscopici e macroscopici per il traffico veicolare: teoria ed applicazioni" (Microscopic and macroscopic models for vehicular traffic: theory and applications) for the "Corso di formazione insegnanti - Scienza per l'ambiente e lo sviluppo sostenibile" at the University of Ferrara, Italy, 26.09-29.10.2019

Stages for students of 4th year secondary school (3)

17.06.2022 "Dinamiche delle folle in caso di panico" (Crowd dynamics in panic situations) for the "Stage di Matematica di Unife" at the University of Ferrara, Italy, 13-17.06.2022

14.06.2019 "Dinamiche delle folle in caso di panico" (Crowd dynamics in panic situations) for the "Stage di Matematica di Unife" at the University of Ferrara, Italy, 10-14.06.2019

15.06.2018 "Dinamiche delle folle in caso di panico" (Crowd dynamics in panic situations) for the "Stage di Matematica di Unife" at the University of Ferrara, Italy, 11-15.06.2018

Teaching assistant (4)

2003-2004 Assistant Professor for the course "Matematica" (Mathematics) of Prof. Giuseppe Volzone at the University of Naples "Federico II", Italy

2002-2003 Assistant Professor for the course "Matematica" (Mathematics) of Prof. Maria Rosaria Posteraro at the University of Naples "Federico II", Italy

2002-2003 Assistant Professor for the course "Analisi Matematica II" (Mathematical Analysis II) of Prof. Anna Mercaldo for the Department of Aeronautics, Faculty of Engineering, at the University of Naples "Federico II", Italy

2001-2002 Assistant Professor for the course "Matematica" (Mathematics) of Prof. Maria Rosaria Posteraro at the University of Naples "Federico II", Italy

Publications

Preprints (3)

• F.A. Chiarello, S. Fagioli, M.D.R., *"Existence result for a* 2×2 *system of conservation laws with discontinuous flux and applications"*, submitted
Preprint link: arXiv

• Fully discrete follow-the-leader approximation of one-dimensional scalar conservation laws with vacuum
M. Di Francesco, S. Fagioli, V. Iorio, M.D. Rosini
Preprint: arXiv

• B. Andreianov, S. Fagioli, M.D.R., G. Stivaletta *"On stability of one-dimensional Hughes' dynamics with affine costs"*, submitted
Preprint link: HAL

Published book (1)

• M.D.R., *"Macroscopic Models for Vehicular Flows and Crowd Dynamics: Theory and Applications"*, Understanding Complex Systems, Springer Verlag, XII, 242 pages, 2013

ISBN: 978-3-319-00154-8

Since its online publication on March 15, 2013, there has been a total of **19k** accesses.

Published chapter books (4)

• D. Amadori, B. Andreianov, M. Di Francesco, S. Fagioli, T. Girard, P. Goatin, P. Markowich, J.F. Pietschmann, M.D.R., G. Russo, G. Stivaletta, M.T. Wolfram, *"The mathematical theory of Hughes' model: a survey of results"*, Crowd Dynamics, Volume 4, Birkhäuser-Springer, pp. 9–53, 2023. Editors: Livio Gibelli, Nicola Bellomo
`https://doi.org/10.1007/978-3-031-46359-4_2`

• M.D.R., *"Microscopic and macroscopic models for vehicular and pedestrian flows"*, Order, Disorder and Criticality: Advanced Problems of Phase Transition Theory. Ed. by Yu. Holovatch. Vol. 6, 2020, World Scientific, Singapore
https://doi.org/10.1142/11711

• B. Andreianov, C. Donadello, U. Razafison, M.D.R., *"One-dimensional conservation laws with non-local point constraints on the flux"*, Crowd Dynamics, Volume 1, Birkhäuser-Springer, pp. 103-135, 2018. Editors: Livio Gibelli, Nicola Bellomo
https://doi.org/10.1007/978-3-030-05129-7_5

• M. Di Francesco, S. Fagioli, M.D.R., G. Russo, *"Follow-the-leader approximations of macroscopic models for vehicular and pedestrian flows"*, Active Particles, Volume 1, Springer International Publishing, Cham, pp. 333-378, 2017. Editors: Nicola Bellomo, Pierre Degond, Eitan Tadmor
http://dx.doi.org/10.1007/978-3-319-49996-3_9

Published papers (45)

• M.D.R., A. Corli, M. Jr. Miranda, V. Buffa, *"Minimization of hyperbolic systems of conservation laws"*, Journal of Hyperbolic Differential Equations, 23 (2026) 87-106
https://doi.org/10.1142/S0219891626400047

• C. Donadello, B. Polizzi, U. Razafison, J.Y. Rolland, M.D.R. *"Numerical simulations for the ARZ model for vehicular traffic with general point constraints on the density flux"*, to appear on Communications in Mathematical Sciences
Preprint link: HAL

• A. Corli, U. Razafison, M.D.R., *"Coherence of coupling conditions for the isothermal Euler system"*, Mathematical Methods in the Applied Sciences, 48 (2025), 11565–11591
https://doi.org/10.1002/mma.10847

• B. Andreianov, M.D.R., G. Stivaletta, *"On existence, stability and many-particle approximation of solutions of 1D Hughes model with linear costs"*, Journal of Differential Equations, 369 (2023), 253–298
https://doi.org/10.1016/j.jde.2023.06.004

• A. Corli, U. Razafison, M.D.R. *"Coherence and flow-maximization of a one-way valve"*, ESAIM: Mathematical Modelling and Numerical Analysis 56 (2022) 1715–1739
https://doi.org/10.1051/m2an/2022053

• B. Andreianov, C. Donadello, M.D.R., *"Entropy solutions for a two-phase transition model for vehicular traffic with metastable phase and time depending point constraint on the density flow"*, Nonlinear Differential Equations and Applications 28 (2021)
https://doi.org/10.1007/s00030-021-00689-5

• M. Benyahia, M.D.R., *"Lack of BV bounds for approximate solutions to a two-phase transition model arising from vehicular traffic"*, Mathematical Methods in the Applied Sciences 43 (2020) 10381-10390
https://doi.org/10.1002/mma.6304

• M.D.R., *"Systems of conservation laws with discontinuous fluxes and applications to traffic"*, Annales UMCS Sectio A 73 (2019) 135-173
https://doi.org/10.17951/a.2019.73.2.135-173

• A. Corli, M.D.R., *"Coherence of coupling Riemann solvers for gas flows through flux-maximizing valves"*, SIAM Journal on Applied Mathematics 79 (2019) 2593-2614
https://doi.org/10.1137/19M1257093

• A. Corli, M.D.R., *"Coherence and chattering of a one-way valve"*, Zeitschrift für Angewandte Mathematik und Mechanik 99 (2019) e201800250
https://doi.org/10.1002/zamm.201800250

• C. Donadello, E. Dal Santo, S. Pellegrino, M.D.R., *"Representation of capacity drop at a road merge via point constraints in a first order traffic model"*, ESAIM: Mathematical Modelling and Numerical Analysis 53 (2019) 1-34
https://doi.org/10.1051/m2an/2019002

• M. Benyahia, C. Donadello, N. Dymski, M.D.R., *"An existence result for a constrained two-phase transition model with metastable phase for vehicular traffic"*, Nonlinear Differential Equations and Applications 25 (2018) 25-48
http://dx.doi.org/10.1007/s00030-018-0539-1

- N. Dymski, P. Goatin, M.D.R., *"Existence of BV solutions for a non-conservative constrained Aw-Rascle-Zhang model for vehicular traffic"*, Journal of Mathematical Analysis and Applications 467 (2018) 45-66
`https://doi.org/10.1016/j.jmaa.2018.07.025`

- B. Andreianov, C. Donadello, U. Razafison, M.D.R., *"Analysis and approximation of one-dimensional scalar conservation laws with general point constraints on the flux"*, Journal de Mathématiques Pures et Appliquées 116 (2018) 309-346
`http://dx.doi.org/10.1016/j.matpur.2018.01.005`

- A. Corli, M. Figiel, A. Futa, M.D.R., *"Coupling conditions for isothermal gas flow and applications to valves"*, Nonlinear Analysis Series B: Real World Applications 40 (2018) 403-427
`http://dx.doi.org/10.1016/j.nonrwa.2017.09.005`

- M. Di Francesco, S. Fagioli, M.D.R., *"Deterministic particle approximation of scalar conservation laws"*, Bollettino dell'Unione Matematica Italiana 10 (2017) 487-501
`http://dx.doi.org/10.1007/s40574-017-0132-2`

- A. Corli, L. di Ruvo, L. Malaguti, M.D.R., *"Traveling waves for degenerate diffusive equations on networks"*, Networks and Heterogeneous Media 12 (2017) 339-370
`http://dx.doi.org/10.3934/nhm.2017015`

- E. Dal Santo, M.D.R., N. Dymski, M. Benyahia, *"General phase transition models for vehicular traffic with point constraints on the flow"*, Mathematical Methods in the Applied Sciences 40 (2017) 6623-6641
`https://doi.org/10.1002/mma.4478`

- M. Benyahia, M.D.R., *"A macroscopic traffic model with phase transitions and local point constraints on the flow"*, Networks and Heterogeneous Media 12 (2017) 297-317
`http://dx.doi.org/10.3934/nhm.2017013`

- M. Di Francesco, S. Fagioli, M.D.R., G. Russo, *"Deterministic particle approximation of the Hughes model in one space dimension"*, Kinetic and Related Models 10 (2017) 215-237
`http://dx.doi.org/10.3934/krm.2017009`

- M. Di Francesco, S. Fagioli, M.D.R., *"Many particle approximation of the Aw, Rascle, Zhang second order model for vehicular traffics"*, Mathematical Biosciences and Engineering 14 (2017) 127-141
`http://dx.doi.org/10.3934/mbe.2017009`

- M. Benyahia, M.D.R., *"Entropy solutions for a traffic model with phase transitions"*, Nonlinear Analysis 141 (2016) 167-190
`http://dx.doi.org/10.1016/j.na.2016.04.011`

- B. Andreianov, C. Donadello, U. Razafison, M.D.R., *"Qualitative behaviour and numerical approximation of solutions to conservation laws with non-local point constraints on the flux and modeling of crowd dynamics at the bottlenecks"*, ESAIM: Mathematical Modelling and Numerical Analysis 50 (2016) 1269-1287
`http://dx.doi.org/10.1051/m2an/2015078`

- B. Andreianov, C. Donadello, U. Razafison, J.Y.Rolland, M.D.R., *"Solutions of the Aw-Rascle-Zhang system with point constraints"*, Networks and Heterogeneous Media 11 (2016) 29-47
`http://dx.doi.org/10.3934/nhm.2016.11.29`

- B. Andreianov, C. Donadello, M.D.R., *"A second order model for vehicular traffics with local point constraints on the flow"*, Mathematical Models and Methods in Applied Sciences 26 (2016) 751-802
`http://dx.doi.org/10.1142/S0218202516500172`

- M. Di Francesco, M.D.R., *"Rigorous derivation of nonlinear scalar conservation laws from follow-the-leader type models via many particle limit"*, Archive for Rational Mechanics and Analysis 217 (2015) 831-871
`http://dx.doi.org/10.1007/s00205-015-0843-4`

- B. Andreianov, C. Donadello, M.D.R., U. Razafison *"Riemann problems with non-local point constraints and capacity drop"*, Mathematical Biosciences and Engineering 12 (2015) 259-278
`http://dx.doi.org/10.3934/mbe.2015.12.259`

- D. Amadori, P. Goatin, M.D.R., *"Existence results for Hughes' model for pedestrian flows"*, Journal of Mathematical Analysis and Applications 420 (2014) 387-406
`http://dx.doi.org/10.1016/j.jmaa.2014.05.072`

- B. Andreianov, C. Donadello, M.D.R., *"Crowd Dynamics and Conservation Laws with Non-Local Constraints and Capacity Drop"*, Mathematical Models and Methods in Applied Sciences 24 (2014) 2685-2722
`http://dx.doi.org/10.1142/S0218202514500341`

- N. El-Khatib, P. Goatin, M.D.R., *"On entropy weak solutions of Hughes' model for pedestrian motion"*, Zeitschrift für angewandte Mathematik und Physik 64 (2013) 223-251
`http://dx.doi.org/10.1007/s00033-012-0232-x`

- R.M. Colombo, P. Goatin, M.D.R., *"On the modelling and management of traffic"*, ESAIM: Mathematical Modelling and Numerical Analysis 45 (2011) 853-872
`http://dx.doi.org/10.1051/m2an/2010105`

- M.D.R., *"Stability of Surface Rayleigh Waves in an Elastic Half-Space"*, Studies in Applied Mathematics 124 (2010) 179-211
`http://dx.doi.org/10.1111/j.1467-9590.2009.00467.x`

- S. Benzoni-Gavage, M.D.R., *"Weakly nonlinear surface waves and subsonic phase boundaries"*, Computers & Mathematics with Applications 57 (2009) 1463-1484
`http://dx.doi.org/10.1016/j.camwa.2008.12.001`

- R.M. Colombo, M. Mercier, M.D.R., *"Stability and Total Variation Estimates on General Scalar Balance Laws"*, Communications in Math Sciences 7 (2009) 37-65
`http://dx.doi.org/10.4310/CMS.2009.v7.n1.a2`

- R.M. Colombo, M. Mercier, M.D.R., *"Stability Estimates on General Scalar Balance Laws"*, Comptes rendus - Mathematique 347 (2009) 45-48
`http://dx.doi.org/10.1016/j.crma.2008.11.005`

- R.M. Colombo, M.D.R., *"Existence of nonclassical solutions in a Pedestrian flow model"*, Journal of Nonlinear Analysis-B: Real World Applications 10 (2009) 2716-2728
`http://dx.doi.org/10.1016/j.nonrwa.2008.08.002`

- M.D.R., *"Nonclassical Interactions Portrait in a Macroscopic Pedestrian Flow Model"*, J. Differential Equations 246 (2009) 408-427
`http://dx.doi.org/10.1016/j.jde.2008.03.018`

- R.M. Colombo, M.D.R., *"Well Posedness of Balance Laws with Non-Characteristic Boundary"*, Bollettino della Unione Matematica Italiana, 10-B, (2007), no. 8, 875-894

- R.M. Colombo, A. Corli, M.D.R., *"Non local balance laws in traffic models and crystal growth"*, ZAMM Z. Angew. Math. Mech. 87 (2007), no. 6, 449-461
`http://dx.doi.org/10.1002/zamm.200710327`

- R.M. Colombo, M.D.R., *"Well Posedness of Balance Laws with Boundary"*, Journal of Mathematical Analysis and Applications, 311 (2005), no. 2, 683-702
`http://dx.doi.org/10.1016/j.jmaa.2005.03.008`

- R.M. Colombo, M.D.R., *"Pedestrian Flows and Nonclassical Shocks"*, Mathematical Methods in the Applied Sciences, 28 (2005), no. 13, 1553-1567
`http://dx.doi.org/10.1002/mma.624`

- M.D.R., *"Stability of hydrodynamic model for semiconductor"*, Archivum Mathematicum, 41 (2005), no. 1, 37-58

- M.D.R., *"Esistenza e stabilità di onde di shock transonici nel modello idrodinamico per semiconduttori"* (Existence and stability of transonic shock waves in the hydrodynamic model for semiconductors), Bollettino UMI , no. 3/1-Dicembre (2005), 633-636

- M.D.R., *"A phase analysis of transonic solutions for the hydrodynamic semiconductor model"*, Quarterly of Applied Mathematics, 63 (2005), no. 2, 251-268
`http://dx.doi.org/10.1090/S0033-569X-05-00942-1`

- M.D.R., *"Stability of transonic strong shock waves for the one-dimensional hydrodynamic model for semiconductors"*, J. Differential Equations, 199 (2004), no. 2, 326-351
`http://dx.doi.org/10.1016/j.jde.2003.09.009`

Conference proceedings (13)

- A. Corli, M.D. Rosini, U. Razafison, *"Mathematical Modeling of Chattering and the Optimal Design of a Valve"*, conference proceedings of the conference "IEEE 63rd Conference on Decision and Control (CDC)" (2024) 76-81
`https://doi.org/10.1109/cdc56724.2024.10886245`

- B. Andreianov, M.D.R., *"Microscopic selection of solutions to scalar conservation laws with discontinuous flux in the context of vehicular traffic"*, conference proceedings of conference "SOTA 2018: Semigroups of Operators – Theory and Applications" (2020) 113-135
`https://doi.org/10.1007/978-3-030-46079-2_7`

• N. Dymski, P. Goatin, M.D.R., *"Modeling moving bottlenecks on road networks"*, to appear on "Hyperbolic Problems: Theory, Numerics, Applications, Pennsylvania, USA, June 2018" (2019) 424-431
`https://hal.archives-ouvertes.fr/hal-01985837`

• R.M. Colombo, M. Gokieli, M.D.R., *"Modeling Crowd Evacuations through Hyperbolic-Elliptic Equations"*, Non-Linear Partial Differential Equations, Mathematical Physics, and Stochastic Analysis, pp. 111-128, 2018. Editors: Fritz Gesztesy, Harald Hanche-Olsen, Espen R. Jakobsen, Yurii I. Lyubarskii, Nils H. Risebro, Kristian Seip
`http://dx.doi.org/10.4171/186-1/6`

• M. Di Francesco, S. Fagioli, M.D.R., G. Russo, *"A deterministic particle approximation for non-linear conservation laws"*, Theory, Numerics and Applications of Hyperbolic Problems, Aachen, Germany, August 2016, PROMS series, Springer Verlag, pp. 487-499, 2018. Editors: Christian Klingenberg and Michael Westdickenberg
`https://doi.org/10.1007/978-3-319-91545-6_37`

• E. Dal Santo, M.D.R., N. Dymski, *"The Riemann problem for a general phase transition model on networks"*, Theory, Numerics and Applications of Hyperbolic Problems, Aachen, Germany, August 2016, PROMS series, Springer Verlag, pp. 445-457, 2018. Editors: Christian Klingenberg and Michael Westdickenberg
`https://doi.org/10.1007/978-3-319-91545-6_34`

• R.M. Colombo, P. Goatin, M.D.R., *"On the management of vehicular and pedestrian flows"*, in Proceedings of *14th International Conference on Hyperbolic Problems: Theory, Numerics, Applications*, Padua, Italy, AIMS on Applied Mathematics 8 (2014) 889-897

• M.D.R., *"Non-local constraints and crowd dynamics"*, in Proceedings of *Hyperbolic Techniques for Phase Dynamics*, Oberwolfach, Germany, Report 29/2013, (2013) 1739

• R.M. Colombo, P. Goatin, G.Maternini, M.D.R., *"Macroscopic Models for Pedestrian Flows"*, in Proceedings of the International Conference Big Events and Transport, Venice. Editors: IUAV - TTL Research Unit (2010) 11-22

• R.M. Colombo, P. Goatin, M.D.R.: *"A macroscopic model for pedestrian flows in panic situations"*, Gakuto International Series. Mathematical Sciences and Applications 32 (2010) 255-272

• R.M. Colombo, P. Goatin, M.D.R., *"Conservation Laws with Unilateral Constraints in Traffic Modeling"*. In *Applied and Industrial Mathematics in Italy III*. E.De Bernardis, R.Spigler, V.Valente editori. Series on Advances in Mathematics for Applied Sciences, 82 (2009) 244-255
`http://dx.doi.org/10.1142/9789814280303_0022`

• R.M. Colombo, P. Goatin, G. Maternini, M.D.R.: *"Using conservation Laws in Pedestrian Modeling"* in *Transport Management and Land-Use Effects in Presence of Unusual Demand*, Atti del convegno *SIDT 2009*. L.Mussone, U.Crisalli editori. (2009) 73-79

• R.M. Colombo, G. Facchi, G. Maternini, M.D.R.: *"On the Continuum Modeling of Crowds"*. In *Hyperbolic Problems: Theory, Numerics and Applications*, E.Tadmor, J.-G.Luo, A.E.Tzavaras editors, Proceedings of the International Conference *Hyp2008*, College Park, Maryland, USA. Proceedings of Symposia in Applied Mathematics, 67, (2009), no. 2, 517-526

Theses (3)

• M.D.R., *"New unified approach to large-scale computational modeling, simulation and control of traffic flows and crowd dynamics"*, Polish habilitation thesis, 2014

• M.D.R., *"Existence and Stability of Transonic Shock Waves in the Hydrodynamic Model For Semiconductors"*, Ph.D. thesis, 2003

• M.D.R., *"Stabilità degli shock multidimensionali"* (Stability of Multidimensional Shocks), University degree thesis, 1999

Citation report

	Google Scholar	*Scopus*	*Web of Science*	*MathSciNet*
Number of citations	1714	913	760	634
Hirsch index	21	16	15	

Referee for the following journals (20)

- ASME Journal of Computational and Nonlinear Dynamics.
- Boundary Value Problems
- Communications in Applied and Industrial Mathematics
- Communications in Mathematical Sciences
- Computational and Applied Mathematics
- Discrete and Continuous Dynamical Systems
- IEEE Transactions on Control Systems Technology
- Journal of Abstract Differential Equations and Applications
- Journal of Hyperbolic Differential Equations
- Journal of Mathematical Analysis
- Mathematical Methods in the Applied Sciences
- Mathematics and Computers in Simulation
- Multiscale Modeling and Simulation
- Mathematical Problems in Engineering
- Networks and Heterogeneous Media
- Nonlinear Differential Equations and Applications
- Nonlinear Analysis: Real World Applications
- Physica A
- SIAM Journal on Applied Mathematics
- SIAM Mathematical Biosciences and Engineering

Awards (4)

2025-2026 Rector's award for scientific activities, UMCS, Lublin, Poland

2021-2022 Rector's award for scientific activities, UMCS, Lublin, Poland

2018-2019 Rector's award for scientific activities, UMCS, Lublin, Poland

2016-2017 Rector's award for scientific activities, UMCS, Lublin, Poland

Grants (13)

2025 "Poste Rouge" position granted by the INSMI (National Institute for Mathematical Sciences and their Interactions) for a research collaboration with Carlotta Donadello at the Laboratoire de mathématiques de Besançon associated with the CNRS, France.

2022 Fondo di Ateneo per la Ricerca (FAR), University of Ferrara, Italy, research title *"Equazioni alle derivate parziali di tipo iperbolico: teoria ed applicazioni."* (Hyperbolic partial differential equations: theory and applications)

2021 Fondo di Ateneo per la Ricerca (FAR), University of Ferrara, Italy, research title *"Equazioni alle derivate parziali di tipo iperbolico: teoria ed applicazioni al traffico stradale, al movimento delle folle ed alle valvole di gas."* (Hyperbolic partial differential equations: theory and applications to road traffic, to the movement of crowds and to gas valves)

2020 Fondo di Ateneo per la Ricerca (FAR), University of Ferrara, Italy, research title *"Legami tra ODE e PDE: sviluppo di modelli macroscopici per il traffico veicolare e/o pedonale con flussi discontinui."* (Links between ODE and PDE: development of macroscopic models for vehicular and/or pedestrian traffic with discontinuous flows)

2019 Fondo di Ateneo per la Ricerca (FAR), University of Ferrara, Italy, research title *"Equazioni alle derivate parziali di tipo iperbolico: teoria ed applicazioni."* (Hyperbolic partial differential equations: theory and applications)

2017-2021 Fondo di Finanziamento per le Attività Base di Ricerca (FFABR), Ministero dell'Istruzione, dell'Università e della Ricerca (Ministry of Education, University and Research), Italy

2018 Fondo di Ateneo per la Ricerca (FAR), University of Ferrara, Italy, research title *"Leggi di conservazione, modelli macroscopici per il traffico stradale, quello pedonale e per i flussi di gas attraverso valvole."* (Conservation laws, macroscopic models for vehicular and pedestrian traffic, gas flow through valves)

2017 Finanziamento della ricerca scientifica sul Fondo di Ateneo per la Ricerca (FAR), University of Ferrara, Italy, research title *"Leggi di conservazione iperboliche: teoria ed applicazioni"* (Hyperbolic conservation laws: theory and applications)

06-12.2009 INdAM (Italian National Institute of Higher Mathematics) research fellowship at the Faculty of Mathematics, Informatics and Mechanics, University of Warsaw, Poland

10.2007-09.2008 INdAM research fellowship at the University of Brescia, Italy

2005 HYKE research fellowship

2000-2003 University of Naples fellowship

1995-1999 University of L'Aquila scholarship

Scientific projects

Coordinator of scientific projects (8)

2024 Coordinator of the research project *"Modellizzazione ed Analisi attraverso Leggi di Conservazione"* (Modelling and Analysis through Conservation Laws), Istituto Nazionale di Alta Matematica (National Institute of Higher Mathematics) "F. Severi", Italy, GNAMPA (National Group of Analysis, Probability and their Applications)

2021-2022 Coordinator of the research project *"Strategies for cancer control"*, Finanziamento della ricerca scientifica sul Fondo Interdisciplinare per la Ricerca Dipartimentale (FIRD), University of Ferrara, Italy

2019-2020 Coordinator of the research project *"Leggi di conservazione di tipo iperbolico: teoria ed applicazioni"* (Hyperbolic conservation laws: theory and applications), Finanziamento della ricerca scientifica sul Fondo per l'Incentivazione alla Ricerca (FIR), University of Ferrara, Italy

2019 Coordinator of the research project *"Equazioni alle derivate parziali di tipo iperbolico o non locale ed applicazioni"* (Partial differential equations of hyperbolic type or non-local and applications), Istituto Nazionale di Alta Matematica (National Institute of Higher Mathematics) "F. Severi", Italy, GNAMPA (National Group of Analysis, Probability and their Applications) *"Equazioni differenziali e sistemi dinamici"* (Differential equations and dynamical systems)

2017-2018 Coordinator of the research project *"Modelli macroscopici per il traffico veicolare o pedonale"* (Macroscopic models for vehicular or pedestrian traffic), Finanziamento della ricerca scientifica sul Fondo per l'Incentivazione alla Ricerca (FIR), University of Ferrara, Italy

2017 Coordinator of the research project *"Equazioni iperboliche con termini non locali: teoria e modelli"* (Hyperbolic equations with non local terms: theory and applications), Istituto Nazionale di Alta Matematica (National Institute of Higher Mathematics) "F. Severi", Italy

2012-2014 Coordinator of the research project *"Modele Matematyczne dla Ruchu Pieszych"* (Mathematical Models for Pedestrian Flows), Narodowe Centrum Nauki (Polish National Center of Research), research grant n. DEC-2011/01/B/ST1/03965

2011-2012 Coordinator of the Polish-French exchange program POLONIUM, *"Crowd Motion Modeling and Management"*, project 25065UG

Membership in scientific projects and groups (22)

2024-2025 Participation to the research project *"Modeling, Control and Games through Partial Differential Equations"* PRIN 2022 - Next Generation EU, coordinator Prof. R. Colombo, Brescia

2025 Participation to the research project *"Modelli di traffico, di biologia e di dinamica dei gas basati su sistemi di equazioni iperboliche"* (Traffic, biological, and gas dynamics models based on systems of hyperbolic equations), INdAM (National Institute of Higher Mathematics) "F. Severi", Italy,

GNAMPA (National Group of Analysis, Probability and their Applications), coordinator prof. G. Guerra, Milano-Bicocca University.

2023 Participation to the research project *"Tecniche Analitiche per Modelli di Biologia, Dinamica dei Fluidi e Traffico Veicolare"* (Analytical Techniques for Biology, Fluid Dynamics and Vehicular Traffic Models), INdAM (National Institute of Higher Mathematics) "F. Severi", Italy, GNAMPA (National Group of Analysis, Probability and their Applications), coordinator prof. F. Marcellini, Brescia University.

2022 Participation to the research project *"Equazioni di evoluzione: buona posizione, controllo e applicazioni"* (Evolution equations: well posedness, control and applications), INdAM - GNAMPA, coordinator prof. E. Rossi, Modena and Reggio Emilia University.

2020-2021 Participation to the research project *"Dalla Buona Posizione alla Teoria dei Giochi nelle Leggi di Conservazione"* (From Well Posedness to Game Theory in Conservation Laws), INdAM - GNAMPA, coordinator prof. R.M. Colombo, Brescia University.

2018-2021 Participation to the research project *"Matematyka podejść wieloskalowych w naukach o życiu i naukach społecznych"* (Mathematics of multi-scale approaches in life and social sciences), Narodowe Centrum Nauki (Polish National Center of Research), research grant n. 2017/25/B/ST1/00051, coordinator prof. dr hab. Mirosław Andrzej Lachowicz, University of Warsaw, Poland.

2017-2026 Participation to the research group GNAMPA (National Group of Analysis, Probability and their Applications) *"Equazioni differenziali e sistemi dinamici"* (Differential equations and dynamical systems)

2015-2016 Participation to the research project FAR *"Modelli macroscopici di flussi di traffico: analisi qualitativa ed implementazione"* (Macroscopic models for traffic flows: qualitative analysis and applications), coordinators Prof. L. Malaguti and Prof. A. Corli, University of Modena and Reggio Emilia.

2014 Participation to the research group GNAMPA (National Group of Analysis, Probability and their Applications) *"Analisi qualitativa di soluzioni di equazioni ellittiche e di evoluzione"* (Qualitative analysis of solutions of elliptic equations and of evolution), coordinator Dr. B. Volzone, Parthenope University of Naples.

2014-2015 Participation to the Polish-French exchange program POLONIUM *"Hiperboliczne prawa zachowania: teoria i zastosowania w naukach o Ziemi i zdrowiu publicznym"* (Nonlocal nonlinear hyperbolic conservation laws: modelling, analysis, approximations), coordinators Dr. A. Swierczewska-Gwiazda, University of Warsaw, and Prof. Boris Andreianov, University of Besançon.

2012 Participation to the research project *"Modelowanie silnie nieliniowych zjawisk typu tłoku w układach opisywanych nieliniowymi prawami zachowania"* (Modeling strongly nonlinear phenomena in crowds with nonlinear systems described by behavior rules)

2008-2015 Participation to the research group GNAMPA (National Group of Analysis, Probability and their Applications) *"Equazioni differenziali e sistemi dinamici"* (Differential equations and dynamical systems)

2007-2009 Participation to the research project *"Equazioni della dinamica dei fluidi di tipo iperbolico e leggi di conservazione"* (Equations of fluid dynamics of hyperbolic type and conservation laws) PRIN (Research Programs of Relevant National Interest) 2007, coordinator Prof. P. Secchi, Brescia

2007-2009 Associated to CNR, IAC (Institute for the Applications of Calculus) "M. Picone" of Rome for the program research *"Metodi quantitativi per il manufacturing"* (Quantitative Methods for Manufacturing), coordinator Prof. B. Piccoli, Rome

2005-2007 Participation to the research project PRIN (Research Programs of Relevant National Interest) *"Dinamica dei Fluidi e Leggi di Conservazione"* (Fluid Dynamic and Conservation Laws) 2005, coordinator Prof. P. Secchi, Brescia

2005-2007 Participation to the research project PRIN (Research Programs of Relevant National Interest) *"Analisi Asintotica per Sistemi Iperbolici Nonlineari"* (Asynthotic Analysis for Nonlinear Hyperbolic Systems) 2005, coordinator Prof. P. Marcati, L'Aquila

2005-2006 Participation to the research group GAM (Group of Mathematical Analysis) of L'Aquila, coordinator Prof. P. Marcati, L'Aquila

2005 Participation to the research group GNAMPA (National Group of Analysis, Probability and their Applications) *"Flussi di traffico: modelli e controllo"* (Traffic Flow: Modeling & Control), coordinator Prof. R.M. Colombo, Brescia

2004-2008 Participation to the research group HCL (Hyperbolic Conservation Laws and Applications), coordinator Prof. R.M. Colombo, Brescia

2005 Participation to the INdAM project *"Traffic flows and optimization on complex networks"*, coordinator Prof. B. Piccoli, Rome

2004-2005 Participation to the INdAM intergroup project *"Onde non lineari e applicazioni ai fluidi comprimibili, incomprimibili e al trasporto di particelle cariche"* (Nonlinear waves and applications to compressible and incompressible fluids and to the transport of charged particles), coordinator Prof. R. Natalini, Rome

2002-2004 Participation to the European project HYKE (Hyperbolic and Kinetic Equations), global coordinator Prof. N. Mauser, Wien

Referee for the following government agencies (3)

• Ministero dell'Università e della Ricerca, Programma per Giovani Ricercatori "Rita Levi Montalcini" 2022-2024

• Agencia Nacional de Investigación y Desarrollo (National Research and Development Agency) of the Ministry of Science, Technology, Knowledge and Innovation of Chile

• Narodowe Centrum Nauki (National Science Center), ul. Królewska 57, 30-081 Cracow, Poland

Scientific committees

Chairman of the following doctoral committee

• Agnieszka Tanaś (Ph.D advisor Prof. Jurij Kozicki). Procedure completed on 15/09/2021.

Member of the following doctoral committees (8)

• Nikodem Dymski (Ph.D advisor dr hab. Massimiliano D. Rosini). Procedure completed on 11/10/2019.

• Szymon Dudek (Ph.D advisor dr hab. Leszek Olszowy). Procedure completed on 21/11/2018.

• Rafał Nalepa (Ph.D advisor Prof. Józef Banaś). Procedure completed on 23/05/2017.

• Anna Futa (Ph.D advisor dr hab. Dariusz Partyka). Procedure opened on 29/03/2019.

• Maciej Parol (Ph.D advisor dr hab. Dariusz Partyka). Procedure opened on 18/02/2019.

• Mariola Walczyk (Ph.D advisor dr hab. Monika Budzyńska). Procedure completed on 30/06/2022.

• Joanna Markowicz (Ph.D advisor prof. dr hab. Stanisław Prus). Procedure completed on 14/01/2022.

• Sławomir Borzdyński (Ph.D advisor dr hab. Andrzej Wiśnicki). Procedure completed on 25/01/2022.

Member of the following scientific committees (7)

2025 Selection of didactic tutors for the Bachelor's degree in Economia e Management, Universyty of Chieti-Pescara, Chieti, Italy, a.y. 2025-2026.

2024 Selection of Post-Doc, University of Ferrara, Italy.

2023 Selection of RTD-A (tenure-track assistant position), University of L'Aquila, Italy.

2022 Selection of RTD-A (tenure-track assistant position), University of L'Aquila, Italy.

2022 Selection of didactic tutors for the Bachelor's degree in Electronic and Informatics Engineering, UNIFE, Ferrara, Italy, a.y. 2022-2023.

2021 Selection of didactic tutors for the Bachelor's degree in Electronic and Informatics Engineering, UNIFE, Ferrara, Italy, a.y. 2021-2022.

2018 Selection of didactic tutors for the Bachelor's degree in Electronic and Informatics Engineering, UNIFE, Ferrara, Italy, a.y. 2018-2019.

Committees (5)

05.05.2025 → onward PhD committee in Accounting, Management and Business Economics, University of Chieti-Pescara, Italy

05.05.2022 → onward PhD committee in Mathematics, University of Ferrara, Modena-Reggio, Parma, Italy

01.10.2015→ onward Scientific Committee (Rada Naukowa) of the Institute of Mathematics, Maria Curie-Skłodowska University, Poland

01.10.2015-30.09.2019 Scientific Committee (Rada Widziału) of the Faculty of Faculty of Mathematics, Physics and Computer Science, Maria Curie-Skłodowska University, Poland

05.12.2014-25.04.2016 Scientific Committee (Rada Naukowa) of ICM, University of Warsaw, Poland

Reviewer of the following doctoral theses (2)

2024 Mohamed Bentabi (Ph.D advisor prof. F. Ancona), University of Padua, Italy.

2021 Kwame Atta Gyamfi (Ph.D advisor prof. D. Amadori), University of L'Aquila, Italy.

Conferences, workshops and seminars

Member of organizing committees (9)

02-04.09.2025 *"Modeling, Control and Games through Partial Differential Equations"*, Ferrara, Italy

08-10.09.2021 *"Present Research Trends in Conservation Laws"*, Rome, Italy

22-23.11.2019 *"The geometry of Banach spaces, random dynamical systems and differential equations"*, L'Aquila, Italy

14-15.02.2019 *"Macroscopic Modeling of Vehicular and Pedestrian Traffic"*, Reggio Emilia, Italy

10-12.09.2018 *"Interactive workshop on hyperbolic equations"*, Ferrara, Italy

18-22.09.2017 *"8. Forum Matematyków Polskich"*, Lublin, Poland

28.06.2008 *"Conservation Laws and Applications"*, Brescia, Italy

01.03.2007 *"Around Hyperbolic Conservation Laws"*, Brescia, Italy

02-08.06.2002 *"Advances on Nonlinear PDEs"*, L'Aquila, Italy

Member of scientific committees (3)

05-08.06.2023 *"Mathematical modeling, Analysis and Approximation of Road and Pedestrian Dynamics"*, Tours, France

14-15.02.2019 *"Macroscopic Modeling of Vehicular and Pedestrian Traffic"*, Reggio Emilia, Italy

10-12.09.2018 *"Interactive workshop on hyperbolic equations"*, Ferrara, Italy

Session organizer (1)

30.09-05.10.2018 *"Multiscale Approaches and the Semigroup Environments"*, in the conference "Semigroups of Operators: Theory and Applications", Kazimierz Dolny, Poland

Communications (49)

05.02.2026 Title: *"Existence result for a 2×2 Temple system with discontinuous flux"*
"17th International conference on dynamical systems applied to biology and natural sciences", Granada, Spain

03.09.2025 Title: *"Coherence and Chattering in Isothermal Pipe Flow at Junctions"*
"Modeling, Control and Games through Partial Differential Equations", Ferrara, Italy

22.05.2025 Title: *"Microscopic and Macroscopic Modeling of Vehicular Traffic and Pedestrian Dynamics"*
"Hyperbolic PDEs: Theorems and Applications", Varese, Italy

13.03.2025 Title: *"2×2 systems of conservation laws with discontinuous flux"*
"From Data to Models", Nice, France

23.01.2025 Title: *"Micro and macro descriptions of traffic and pedestrian dynamics"*
"16th Dynamical Systems applied on Biology and Natural Sciences", Naples, Italy

17.04.2024 Title: *"Micro and Macro Approaches for Traffic and Pedestrian Flow Models"*
"9^{th} European Congress of Mathematics", Sevilla, Spain

12.06.2024 Title: *"Traffic and Pedestrian Flow Models: Micro and Macro Approaches"*
"Equadiff 2024", Karlstad, Sweden

17.04.2024 Title: *"Conservation laws with point constraints: theory and applications"*
"Modeling, Control and Games through Partial Differential Equations", Brescia, Italy

02.02.2024 Title: *"Overview on conservation laws with point constraints"*
"Heterogeneity on the Road", Padua, Italy

23.06.2023 Title: *"From microscopic to macroscopic traffic models"*
"Traffic and Autonomy", Maiori, Italy

28.08.2023 Title: *"Conservation laws with discontinuous flux and traffic modeling"*
"SIMAI 2023", Matera, Italy

10.05.2023 Title: *"On the Micro-Macro limit in traffic flow"*
"Conservation Laws and Surroundings", Reggio Emilia, Italy

09.05.2022 Title: *"Many-particle approximation of scalar conservation laws"*
"Dynamical Systems and Applications in Life and Social Sciences 2022", Będlewo, Poland

17.06.2019 Title: *"Phase transition models for vehicular traffic"*
"BIOMATH19", Będlewo, Poland

03.10.2018 Title: *"On the micro-to-macro limit for $1D$ scalar conservation laws"*
"Semigroups of Operators: Theory and Applications", Kazimierz Dolny, Poland

08.07.2018 Title: *"Microscopic approximations of macroscopic models for traffic flows"*
"The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications", Taipei, Taiwan

07-09.05.2018 Title: *"Conservation laws and undercompressive shocks: theory and applications to pedestrian flows"*
"21st Annual Workshop on Phase Transitions and Critical Phenomena", Lviv, Ukraine

16.03.2018 Title: *"Many-particle approximation of conservation laws in 1D and application to traffic flows"*
"From individual based models to structured population level description", Będlewo, Poland

07.09.2017 Title: *"Microscopic approximations of conservation laws in 1D"*
"IperPV2017", Pavia, Italy

13.07.2017 Title: *"Many particle approximations for conservation laws"*
"Aggregation-Diffusion PDEs: Variational Principles, Nonlocality and Systems", Anacapri, Italy

14.06.2017 Title: *"Many-particle approximation of conservation laws in 1D"*
"Joint Steering Committee Meeting of the IRSES Projects DIONICOS and STREVCOMS", Lviv, Ukraine

09.03.2017 Title: *"Many particle approximation of macroscopic models for vehicular and pedestrian flows"*
"INdAM Workshop: Transport Modeling and Management", Rome, Italy

09.03.2016 Title: *"Conservation laws with point constraints on the flow and their applications"*
"Analysis and Control on Networks: trends and perspectives", Padua, Italy

08.09.2016 Title: *"Microscopic approximations of macroscopic models for vehicular and pedestrian flows"*
"XXII National Conference on Applications of Mathematics in Biology and Medicine", Sandomierz, Poland

01.08.2016 Title: *"A deterministic particle approximation for non-linear conservation laws"*
"XVI International Conference on Hyperbolic Problems. Theory, Numerics, Applications", Aachen, Germany

27.01.2016 Title: *"Macroscopic models for pedestrian flows with non-local point constraints"*
"Nonlocal Aspects in Mathematical Biology", Będlewo, Poland

07.01.2016 Title: *"Macroscopic models for traffic with point constraints on the flow"*
"TRAM3 Terminus", INRIA Sophia Antipolis-Méditerranée, France

22.10.2015 Title: *"Conservation laws with point constraints on the flow"*
"16th Italian Meeting on Hyperbolic Equations", L'Aquila, Italy

09.06.2015 Title: *"Discrete Lagrangian approximation for nonlinear scalar conservation laws"*
"Micro and Macro Systems in Life Sciences", Będlewo, Poland

09.02.2015 Title: *"Constrained conservation laws and their applications to traffics"*
"Contemporary topics in conservation laws", Besançon, France

10.07.2014 Title: *"On the CR model and its applications at the bottlenecks"*
"SIMAI 2014, MSP-Discrete and continuous models for pedestrian movements", Taormina, Italy

29.08.2013 Title: *"On the Hughes' model for pedestrian flows and nonlocal exits"*
"Modeling with Measures: from Structured Populations to Crowd Dynamics", Leiden, Netherlands

12.07.2013 Title: *"Nonlocal constraints and applications to crowd dynamics"*
"Tenth meeting on Hyperbolic Conservation Laws: Recent results and Research perspectives", L'Aquila, Italy

13.06.2013 Title: *"Non-local constraints and crowd dynamics"*
"Hyperbolic Techniques for Phase Dynamics", Oberwolfach, Germany

28.06.2012 Title: *"On the Management of Vehicular Traffic"*
"14th International Conference on Hyperbolic Problems: Theory, Numerics, Applications", Padua, Italy

21.04.2012 Title: *"On the modelling and management of traffic"*
"Sesja Sprawozdawczo-Szkoleniowa Użytkowników KDM", Sterdyń, Poland

28.09.2011 Title: *"Mathematical Modelling for Pedestrian Flows"* in the workshop "The role of multiscale structure in biological systems", Warsaw, Poland

29.11.2010 Title: *"Macroscopic models for pedestrian and vehicular traffic"* in the workshop "Mathematical Methods for Multiscale Description in the Applied Sciences", Warsaw, Poland

14.04.2010 Title: *"Pedestrian Flow"*
"Sesja Sprawozdawczo-Szkoleniowa Użytkowników KDM", Goniądz, Poland

26.02.2010 Title: *"Pedestrian modeling"*
"Dzień ICM na MIMUW", Warsaw, Poland

21.05.2009 Title: *"Pedestrian Flow Modeling"*
"4th Polish-Japan Days", Mądralin, Poland

12.02.2009 Title: *"Second-order elasticity"*
"XIII Incontro Nazionale sulle Equazioni Iperboliche", Bari, Italy

17.07.2008 Title: *"On continuum models for pedestrian flows and Braess' paradox"*
"Sixth meeting on Hyperbolic Conservation Laws: Recent results and Research perspectives", L'Aquila, Italy

28.06.2008 Title: *"On continuum models for pedestrian flows and Braess' paradox"*
"Conservation Laws and Applications", Brescia, Italy

24.09.2007 Title: *"Un modello macroscopico per flussi pedonali"* (A Macroscopic Model for Pedestrian Flows)
"Applicazioni avanzate GPS-GIS per l'individuazione degli itine-rari stradali in ambito urbano ed extraurbano", Brescia, Italy

22.06.2007 Title: *"Weakly nonlinear surface waves in van der Waals-like fluids"*
"Fifth meeting on Hyperbolic Conservation Laws: Recent results and Research perspectives", S.I.S.S.A.-I.S.A.S. Trieste, Italy

13.09.2006 Title: *"Well posedness of balance laws with non characteristic boundary"*
"XII Incontro Nazionale sulle Equazioni Iperboliche", Padua, Italy

21.10.2004 Title: *"Buona positura di leggi di bilancio con bordo"* (Well Posedness of Balance Laws with Boundary) in the meeting "XI Incontro Nazionale sulle Equazioni Iperboliche", Pisa, Italy

22.06.2004 Title: *"A model for pedestrian flow"*
"Third meeting on Hyperbolic Conservation Laws: Recent results and Research perspectives", S.I.S.S.A.-I.S.A.S. Trieste, Italy

Attended conferences, workshops and meetings (81)

02-06.02.2026 "17th International conference on dynamical systems applied to biology and natural sciences", Granada, Spain

02-04.09.2025 "Modeling, Control and Games through Partial Differential Equations", Ferrara, Italy

09-13.06.2025 "Hydrodynamic limits of interacting agent systems", Venice, Italy

22-23.05.2025 "Hyperbolic PDEs: Theorems and Applications", Varese, Italy

10-14.03.2025 "From Data to Models", Nice, France

20-24.01.2025 "16th Dynamical Systems applied on Biology and Natural Sciences", Naples, Italy

15-19.07.2024 "9^{th} European Congress of Mathematics", Sevilla, Spain

10-14.06.2024 "Equadiff 2024", Karlstad, Sweden

17-18.04.2024 "Modeling, Control and Games through Partial Differential Equations", Brescia, Italy

01-02.02.2024 "Heterogeneity on the Road", Padua, Italy

04-09.09.2023 "XXII Congresso dell'Unione Matematica Italiana", Pisa, Italy

28.08-01.09.2023 "SIMAI 2023", Matera, Italy

21-23.06.2023 "Traffic and Autonomy", Maiori, Italy

19.06.2023 "International Conference on Partial Differential Equations and Applications in honor of the 70th birthday of Pierangelo Marcati", L'Aquila, Italy

05-08.06.2023 "Mathematical modeling, Analysis and Approximation of Road and Pedestrian Dynamics", Tours, France

25-31.05.2023 "Meeting on Nonlinear Evolution PDEs, Fluid Dynamics and Transport Equations", Erice, Italy

08-10.05.2023 "Conservation Laws and Surroundings", Reggio Emilia, Italy

08-13.05.2022 "Dynamical Systems and Applications in Life and Social Sciences 2022", Będlewo, Poland

08-10.09.2021 "Present Research Trends in Conservation Laws", Rome, Italy

09-13.09.2019 "Anomalies in Partial Differential Equations", Rome, Italy

16-22.06.2019 "BIOMATH19", Będlewo, Poland

14-15.02.2019 *"Macroscopic Modeling of Vehicular and Pedestrian Traffic"*, Reggio Emilia, Italy

30.09-5.10.2018 "Semigroups of Operators: Theory and Applications", Kazimierz Dolny, Poland

10-12.09.2018 *"Interactive workshop on hyperbolic equations"*, Ferrara, Italy

05-09.07.2018 "The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications", Taipei, Taiwan

07-09.05.2018 "21st Annual Workshop on Phase Transitions and Critical Phenomena", Lviv, Ukraine

12-16.03.2018 "From individual based models to structured population level description", Będlewo, Poland

18-22.09.2017 "8. Forum Matematyków Polskich", Lublin, Poland

06-08.09.2017 "IperPV2017", Pavia, Italy

10-14.07.2017 "Aggregation-Diffusion PDEs: Variational Principles, Nonlocality and Systems", Anacapri, Italy

14-16.06.2017 "Joint Steering Committee Meeting of the IRSES Projects DIONICOS and STREVCOMS", Lviv, Ukraine

14-16.06.2017 "20th Annual Workshop on Phase Transitions and Critical Phenomena", Lviv, Ukraine

06-10.03.2017 "INdAM Workshop: Transport Modeling and Management", Rome, Italy

13-15.02.2017 "Ideal Fluids and Transport", Warsaw, Poland

05-09.09.2016 "XXII National Conference on Applications of Mathematics in Biology and Medicine", Sandomierz, Poland

01-05.08.2016 "XVI International Conference on Hyperbolic Problems. Theory, Numerics, Applications", Aachen, Germany

22-25.06.2016 "Lublin-Italian Friends", UMCS Lublin, Poland

09-11.03.2016 "Analysis and Control on Networks: trends and perspectives", Padova, Italy

26-30.01.2016 "Nonlocal Aspects in Mathematical Biology", Będlewo, Poland

06-08.01.2016 "TRAM3 Terminus", INRIA Sophia Antipolis-Méditerranée, France

22-24.10.2015 "16th Italian Meeting on Hyperbolic Equations", L'Aquila, Italy

08-12.06.2015 "Micro and Macro Systems in Life Sciences", Będlewo, Poland

01-05.06.2015 "Collective dynamics in gradient flows and entropy driven structures", L'Aquila, Italy

22-24.05.2015 "Control of Partial Differential Equations @GSSI", L'Aquila, Italy

09-12.02.2015 "Contemporary topics in conservation laws", Besançon, France

07-10.07.2014 *"SIMAI 2014, MSP - Discrete and continuous models for pedestrian movements"*, Taormina, Italy

26-30.05.2014 *"Sesja Sprawozdawczo-Szkoleniowa Użytkowników KDM"*, Jachranka, Poland

26-30.08.2013 *"Modeling with Measures: from Structured Populations to Crowd Dynamics"*, Lorentz Center, Leiden, Netherlands

11-12.07.2013 *"Tenth meeting on Hyperbolic Conservation Laws: Recent results and Research perspectives"*, L'Aquila, Italy

09-15.06.2013 *"Hyperbolic Techniques for Phase Dynamics"*, Oberwolfach, Germany

02-07.09.2012 *"Applied Partial Differential Equations in Physics, Biology and Social Sciences: Classical and Modern Perspectives"*, Bellaterra, Spain

25-29.06.2012 *"14th International Conference on Hyperbolic Problems: Theory, Numerics, Applications"*, Padua, Italy

19-21.04.2012 *"Sesja Sprawozdawczo-Szkoleniowa Użytkowników KDM"*, Sterdyń, Poland

21-23.11.2011 *"Conference of the European GDR Control of PDEs"*, Marseille, France

27-29.09.2011 *"The role of multiscale structure in biological systems"*, Warsaw, Poland

29.11.2010 *"Mathematical Methods for Multiscale Description in the Applied Sciences"*, Warsaw, Poland

14-16.04.2010 *"Sesja Sprawozdawczo-Szkoleniowa Użytkowników KDM"*, Goniądz, Poland

26.02.2010 *"Dzień ICM na MIMUW"*, Warsaw, Poland

01-03.09.2009 *"Mathematical modelling of cellular biosystems"*, Warsaw, Poland

19-21.05.2009 *"4th Polish-Japan Days"*, Mądralin, Poland

11-13.02.2009 *"XIII Incontro Nazionale sulle Equazioni Iperboliche"*, Bari, Italy

15-16.12.2008 *"Data driven modelling and optimization"*, Warsaw, Poland

17-19.07.2008 *"Sixth meeting on Hyperbolic Conservation Laws: Recent results and Research perspectives"*, L'Aquila, Italy

28.06.2008 *"Conservation Laws and Applications"*, Brescia, Italy

13-15.03.2007 *"Mathematical modelling of cellular biosystems"*, Warsaw, Poland

14-15.06.2007 *"Applicazioni avanzate GPS-GIS per l'individuazione degli itinerari stradali in ambito urbano ed extraurbano"*, Brescia, Italy

21-22.06.2007 *"Fifth meeting on Hyperbolic Conservation Laws: Recent results and Research perspectives"*, S.I.S.S.A.-I.S.A.S. Trieste, Italy

14-15.06.2007 *"14th International Conference: Live and Walk in the City"*, Brescia, Italy

28.5-1.6.2007 *"International Workshop on Nonlinear Hyperbolic Problems"*, Rome, Italy

01.03.2007 *"Around Hyperbolic Conservation Laws"*, Brescia, Italy

08-10.11.2006 *"Structure preserving schemes for evolution equations"*, Lyon, France

13-15.09.2006 *"XII Incontro Nazionale sulle Equazioni Iperboliche"*, Padua, Italy

19-20.04.2006 *"Traffic Flow Modeling & Management"*, Brescia, Italy

13-14.06.2005 *"Fourth meeting on Hyperbolic Conservation Laws: Recent results and Research perspectives"*, S.I.S.S.A.-I.S.A.S. Trieste, Italy

13-15.04.2005 *"A-HYKE2: Around HYperbolic and Kinetic Equations3"*, Rome, Italy

20-22.10.2004 *"XI Incontro Nazionale sulle Equazioni Iperboliche"*, Pisa, Italy

22.06.2004 *"Third meeting on Hyperbolic Conservation Laws: Recent results and Research perspectives"*, S.I.S.S.A.-I.S.A.S. Trieste, Italy

14-17.04.2004 *"A-HYKE2: Around HYperbolic and Kinetic Equations"*, Paris, France

27-28.09.2003 *"Dispersive Equations in Mathematical Physics"*, L'Aquila, Italy

07-09.10.2002 *"Aspects of Shock Wave Theory"*, Leipzig, Germany

05-08.06.2002 *"Advances on Nonlinear PDEs"*, L'Aquila, Italy

Seminars (29)

28.02.2025 *"Micro and macro descriptions of traffic"*, online, Queen's University, Canada

29.11.2019 *"On the micro-to-macro limit for* $1D$ *conservation laws"*, University of Padua, Italy

26.04.2018 *"Introduction to traffic modelling"*, Lublin University of Technology, Lublin Poland

15.12.2016 *"Conservation laws with general point constraints on the flow and their applications"*, University of Catania, Italy

28.10.2015 *"Conservation laws and applications"*, UMCS Lublin, Poland

04.08.2015 *"Nonclassical theory for conservation laws and its applications to crowd dynamics"*, University of Pretoria, South Africa

17.07.2015 *"Conservation laws and their applications to crowd dynamics"*, University of Gdańsk, Poland

10.06.2015 *"Macroscopic models for pedestrian flows through bottlenecks"*, University of Zielona Góra, Poland

29.01.2015 *"Conservation laws with point constraints on the flow and their applications"*, AGH University of Science and Technology, Cracow, Poland

20.11.2014 *"Conservation laws with point constraints on the flow"*, University of Ferrara, Italy

23.10.2014 *"On the Aw, Rascle, Zhang model for vehicular traffics and constraints"*, Université de Franche-Comté, Besançon, France

17.04.2014 *"Existence results for Hughes' model for pedestrian flows"*, Université de Franche-Comté, Besançon, France

27.02.2014 *"Everything Flows"*, ICM, University of Warsaw, Poland

06.02.2014 *"On the Hughes' model for pedestrian flows"*, University of Ferrara, Italy

21.05.2013 *"Modeling Pedestrian Evacuation Process"*, University of Bath, UK

09.05.2013 *"Crowd Dynamics and Conservation Laws with Non-Local Constraints"*, ICM, University of Warsaw, Poland

09.04.2013 *"Initial-Boundary Value Problems with Constraint"*, Université de Franche-Comté, Besançon, France

18.05.2012 *"Traffic optimization"*, ICM, University of Warsaw, Poland

03.05.2011 *"Macroscopic Models for Pedestrian Flows: Theory, Applications and Numerical Simulations"*, University of L'Aquila, Italy

4,5.10.2010 *"Pedestrian Flows: Theory and Applications"*, University of L'Aquila, Italy

11.03.2010 *"Hyperbolic Conservation Laws and Crowd Dynamics"*, INRIA Sophia Antipolis, France

16.06.2009 *"Pedestrian Simulation for Traffic Management"*, ICM, Warsaw, Poland

04.03.2009 *"Crowd Dynamics"*, IM PAN, Warsaw, Poland

15.01.2009 *"Pedestrian flows"*, University of Warsaw, Poland

20.11.2008 *"Stability for Rayleigh surface waves in a half-infinite elastic medium"*, IM PAN, Warsaw, Poland

25.03.2008 *"On continuum models for pedestrian flows"*, ICM, Warsaw, Poland

06.12.2007 *"On the Stability of Semilinear Semigroups with Respect to their Generators"*, University of Warsaw, Poland

08.02.2005 *"Pedestrian flow and non classical shocks"*, Université Claude Bernard Lyon 1, France

30.04.2004 *"Flussi pedonali e shocks non classici"* (Pedestrian flows and non classical shocks), University of Brescia, Italy

Schools

Post-Doc schools (5)

08-11.01.2007 S.I.S.S.A.-I.S.A.S. Trieste, Italy

"Dissipative mechanisms in systems of conservation laws"
Prof. D. Serre, UMPA Ecole Normale Superieure de Lyon, France

17-20.01.2005 Lectures on Transport Equations and Multi-D Hyperbolic Conservation Laws, Bologna, Italy

"Transport equation and Cauchy problem for BV vector fields and applications"
Prof. L. Ambrosio, Scuola Normale Superiore, Pisa, Italy

"Alberti's rank-one theorem"
Prof. C. De Lellis, University of Zurich, Switzerland

"Structure of solution for muldi-d scalar conservation laws"
Prof. F. Otto, University of Bonn, Germany

12-17.12.2003 Winter School on Transport Equations and Control Theory for PDEs, Bressanone, Italy

"An Introduction to the Theory of Linear Transport Equations"
Prof. F. Bouchut, ENS, Paris, France

"An Introduction to Control Theory for Hyperbolic-like PDEs"
Prof. R. Triggiani, University of Virginia, USA

14-21.07.2003 Hyperbolic Systems of Balance Laws CIME, Cetraro, Italy

"Viscosity Solutions of Systems of Conservation"
Prof. A. Bressan, S.I.S.S.A.-I.S.A.S. Trieste, Italy

"Conservation Laws on Continuum Mechanics"
Prof. C.M. Dafermos, Brown University, Providence R.I., USA

"Shock Profiles in Scalar Conservation Laws"
Prof. D. Serre, ENS, Lyon, France

"Stability of Multidimensional Viscous Shocks"
Prof. M. Wiliams, University of North Carolina, Chapel Hill N.C., USA

"Planar Stability Criteria for Multidimensional Viscous Shock Waves"
Prof. K. Zumburn, Indiana University, Bloominghton IN., USA

29.04-03.05.2002 Advanced Courses of Hyperbolic PDEs, Brescia, Italy

"Stability of Multi-D Boundary Layers"
Prof. G. Métivier, University of Bordeaux, France

"Vanishing Viscosity solutions of Nonlinear Hyperbolic Systems"
Prof. S. Bianchini, CNR-IAC, Rome I, Italy

Pre-Doc advanced school

29.07-31.08.2002 Summer School SMI, Perugia, Italy

"Differential Equations in Mathematical Physics"
Prof. A. Elcrat, Wichita State University, USA, vote A

"Differential Geometry"
Prof. C. Olmos, University of Cordoba, Argentina, vote B

Visiting professorship

01.03-31.09.2016 Department of Engineering Sciences and Methods, University of Modena and Reggio Emilia

(Long) Research visits (15)

10.02-19.05.2025 Laboratoire de Mathématiques de Besançon, Université de Franche-Comté, France, invited by Prof. Carlotta Donadello (CNRS "Poste Rouge")

21.07-21.08.2017 Laboratory for Statistical Physics of Complex Systems, Institute for Condensed Matter Physics, National Academy of Sciences of Ukraine, invited by Prof. Yurij Holovatch

09.06-08.07.2017 Laboratory for Statistical Physics of Complex Systems, Institute for Condensed Matter Physics, National Academy of Sciences of Ukraine, invited by Prof. Yurij Holovatch

13.09-27.09.2016 Department of Engineering Sciences and Methods, University of Modena and Reggio Emilia, Italy, invited by Prof. Luisa Malaguti

30.06-21.07.2016 Laboratoire de Mathématiques de Besançon, Université de Franche-Comté, France, invited by Dr.hab. Ulrich Razafison

02.03-23.03.2016 Department of Engineering Sciences and Methods, University of Modena and Reggio Emilia, Italy, invited by Prof. Luisa Malaguti

01.09-30.09.2015 ICM, University of Warsaw, Poland, invited by Dr. Maria Gokieli

16.06-16.07.2015 Laboratoire de Mathématiques de Besançon, Université de Franche-Comté, France, invited by Prof. Boris Andreianov, Dr. Carlotta Donadello and Dr.hab. Ulrich Razafison

07.04-06.06.2015 Gran Sasso Science Institute, L'Aquila, Italy, invited by Prof. Pierangelo Marcati

03.03-25.04.2014 Laboratoire de Mathématiques de Besançon, Université de Franche-Comté, France, invited by Prof. Boris Andreianov and Dr. Carlotta Donadello

20.02-19.04.2013 Laboratoire de Mathématiques de Besançon, Université de Franche-Comté, France, invited by Prof. Boris Andreianov and Dr. Carlotta Donadello

14.11-03.12.2011 INRIA Sophia Antipolis-Méditerranée, France, invited by Dr. Paola Goatin

22.10-16.12.2007 University of Warsaw, Poland, invited by Dr.hab. Agnieszka Świerczewska-Gwiazda

02.07-03.08.2007 University of Warsaw, Poland, invited by Dr.hab. Agnieszka Świerczewska-Gwiazda

01.02-31.03.2005 University of Lyon 1, France, invited by Prof. Sylvie Benzoni-Gavage