

Sandra Carillo
Associate Professor
Qualified for Full Professor Position in Mathematical Physics
Department of Basic and Applied Sciences for Engineering
Università di Roma “LA SAPIENZA”

Qualifications

- **Master in Physics**, Università degli Studi di Roma “LA SAPIENZA”, Rome, Italy.
 - **Ph.D. in Applied Mathematics**, University of Waterloo, Waterloo, Ontario, Canada.
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Professional Experience

- **C.N.R. (Italian National Research Council) Research fellow**, calls 203.01.28 & 203.01.38, (Mathematics), Appl. Math. Dept., University of Waterloo, Waterloo, Ontario, Canada.
 - **Assistant Professor (“Ricercatore Universitario”)** tenure-track position, then, after 3 years, permanent position, Faculty of Engineering, University of Rome “LA SAPIENZA”. July, 2 1983 – February, 28 2002, (Mathematical Physics) and, later (Mathematical Analysis), Faculty of Engineering, University of Rome “LA SAPIENZA”.
 - **Associate Professor** tenure-track position, then, after 3 years, permanent position, since March 2002 to the present time, Faculty of Civil and Industrial Engineering, University of Rome “LA SAPIENZA”.
 - **Productivity bonus**, years **2011**, **2013** and **2018**, referring to the **Scientific and Educational Activities carried out in the three-year periods** 2008-2010 and 2010-2012, and also in year 2018.
 - **Year 2022 Winner of Regional Research Price** (2000 Euro) *for researchers and research fellows to strengthen their professional condition and enhance the system of research in Lazio*, official call published n. G05411 published on 05/05/2022.
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“Visiting Professor”

- Appl. Math. Dept., University of Waterloo, Waterloo, Ontario, Canada (varie visite);
- Mathematics Department, University of Paderborn, Germany (various different visits);
- Mathematics Department, University of Colorado at Colorado Springs (UCCS), Colorado Springs, Colorado, U.S.A. (various different visits);
- Department of Applied Mathematics, The Hong Kong Polytechnic University, Hong Kong, China;
- Department of Natural Sciences, Engineering, and Mathematics, Mid Sweden University, Sundsvall, Sweden (various different visits);

- Institute of Mathematics, University of Zürich, Zürich, Switzerland.
- Department of Mathematics, Physics and Electrical Engineering, Northumbria University, Newcastle upon Tyne, UK.
- 124 (+ 6 in 2023) **invited lectures Seminars and Conferences** (in international Conferences, in large majority).

Scientific Publications

**39 Co-authors and their nationality: (15 not italian)
5 Germany, 2 Poland, 1 Great Britain, 1 Switzerland,
1 China, 1 France, 1 ex Soviet Union (Novosibirsk),
1 Ireland, 1 U.S.A., 1 Netherland.**

h-index = 15 Scopus

93 publications, filed as follows,

- 1 Text Book (Mathematics).
- 59 publications indexed by Web of Science (1982-2018).
- 1 article indexed by *Chinese Web of Science* (Acta Mathematica Sinica, Springer-Verlag)
- 54 articles (+ 3 to appear soon + 16 preprints) indexed by Scopus (6 not filed by ISI).
- totally 64 publications indexed by Web of Science or Scopus (+ 3 in progress).
- 68 publications on MathSciNet (including 4 original articles on international journals or volumes NOT indexed neither ISI nor Scopus).
- 1 Ph.D. Thesis (Ph.D.), reviewed by MathSciNet, published in Canada, (with a copy filed at the National Library, Ottawa, Canada), ProQuest LLC, Thesis - available online, ISBN 978- 0315-49213-4.
- 1 review article reviewed in MathSciNet.
- 1 articles in press (2023) and 1 submitted for publication.
- 89 abstracts (including 49, in the time period 2010 - 2019) of talks, invited and / or accepted, in Conferences (not associated to Proceedings Volumes).

“Editorial Activities”

- **Editorial Board Member**, International Journal **Applied Numerical Mathematics**, Elsevier, Amsterdam, Boston, London, (rivista di classe 1).

- **Editorial Board Member**, International Journal **Open Communications in Nonlinear Mathematical Physics**, *OCNMP is a diamond open access journal with no APC's*, new Journal, Episciences.
- **Editorial Board Member**, International Journal **Axioms**, MDPI, Basel, Switzerland.
- **Editorial Board Member**, International Journal **Mathematics**, MDPI, Basel, Switzerland.
- **Editor** of 5 Volumes:
 - 4 Proceedings Volumes of International Conferences,
 - Nonlinear Evolution Equations and Dynamical Systems, Springer-Verlag Editore, (1990);
 - Evolution Equations and Materials with Memory, Publishing house “LA SAPIENZA” University, (2011);
 - *MASCOT2018 Proceedings Book*, IMACS Series in Computational and Applied Mathematics, S. Carillo, C. Conti, D. Mansutti, F. Pitolli, R.M. Spitaleri, Ed.s., Vol. **22**, 2019.
 - *Rendiconti di Matematica e delle sue Applicazioni, Special Issue celebrating Umberto Mosco's Birthday, Sapienza Università Editrice, D. Andreucci, R. Capitanelli, S. Carillo, M.R. Lancia, M.A. Vivaldi Ed.s, October 2020.*
 - the Special Volume: *A selection of scientific papers by Vinicio C. Boffi*, Publishing house “LA SAPIENZA” University, (2014).
- **Guest Editor** di 4 **Special Issues** of the International Journals:
 - Discrete and Continuous Dynamical Systems-Series B, American Institute of Mathematical Sciences (2014).
 - Meccanica, Springer-Verlag, (2017).
 - Mathematics and Computers in Simulation, Elsevier (2020).
 - Meccanica, *Special Issue “The centennial of Becker (1922): Recent trends in the analysis of dissipative, compressible flows”*, , Springer-Verlag, (2023).

Principal Scientific Responsibilities

- **Italian Principal investigator (PROPOSER)** of the Bilateral Project (Contract n.92.00555.01 C.N.R. : bilateral agreement of scientific collaboration between Italy and Germany *Non linear integrable systems: Hamiltonian and bi-Hamiltonian structure supported by the (italian National Research Council) C.N.R. and renewed in the Contract n. 95.01082.01.*
- **Principal investigator** of several **Faculty and University research projects**.
- Member of **Scientific Committee of 8 international Conferences** ((to organise 4 of these ones, she played the role of **Italian Principal investigator (PROPOSER)** ad hoc funding) sponsored by **C.N.R., G.N.F.M., Università “La Sapienza”**).

- **I.N.F.N. Research Associate** since 2014, I.N.F.N. financially supports her scientific activity (participation to Conferences, visiting Professors, scientific equipment, organised talks , ...)
- **Member of G.N.F.M. (Italian National Mathematical Physics Group)** since 1983, G.N.F.M. financially supports her scientific activity (participation to Conferences, visiting Professors, scientific equipment, invited talks organised, ...)
- **Elected Member of the I.M.A.C.S. Board**, *International Association for Mathematics and Computers in Simulation* 2017–2020 and 2021–2024;
- **Elected Member of the AIMETA Board** *AIMETA, Italian Association for Theoretical and Applied Mechanics* 2014–2017, renewed 2018–2021 and 2022–2025;
- **Member of the Doctoral Committee PhD Program in Information and Communications Technologies - (ICT) since 2006.**

Principal Organisational Activities

- **more than 40 invited Visiting Professors**, the vast majority from outside Italy, to spend research periods at the University of Rome “LA SAPIENZA”;
- A large number of seminars by both researchers of different nationalities;
- Various mini-courses for students of different PhD Programs (in Italian and in English);
- 5 Conferences (for 4 of them she received *ad hoc* funding - **Principal Investigator** University calls years 2009, 2011 and 2017) organised respectively in 2010, 2012 and 2018. Currently organising the IMACS 2023 World Conference, Rome 11-15, September 2023.
- 2 Workshops (2012 and 2014);
- **16 Minisymphosia** in National and International Conferences (since 2004).

Courses Taught

University of Rome ”LA SAPIENZA”, Engineering Faculty **2309** examinations filed in the system **ONLY Academic Year 2008/09 - 2017/18 counting ONLY exams as Examination Committee President (excluding Academic Year 1983/84 - 2007/08 not filed)**

- **“Teaching Assistant”**, Appl. Math. Dept., University of Waterloo, Waterloo, Ontario, Canada (2 different Courses Calculus and Advanced O.D.E.s)
- Complementary notions and Exercises “Esercitazioni” (Mathematical Methods for Engineering and Rational Mechanics) 1983-2001.
- **DOCTORATE COURSES**
 - **Nonlinear ordinary differential equations: perturbative methods & applications** (taught in English), **Doctorate in “Mathematical Models for Engineering, Electromagnetics and Nanosciences”**

- Mathematical Physics (PhD Program in Electronic Engineering, later ICT).
- **BACHELOR’S DEGREES COURSES**
(FIVE AND THREE-YEAR DEGREE PROGRAMS) since 1991/92
 - Mathematical Analysis I (Electronic, Telecommunication and Building Engineering),
 - Mathematical Analysis II (Electronic, Telecommunication, Building-Architectural, Clinic, Aerospace and Management Engineering)
 - Mathematical Physics (Civil Engineering).
- **MASTER DEGREE COURSES** since Academic Year 2002/03
 - Mathematical Physics (Master Program in Electronic Engineering)
 - Mathematical Methods for Biomedical Applications (Master Programs in Biomedical Engineering)
 - Applied Mathematics (Master Programs in Electronic Engineering and in Biomedical Engineering)
 - Mathematical and Algebraic Methods (Master Programs in Biomedical Engineering)

Thesis supervisor and Tutor of Undergraduate Excellence Program

- **Bachelor’s Degree Thesis supervisor** in Clinical Engineering (program completed in December 2013) Title: *A mechanical model of a climbing plant.* Candidate: Vittorio Viri.
- **Tutor of Undergraduate Excellence Program**, Bachelor’s Degree in Electronic Engineering Academic Year 2014/15 and Academic Year 2015/16 (II and III years of his Bachelor’s Degree’s Program) Title: *A Analytical and Symbolic Methods in Applied Mathematics.* Candidate Fabio De Rubeis.

Referee of International Journals

MathSciNet. Annali dell’Università di Ferrara. Applicable Analysis. Applied Mathematics Letters. Boundary Value Problems. Discrete and Continuous Dynamical Systems - Series B. Journal of Mathematical Analysis and Applications. Journal of Mathematical Physics. Journal of Nonlinear Mathematical Physics. Mathematical Methods in the Applied Sciences. Meccanica. Numerical Algorithms. Reports on Mathematical Physics. Systems & Control Letters. Waves in Random and Complex Media. Zeitschrift fuer Angewandte Mathematik und Physik (ZAMP) Applied Numerical Mathematics. SIAM Journal on Mathematical Analysis (SIMA).

Languages :

- English (qualified to teach mathematics courses in English in all English-speaking Universities, since obtained her PhD from University of Waterloo, Ontario, Canada admission requirement: TOEFL exam passed)
- French (“intermediate”)
- German (“intermediate”)