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.

Professional Experience

- **C.N.R. (Italian National Reasearch 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 – Febbruary, 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.

"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.

- over 130 **invited lectures Seminars and Conferences** (international Conferences, mainly).

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.

$\boxed{\text{h-index} = 15 \quad \text{Scopus}}$

93 publications, filed as follows,

- 1 Text Book (Mathematics).

- 61 publications indexed by **Web of Science (1982-2023)**.

- 1 article indexed by *Chinese Web of Science* (**Acta Mathematica Sinica, Springer-Verlag**)

- 57 articles (+ 16 preprints) indexed by Scopus (6 not filed by ISI).

- totally 64 publications indexed by Web of Science or Scopus (+ 3 in progress).

- 71 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.

- 91 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, (Q1).

- **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 an 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 5 **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).

  - Mathematics and Computers in Simulation, Elsevier (in progress).

Principal Scientific Responsibilities

- **Italian Principal investigator (PROPOSER)** f 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

- **over 46 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 Eglish);

- 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.

- 3 Workshops (2012 and 2014) and June 2025 (in progress);

- **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)

- **II LEVEL MASTER COURSES** since Academic Year 2020/21

  – SEMINARS SERIES ON PERTURBATION METHODS in the course ptics and quantum information

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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 &2015/16 (II - III years of his Bachelor's Degree's Program)
  Title: *A Analytical and Symbolic Methods in Applied Mathematics.* Candidate Fabio De Rubeis.

Referee for International Journals

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" A2 - selfevaluated)

- German ("intermediate" B1 - selfevaluated)