CURRICULUM VITAE - MARILÙ CHIOFALO

PERSONAL INFORMATION

Family name, First name: Chiofalo, Maria Luisa
Date of birth: 09/09/1968 Nationality: Italian
Researcher unique identifier: ORCID: 0000-0002-6992-5963
URL for web site: https://sites.google.com/a/unipi.it/physics-of-matter/people/chiofalo-maria-luisa

EDUCATION

1996 PhD in Physics - 70/70 with honors
Scuola Normale Superiore – SNS, Pisa, Italy

1992 Master in Physics - 110/110 with honors - Faculty of Physics, University of Pisa, Pisa, Italy

1986 High-school diploma in classical studies – 60/60 – Liceo Classico "T. Campanella", Reggio Calabria

CURRENT and PREVIOUS POSITION(S)

2007 – Associate Professor of Condensed Matter Physics – Dept. of Physics, UNIPI, Pisa, Italy

2008 – 2018 Deputy Mayor. Mandate topics: Educational policies;Technologies for education; Science education; Equal opportunities; Pisa legacy; Anticorruption. Pisa Municipality, Italy

2004 – 2007 Junior Researcher. Scuola Normale Superiore – SNS, Pisa, Italy

2002 – 2004 Junior Researcher on *General Relativity Tests in Space*. Mathematics Dept./UNIPI/Italy

1998 – 2002 Junior Researcher. Scuola Normale Superiore – SNS, Pisa, Italy

1996 – 1998 Post-doctoral fellow. Scuola Normale Superiore – SNS, Pisa, Italy

FELLOWSHIPS AND AWARDS

2023 Outstanding Referees of the Physical Review journals

2020 Selected as one of 100Experts-women expert in different fields, databank by Osservatorio di Pavia, Gi.U.L.I.A. and Bracco Found., with Centro Genders of Milan University for the STEMs, Bocconi University, ISPI, Cagliari University.

2016 Prize "Successful Women" within Beijin 20+ World contest. Sportello Donna, Pavia, IT.

2014 Prize Culture of Solidarity – Pistoia (Italy)

1997 Prize for young MD students - Italian Physics Society

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

2017 – 2024 2 Postdocs/ 2 PhD students, 20 Master students, 6 Bachelor students Phys. Depts., UNIPI, Italy (some as external supervisor of other European University students)

TEACHING ACTIVITIES (only current courses)

2022 – Prof. in charge – Current Trends in Quantum Matter, MD-Physics, University of Pisa (UNIPI), Italy

2022 – Prof. in charge – The Physics of Everyday Life, BS in Physics University of Pisa & Master IDIFO, Italy

2022 – Co-Teacher – Physics 2B (electromagnetism), BS in Physics University of Pisa

2021 – Prof. in charge – Quantum Liquids, PhD and MD-Physics, University of Pisa, Italy [previously Many-Body Physics, 2014-2021]

2015 – Prof. in charge – Physics&Elements of Math.&Stat., BS in Pharmacy, UNIPI, Italy

2011 – Prof. in charge – Physics, MD in Pharmaceutical Chem.&Tech., UNIPI, Italy

ORGANISATION OF SCIENTIFIC EVENTS (as (co-)chair and a selection as member)

2024 **Director** of the interactive exhibition What a Wonderful Quantum World – April 2024

2023 **Co-creator** of the event *The Authoritative Word: the capacity of raising attention* with G. Mazzini and G. Galletti (Labodif) at States General of Digital School in Bergamo.. Participants: about 700.

2022 **Co-creator** of events *The hidden intelligence: words, school, difference, STEM* with G. Mazzini and G. Galletti (Labodif) and of *Educating to quantum technologies* with H. Lewandovski at States General of Digital School in Bergamo. Participants: 700.

2022 **Member** of the Scientific Committee of the USPID-PUGWASH Conference *Nuclear Weapons: new risks*. Castiglioncello (Italy) – Participants: 30

2022 **Co-creator** with Steve Shore of *First sight of the Universe* (with Steve Shore)– NASA/ESA awarded projection of the first JWST images on the Monumental Cemetery, Piazza dei Miracoli. Pisa – Participants: 2000

2021-2022 **Chair** of the Quantum Jungle exhibition: workshops and events. Palazzo Blu, Pisa – Participants: 6000

2021-2022 **Co-creator** with S. Maniscalco 1st and 2nd Quantum Game Jams at Internet Festival Pisa (online) – Participants: 50 (in each edition)

2021 **Chair** of the Symposium Quantum Games for Physics Education at WCPE Hanoi (hybrid) – Participants: hundreds (synchronous and asynchronous attendants)

2017-'19-'22 **Creator and chair** Conference series on Quantum gases, Fundamental interactions, and Cosmology (QFC2017, QFC2019, QFC2022, QFC2024) Pisa, Italy – Participants: 50 in each edition

2019,'21-'22 **Member** of the organising committee of Workshops on Cold Atom Technology in Space and Terrestrial Very-Long-Baseline Atom Interferometry, organized by AEDGE CERN 2019- Participants: 60. Online 2021-Participants: 200. CERN 2022. Participants :150

2018– **Member** of the Scientific Committee for the Cosmos Award and – since 2021 – Cosmos Science Festival/Reggio Calabria/Italy

2002 **Chair** of the Symposium *Mesoscopic Bose-Einstein condensates at nanokelvin temperatures: an ideal laboratory for mathematical applications* within SIMAI congress Cagliari, Italy – Participants: 100

1997 **Scientific Secretariat Chair**, CXXXVI Course of the Intl. School of Physics "Enrico Fermi" on *Models and phenomenology for conventional and high-tempertaure superconductivity*; Directors R. J. Schrieffer and G. Iadonisi. Varenna, Italy – Participants: 100

INSTITUTIONAL RESPONSIBILITIES

2024 – Director of the PF60 Habilitation program for high-school physics teachers, issued by the University of Pisa on behalf of the Italian Ministry of Education.

2023 – Board member of the UNIPI Community of Mentors (Co.Me)

2022 – Delegate of Phys. Dep. and Council member of Master IDIFO/UNIPI& Udine U/Italy

2021 – Executive board (elected), Physics Department/University of Pisa/Italy

2021–2023 Delegate of the Phys. Dept. in G6 group for K14 teachers' training of PLS/UNIPI/Italy

2017 – Delegate of Physics Department Head for teachers' training/University of Pisa/Italy

---

2023 – Member of Committee for RTDA position at SNS

2023 – Member of the Committee for one RTDA position in cond-matter/Catania/Italy

2022 -2023 Member of the Committee for one RTDB position in cond-matter phys./Pavia U./Italy

2022 – Chair of Committee for researcher grant position WQuBit/University of Pisa/Italy

2022– Chair of 1 & member of 2 selection committees for teaching positions/Scuola

Normale/Italy

2021 – Member of Committee for RTDA position "New quantum-inspired models and algorithms to enhance bio-based systems and catalytic processes with application to future sustainable agriculture technologies" /University of Pisa/Italy

2020 – Member of Committee for researcher grant position "Quantum Models and Simulations for Visual Neurosciences" /University of Pisa/Italy

2019 Chair of the Committee for one PhD degree in Physics/University of Pisa/Italy

2019– Member of the Council of the Research Center for Training and Education/UNIPI/Italy

2018– Member of the Council of the Interdisciplinary Center for Peace Sciences and (2019-) and of the Responsible Research and Innovation team/University of Pisa/Italy

2018-20-21 Member of the Committee for the BS degree in Physics/University of Pisa/Italy

2017– Member of the Council of Materials&Nanotechnology Course/University of Pisa/Italy

2014– Member of the Council of the PhD School in Physics/University of Pisa/Italy

2020 – Member of Editorial board of the CISP-Magazine/University of Pisa/Italy

2016 Member of the PhD in Physics admission committee/University of Pisa

2016 –2018 Member of Committee for assessment of research (elected)/University of Pisa/Italy

2014– Member of the Council of the PhD School in Physics/University of Pisa/Italy

2012– Member of the Council of BSD and MD Course in Physics/University of Pisa/Italy

2007– Member of Faculty&Councils of BS&MD Pharmacy Courses/University of Pisa/Italy

2007– Chair of the committees for tutors selection, Physics courses of Pharmacy Dep./UNIPI/Italy

REVIEWING ACTIVITIES

2023 – External reviewer for proposals evaluation InnoFund, Denmark

2022 – Panelist for MINT proposals evaluation, Swiss National Science Foundation/Swiss

2022 – Associate Editor, Basic Science for Quantum Technologies

2020 – Board member of Photonics

2020 Reviewer for selection of professor-staff member/Stanford University/USA

2019 Reviewer for selection of professor-staff member/Harvard University/USA

2019 Member of Committee for Habilitation de Research/Lab Kastler Brossels, Paris/France

2019, 2021 Reviewer for final round of ERC Starting Grant

2011– 2014 Reviewer for the National Research Quality Assessment VQR)/Italy

2000 – Reviewer: PRL/A/B/E/X, Nature, NJP, EPJ, EPL, Universe, Photonics, AJP

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

2023 – Member, ELLIS "*European Lab for Learning and Intelligent Systems*"/International

2022 – Member of Scientific council of Italian Union Scientists for Disarmament/Italy

2012 – Member, Women and Science Association/Italy

2012 – Board member (elected), Associazione Normalisti/Scuola Normale Superiore/Italy

MAJOR COLLABORATIONS (past and present)

Quantum technologies: M. Holland and D. Jin (JILA and UCB, US), S. Kokkelmans (TU-Eindhoven), S. Giorgini (Trento U), G. Morigi (Saarbrucken), B. Lev (Stanford, US), A. Smerzi (INO-CNR, Florence). **Open quantum systems**: S. Maniscalco (Helsinki U), A. Daley (Strathclyde) J. Keeling (St. Andrews). **Neuroscience**: C. Morrone (University of Pisa). **Quantum chemistry**: B. Mennucci (University of Pisa), S. Maniscalco. **Mind&Matter**: B. Kappen (Radboud U), P. Pylkkanen (Helsinki U). **Fundamental physics**: G. Tino (LENS, Florence), V. Vuletic (MIT, US), OLAGS (Optical Links for Atomic Gravity Sensors), AEDGE (Atomic Experiments for Dark Matter and Gravity Exploration), STE-QUEST (Space-Time Explorer and QUantum Equivalence Principle Space Test),

VIRGO/LIGO coll. **Analogue gravity**: S. Liberati (SISSA), M. Mannarelli (LNGS), D. Grasso (INFN), Gia Dvali (LMU Munich). **Physics Education Research**: H. Lewandowski (JILA,US), M. Michelini (Udine U), H. Gardner (Harvard School of Education).

LAST TEN YEARS TRACK-RECORD

I am an expert in the design of strongly correlated quantum states of matter under extreme conditions of low temperatures, strong interactions, and reduced dimensionality, and of their use for quantum technologies and precision measurements. My best recognized contributions are in the **theory of superconductivity**[1] and fermionic superfluidity, especially the prediction of **resonance superfluidity in Fermi gases**[2] later realized by Debbie Jin at JILA (over all papers more than 1000 citations), the first **theory of time-dependent density functional for superfluids as a method**[3], and the **simulation of Bose-gases dynamics also with applications to atom interferometry**[4] (over all papers more than 1000 citations). During the last five years, my research has been reborn along new directions, taking advantage of ten years (2008-2018) slow-down for administrative and institutional offices, and while progressively folding up my previous interests. My way in science is extremely curiosity driven, connecting most abstract ideas with real experiments, and markedly with international traits. More recently, I could give to my research a truly cross-disciplinary character, in the way I imagined for myself as a science-passionate child, engendered by more recent encounters with inspiring women-scientists colleagues. **My research now focuses** on conceiving and engineering quantum technologies (mainly in quantum gases platforms), using quantum theoretical and simulation methods, **in three directions**:

(QS) Quantum simulators to address time-dependent, out-of-equilibrium problems of condensed matter or fundamental physics (like with analogue gravity), neurobiology (like with QoolNeSS), within the driven-dissipative open quantum systems framework. I recently started a program on quantum computing for biological systems within NEXT-Gen EU funded Italian Center for Quantum Computing, also being the PI of a EU-PON funded RTDA grant, and part of ELLIS- European Lab for Learning&Intelligent Systems.

(QM) Quantum metrology, also contributing to the cross-disciplinary networks AEDGE and STE-QUEST, and acting as internal reviewer in the VIRGO-LIGO collaboration.

(PER/POR) In addition, I have more recently formalized my disciplinary activity in **Physics Education** and **Physics Outreach Research**, the latter being a field that I have initiated.

Projects as PI

QS-Quantum Simulators

- EU-PON funded RTDA grant ***New quantum-inspired models&algorithms to enhance bio-based systems with application to sustainable agriculture technologies*** *(2021-)* [CUP I55F21003080002, 153.253,68 euros]
- Scientific responsibility of specific activity within the **HPC, Big Data and Quantum Computing** PNRR CN 1 Spoke 10, Code CN00000013 – CUP I53C22000690001, funded under UE/MUR – Next Gen EU, corresponding to 54.000,00 euros.
- In addition: 2 MIT-UNIPI funded (2015-2017, 2019-2023) projects; KITP-funded follow-on research on ***Black holes as open quantum systems*** (coordinator) [and part of ***Complex Quantum Networks*** team coordinated by L. Carr, all re-scheduled after Covid19 outbreak].

---

[1] Iadonisi, Chiofalo, Cataudella, Ninno, PRB 48, 12966 (1993); *Models and Phenomenology for Conventional and High-Tc Superconductivity*, Ed. by G Iadonisi, R J Schrieffer and M L Chiofalo (IOS Press, 1998)]

[2] Holland, Chiofalo, Kokkelmans, Walser, PRL 87, 120406 (2001) (co-PI); Chiofalo, Kokkelmans, Milburn, Holland, PRL 88,

90402 (2002) (co-PI); Kokkelmans, Milstein, Chiofalo, Walser, Holland, PRA 62, 7438 (2000) (collaborative).
[3] Chiofalo, Minguzzi, Tosi, Phys. B 254,188(1998); Chiofalo and Tosi, EPL53,162(2001) (main contributor)
[4] Chiofalo, Succi, Tosi, PRE 62, 7438(2000); Burger et al., PRL 86,4447(2001) (simulations and theory); Ivanov, Alberti, Schioppo, Ferrari, Artoni, Chiofalo, Tino, PRL100,43601(2008) (co-PI); Holland, Jin, Chiofalo, Cooper, PRL 78, 3801(1997)

QM-Quantum Metrology

Pisa unit of INFN-granted projects for gravitational waves detection and equivalence principle tests with atom-interferometry technologies: MAGIA-adv (2015-2018) and OLAGS (2021-2023).

PER/POR-Physics Education Research/Physics Outreach Research

- Pisa unit of **DigiQ** (2022-) [GA N. 101084035, 265.146,00 euros]
- **WQubit-The Quantum-Bit Woman**, a unique-of-a-kind quantum videogame production to promote cultural heritage, quantum outreach, and citizen-science problem solving (2022-) on Tuscany-Region and BIHO funds [FSE- Regione Toscana, 60.000,00 euros]
- In addition: **QUTE4E** pilot (co-coordinator for QTEdu-CSA, 2021-2022); **2 UNIPI-granted PER projects** (2019, 2022); GIREP Group **Games for PER**. I direct the Discover section of **QPLayLearn**.

Finally, I coordinated the proposal *Integrating Human and Machine Minds for Quantum Technologies* (**IQHuMinds**), **submitted to the 2020 RISE MSCA call (Horizon2020)** with the Consortium University of Turku (Finland), ICFO (Spain), JILA (Boulder, Colorado, US), VIS (Pisa, Italy), MiTale (Finland), QuSide (Spain), IBM-Zurich, Unity Tech. (San Francisco, US). Coordinator M. L. Chiofalo. Awarded with BIHO grant by UNIPI.

Relevant publications and peer-reviewed research papers (2014-)

Overall, I published two monographies, one co-edited research book and almost 140 articles in peer-reviewed journals. Among these, in the last 10 years I published one monography, 12 papers on **QS**, more than 43 on **QM** (more than 36 from the VIRGO-LIGO collaboration, 2021-), and 9 (2021-) on **PER/POR.** I list below a selection, mostly for relevance, specifying where I am PI or co-PI.

Monography

G. Iadonisi, G. Cantele, M. Chiofalo. Introduction to Solid-State Physics and Crystalline Nanostructures, Springer 2014.

QS-Quantum simulators

1. Yago Malo, Cicchini, Morrone, MC, Quantum spin models for numerosity perception, PLoS ONE **18**(4):e0284610 (2023) (co-PI)
2. Mannarelli, Grasso, Trabucco, MC, Hawking temperature and phonon emission in acoustic holes, Phys. Rev. D **103**, 076001 (2021) (co-PI)
3. Wilson, Jager, Reilly, Shankar, MC, Holland, Beyond one-axis twisting: Simultaneous spin-momentum squeezing, Phys. Rev. A **106**, 043711 (2022) (co-PI).
4. Bonetti, Rucci, MC, Vuletic, Quantum Effects in the Aubry Transition, Phys.Rev.Res.**3**,13031(2021) (coPI).
5. Venegas-Gomez, Schachenmayer, Buyskikh, Ketterle, MC, Daley, Adiabatic preparation of entangled, magnetically ordered states with cold bosons in optical lattices, QST**5** 045013 (2020).
6. Musolino and MC, Correlation Length and Universality in the BCS-BEC Crossover for Energy-Dependent Resonance Superfluidity, The Eur. Phys. J.-SPECIAL TOPICS **226**, 2793 (2017) (PI).
7. Colella, Citro, Barsanti, Rossini, MC, Quantum Phases of Spinful Fermi Gases in Optical Cavities, Phys. Rev. B **97**, 134502 (2018) (PI).
8. Di Dio, De Palo, Orignac, Citro, MC, Persisting Meissner state and incommensurate phases of hard-core boson ladders in a flux, Phys. Rev. B **92**, 506 (2015) (collaborative).

QM-Quantum metrology and fundamental physics

9. Lucchesi and MC, Many-Body Entanglement in Fermi Gases for Metrology, PRL **123**, 60406 (2019) (PI).

10. Shankar, Salvi, MC, Poli, Holland, Squeezed-state metrology with Bragg interferometers operating in a cavity, Quantum Science and Technology 4, 045010 (2019) (co-PI).
11. Bertoldi et al., AEDGE, EPJ Quantum Technology **7**, 6 (2020) (collaborative).

12. VIRGO/LIGO coll. Observation of Gravitational Waves from Two Neutron Star-Black Holes Coalescence, Astrophysical Journal Letters 915(1), L5 (2021) (collaborative).

PER and POR (all as PI or co-PI):

1. C. Foti, D. Anttila, S. Maniscalco, and M. Chiofalo, Quantum physics literacy aimed at K12 and the general public, Universe 7, 86 (2021)
2. S. Goorney, C. Foti, L. Santi, J. Sherson, J. Yago Malo, and M. Chiofalo, Culturo-Scientific story-telling, Education Sciences **12**(7), 474 (2022), Educ. Sci. 12(7), 474 (2022)
3. M. Chiofalo, C. Giudici, H. Gardner, An interview with Howard Gardner: John H. and Elisabeth A. Hobbs research professor of cognition and education at the Harvard Graduate School of Education, EJMSTE **18**(6) em2112 (2022)
4. M. Chiofalo, C. Foti, M. Michelini, A. Santi, L. Stefanel, Games for Teaching/Learning Quantum Mechanics: A Pilot Study with High-School Students, Educ. Sci. **12**(7), 446 (2022).
5. Z. C. Seskir, P. Migdał, C. Weidner, A. Anupam, N. Case, N. Davis, C. Decaroli, İ. Ercan, C. Foti, P. Gora, K. Jankiewicz, B. R. La Cour, J. Yago Malo, A. Naeemi, L. Nita, N. Parvin, F. Scafirimuto, J. F. Sherson, E. Surer, J. Wootton, L. Yeh, O. Zabello, M. Chiofalo, Quantum Games and Interactive Tools for Quantum Technologies Outreach and Education, Optical Engineering, **61**(8), 081809 https://doi.org/10.1117/1.OE.61.8.081809 (2022)
6. M. Chiofalo and M. Michelini, An Interview with Marisa Michelini: IUPAP-ICPE Mdeal, Professor of Physics Education Research at Udine University, GIREP President, Eurasia Journal of Mathematics, Science and Technology Education, **19**(4), em2243 (2023).
7. S. Montagnani, A. Stefanel, L.Santi, M. Chiofalo, and M. Michelini, An experiential path on the foundations of quantum mechanics for last-year high-school students, Physics Education, Physics Education **58, 3** 035003 (2023).
8. Gentini L, Yago Malo J and Chiofalo M. The quantum bit woman: promoting the cultural heritage with quantum games. In Cultural Physics Awareness and Education: the Challenge of Digitalization 2023. Eds. Bonivento W, Michelini M, Streit-Bianchi M and Tuveri M. Springer Book Series Challenges in Physics Education.

Eight (8) more papers are published, or in press, or in the course of publication, 2 as PI or single author.

I also authored science audio/video formats and broadcast, more than 25 articles on magazines, and was invited to about 70 panels, public lectures, interviews on science, society, and gender studies.

Conduction of research environments

My way is characterized by a neat attitude and educated expertise in setting up inclusive environments, no matter how complex are. Since 2017, I supervised 17 MD-thesis students (7 in 2022), who published from their work (see e.g. QS2, 4, 6-7, QM9), and are now pursuing their PhD in universities like MPI-Stuttgart, Innsbruck, LNGS, often changing subjects and even swapping to experiments.

Invited visiting (2014-)

I have been invited for short (1 week)-to-medium (up to 2 months) term visiting in scientific institutions like JILA-UCB (2016,2017, and 2018), DESY-Hamburg (2023), ACP-Colorado (2021), KITP-Santa Barbara (2020, 2023), CERN (2019, 2022), IQOQI-Innsbruck (2018), MIT (2018, 2023), Stanford (2018), Strathclyde (2018).

Invited talks (2014-)

I was invited to give about 30 talks on **QS** and **QM**, among others at ACP (US), ECT-Trento, Strathclyde, Harvard, MIT, JILA, Stanford, Innsbruck U.; more than 15 on **QPER/POR**, like at

EQTC2021, WCPE2021, GIREP, SSC-Catania, Frontiers of Fund. Physics16. The talk *A Quantum Model for Numerosity Perception* was invited at Mind&Matter Helsinki, Quantum Hiking conf.2022, ELLIS unconference2023. I was invited by 500WS PisaPod to deliver a TWIST-Top Women in Science Talk-to inspire young women scientists, at DESY -2023 Intl. Day of Girls and Women in Science, and at the 1st Women in Quantum conf. (2023), where I talked on *(Re-)Writing? Women Authority and Intelligence in Science*.

Conferences organized (2014-)

QS/QM: I created and chair the Conference series *Quantum gases, Fundamental interactions, and Cosmology* (QFC2017-19-22).

QPER/POR: Chair of the WCPE2021 Symposium *Quantum Games for Physics Education*, and of the RRI training on Quantum Technologies for UNIPI PhD (2022-2023). I created or co-created first of a kind, small-to-large (thousands participants) outreach events: two last examples are **First sight of Universe**, (co-created with Steve Shore)awarded by NASA/ESA with the projection of the first JWST images on the walls of the ancient Monumental Cemetery in Piazza dei Miracoli (Leaning Tower of Pisa) with 2000 participants, the six-months exhibition **Quantum Jungle** (scientific co-responsibility with Sabrina Maniscalco) with 6000 visitors.

Reviewer

I serve as evaluator of MINT proposals for SNSF (2022-), and served as reviewer for the final round of ERC-SG (2019,2021) and for professorship selections by Harvard, Stanford, and LKB-Paris.

Editor

I serve as associate editor of Basic Science for Quantum Technologies (BSQT), and currently co-editor of special issues on quantum technologies for Photonics, and on RRI and QT for BSQT. I have been co-editor of the volume *Models and Phenomenology for Conventional and High-Tc Superconductivity*, Ed. by G Iadonisi, R J Schrieffer and M L Chiofalo (IOS Press, 1998).

Recognitions

I was selected as one of *100Experts* women in different fields (see CV) and awarded as 2022 Outstanding Referee of the Physical Review Journals. I was awarded with a personal invitation in Vatican City (2017) by the Dicastero Vaticano per lo Sviluppo Integrale della Persona with Pope Francis, because of my "*commitment and contributions to the culture and practice of the integral nuclear disarmament*".

Administrative/Institutional offices

In 2008-2018 I served as Deputy-mayor of the Pisa Municipality, caring about schools and education, technologies, equal opportunities, Pisa legacy, anticorruption planning and ethic code of conduct. In this role, I used my scientific-thinking skills to design a number of addressing and assessment tools for policies and for their implementation, involving large budget fractions. I was also elected Chair of the metropolitan Pisa area for education policies and appointed by the National Association of Italian Municipalities to three boards aimed at national policies planning: Observatory for Infancy and Adolescence, Steering committee for planning against domestic violence on women, (Tuscany) Observatory against gambling. During this time, I have continued teaching (about 160 class hours/year), though my research activity was slowed down. The administrative experience that I gained as Deputy-major of a city of more than 90000 residents and twice as many habitants (including more than 43000 university students), has strengthened my skills in coordinating large research groups and in focusing my research on important and envisioning questions.