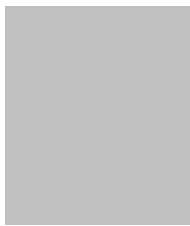






PERSONAL INFORMATION


Enrico Prati






 SMS





Sex | Date of birth 1974 | Nationality

WORK EXPERIENCE

2/2022 – now

Associate Professor

Università Statale degli Studi di Milano, ITALY

- Teaching quantum computing and artificial intelligence
- Responsible of the Quantum Team of CNR as Associate “B” to CNR-IFN
- Research Line 1: Modelling and experimental characterization of silicon quantum devices and single atom nanoelectronics
- Research Line 2: Quantum compiling by artificial intelligence
- Research Line 3: Quantum machine learning algorithms
- Research Line 4: Silicon neuromorphic systems
- Research Line 5: Silicon photonic devices for quantum communications

[Business or sector](#) Education and Research

11/2019 – 1/2022

Senior Research Scientist

ISTITUTO DI FOTONICA E NANOTECNOLOGIE - CONSIGLIO NAZIONALE DELLE RICERCHE MILANO, ITALY

- Responsible of the Quantum Team at the I3N Laboratory at Polifab
- Research Line 1: Modelling and experimental characterization of silicon quantum devices and single atom nanoelectronics
- Research Line 2: Quantum compiling by artificial intelligence
- Research Line 3: Quantum machine learning algorithms
- Research Line 4: Silicon neuromorphic systems
- Research Line 5: Silicon photonic devices for quantum communications

[Business or sector](#) Research on condensed matter physics

9/2009 – 11/2019

Research Scientist

ISTITUTO MICROELETTRONICA E MICROSISTEMI AND ISTITUTO DI FOTONICA E NANOTECNOLOGIE - CONSIGLIO NAZIONALE DELLE RICERCHE MILANO, ITALY

- Responsible of the cryomagnet laboratory (since 09/2013)
- Responsible of the Quantum Team at the I3N Laboratory (from 09/2013)
- Research Line 1: Modelling and experimental characterization of silicon quantum devices and single atom nanoelectronics
- Research Line 2: Modelling and experimental characterization of metamaterials
- Research Line 3: Quantum compiling by artificial intelligence
- Research Line 4: Quantum machine learning algorithms
- Research Line 5: Silicon neuromorphic systems
- Research Line 6: Silicon photonic devices for quantum communications

[Business or sector](#) Research on condensed matter physics

10/2006 – 9/2009

Research Scientist

ISTITUTO MICROELETTRONICA E MICROSISTEMI - CONSIGLIO NAZIONALE DELLE RICERCHE MILANO, ITALY

- Responsible of the cryomagnet laboratory. Modelling and experimental characterization of silicon quantum devices and metamaterials

[Business or sector](#) Research on condensed matter physics

- 3/2003 – 10/2006 **Postdoc**
 ISTITUTO NAZIONALE DI FISICA DELLA MATERIA - AGRATE BRIANZA, MONZA BRIANZA, ITALY

 - Responsible of the cryomagnet laboratory. Modelling and experimental characterization of silicon quantum devices and metamaterials
- 2/2002 – 3/2003 **Business or sector Research on condensed matter physics**
Research Scientist
 ISTITUTO DI INFORMATICA E TELEMATICA - CONSIGLIO NAZIONALE DELLE RICERCHE PISA, ITALY

 - Design of database and P2P protocols
- 1/2001 – 4/2001 **Business or sector Research on information technology**
Research Internship
 Marconi LTD Towcester (UK)

 - X-Ray diffraction characterization of semiconductors
 - Semiconductor mobility measurements

Business or sector Semiconductors for telecommunications

EDUCATION AND TRAINING

- 05/1999 -- 10/2002 **Dottorato di Ricerca in Fisica** PhD
 Università degli Studi di Pisa

 - Thesis “Resonance methods for the microwave Hall mobility in semiconductors”
 - Supervisor: Massimo Martinelli (Director of IPCF - CNR)
 - Experimental semiconductor physics, microwave technology
- 11/1993 – 10/1998 **Laurea in Fisica** MD
 Università degli Studi di Pisa

 - Thesis “Studio delle funzioni di critical crossover scaling dei modelli a simmetria O(N) a d=3”
 - Supervisor: Prof. Paolo Rossi
 - Quantum field theory and critical phenomena

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C1	C2	C2
Replace with name of language certificate. Enter level if known.					
French	B1	B1	B1	B1	A2
Replace with name of language certificate. Enter level if known.					

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
 Common European Framework of Reference for Languages

- Communication skills
- Excellent communication skills
 - I have gave a TEDx speech streamed by Italian public television (2016)
 - I have been interviewed in recorded TV programs Superquark RaiUno (2017), Community RaiInternational (2018), TG1 RaiUno (2019, 2021), Codice RaiUno (2020)
 - I have presented my dissemination book “Mente Artificiale” (EGEA, 2017) in about 10 public events
 - I have been invited as speaker in meetups, online webinars and podcasts

- Organisational / managerial skills
- Leadership (currently PI of a research project involving 4 institutions and responsible of the Quantum Team of about 10 people)
 - I have organized 10 international workshops in the last 3 years

- Computer skills
- Programming and teaching quantum computers
 - I assemble my tower computers including the GPUs
 - Installation of the operating system

- Driving licence
- B

ADDITIONAL INFORMATION

- Advisory board memberships
- CRS4 Consorzio Ricerche Sardegna (2021 – now)
 - Politecnico di Milano , Osservatorio Quantum Technology (2021 – now)

- Panelist
- ITRS Workgroup on Emerging Research Materials "Deterministic doping" (Berkeley, Jan. 2013)
 - ITRS Workgroup on Emerging Research Materials "Deterministic doping" (Berkeley, Nov. 2010)

- Visiting professor
- 2016 Visiting Scholar at Waseda University, Tokyo - Silicon Single Photon Emitters Based on Er Implantation
 - 2015 Visiting Scholar at Waseda University, Tokyo - Single-atom devices for photonic applications
 - 2014 Visiting Scholar at Waseda University, Tokyo, JSPS Fellowship - :Creation of Single-atom doped silicon photonics
 - 2010 Visiting Researcher at Waseda University, Tokyo - High Frequency Operability of Single Atom Doped Silicon Quantum Devices

- Industrial mentorships
- 2 Companies on quantum technologies (2021)
 - 2 Companies on quantum computing (2022)
 - 1 Company on quantum computing (2023)
 - Others (before 2020)

- Industrial contracts
- Telsy SPA on quantum technologies (2018)
 - Data Reply SPA on quantum algorithms (2021-2022)
 - Leonardo SPA on quantum machine learning (2021-2022)

- Projects
- QUASIX - Funded by Italian Space Agency (ASI) – Principal investigator. Design, fabrication and characterization of photon emitters in silicon for space quantum key distribution. Lead contractor: CNR; unit: Università di Padova, Scuola Sant'Anna Pisa, Politecnico di Milano. Budget: 419.391,66€ Grant ASI: 65% i.e. 271.820,00 Contract 2019-5-U.0 n. 0002907 From 29-11-2019 – now
 - QML - IS CRA-C Grant by CINECA – Access to adiabatic quantum computer D-Wave computational time (2021-2022)
 - AWS Braket – Grant of 14000\$ of credit for using Rigetti, IonQ, DWave and Oxford Quantum Computing quantum computers. (2021-2022)
 - NARCISO - EU-H2020 FET-OPEN - PI Monica Bollani - Responsible of the Tasks on deep learning applied to material science (EU-H2020 Grant Agreement no. 828890) From 26-03-2019 – now
 - "Deep atomic states of germanium dopant in silicon" Funded by: NFFA . Co-proponent with Prof. T. Tanii (Waseda University) User project ID 188 From 01-02-2017 to 01-04-2018
 - "QuDec – Quantum Decoder" Funded by the Italian MD – Scientific Responsible and WP Leader (total funding 1MEUR, grant 50%) From 27-08-2011 to 24-10-2013
 - "Creation of Single-atom doped silicon photonics" – Funded by JSPS carried at the Waseda University di Tokyo From 06-10-2014 to 27-10-2014
 - High frequency operability of single atom doped Silicon quantum devices" -- Funded by Italian Ministry of Foreign Affairs and MEXT Japan – Principal investigator with Prof. Takahiro Shinada (Waseda University Tokyo) From 1-1-2010 to 31-12-2012.

- “Development of novel metamaterials with enhanced properties in the Terahertz regime” Funded by CNR and NSC Taiwan – Principal investigator with Prof. Ta-Jen Yen (Tsing-Hua University, Hsinchu, Taiwan)
From 01-01-2010 to 31-12-2011
 - MARTA “Metamateriali per Applicazioni Radar e di Telecomunicazioni Avanzate” – Funded by the Italian MD – Deputy coordinator and Work Package Leader “Metamateriali Microstrutturati” with Consorzio Nazionale Interuniversitario delle Telecomunicazioni (WP grant 145.000 EUR)
From 18-02-2006 to 14-10-2007.
- Reviewer**
- Reviewer for the journal Nature Communications, Nature Electronics, Nature Nanotechnology, npj Quantum Information, Physics Letters A, Quantum Science and Technology, Journal of Applied Physics, Optical materials
 - Evaluator of the Romanian public research grants
- Honours and awards**
- President of the Jury of the “Pleiade International Award/Innovation and New Technologies”, Sala del Cenacolo Camera dei Deputati, Rome, 7/6/2019
 - Winner of the 4th Jury Prize - Essay on the Nature of Time from the "Foundational Questions in Physics and Cosmology Institute" FQXi (finanziato dalla John Templeton Foundation) (1000\$) 08-03-2009
 - Winner of the Young Scientist Award dell'International Union of Radio Science Committee B (450 EUR) 26-05-2004
- Patents and prototypes**
- International Patent: A computer implemented method for real time quantum compiling based on artificial intelligence Nr: PCT/IB2022/052359 Moro L, Prati E, Restelli M – 16/03/2022
 - National Patent: “Method and system for performing quantum calculations in a quantum neural network and for implementing quantum neural networks” Nr. nr.: 102021000033071 Maronese M, Prati E - 30/12/2021
 - Commercial prototype for a company “Random number generator based on quantum fluctuations in a silicon device” contract No.. CNR 2963 (2017) 59710 EUR
 - National Patent: “Sistema e procedimento per la misurazione della permittività dielettrica e della permeabilità magnetica di un materiale in riflessione/trasmissione”. Nr: TO 2008*000687. Amabile C, Prati E, Costa F, Monorchio A - 2008
 - National Patent: “Rivelatore di microonde” Nr: BG. 2005 A000021 Prati E, Fanciulli M, Ferrari G, Fumagalli L, Sampietro M - 2005
- Organization of workshop**
- International workshops
1. L. Diosi, H. T. Elze (Chair), L. Fronzoni, E. Prati, G. Vitiello, DICE2010 “Space, Time, Matter – Current issues in quantum mechanics and beyond.”, Castiglioncello, Sept. 2010. Keynote: L. Montagnier (Nobel Laureate)
 2. L. Diosi, H. T. Elze (Chair), L. Fronzoni, J. Halliwell, E. Prati, G. Vitiello, DICE2012 “Space, Time, Matter – Current issues in quantum mechanics and beyond.”, Castiglioncello, Sept. 2012. Keynote: Prof. Y. Aharonov (Wolf Prize)
 3. L. Diosi, H. T. Elze (Chair), L. Fronzoni, J. Halliwell, C. Kiefer, E. Prati, G. Vitiello, DICE2014 “Space, Time, Matter – ...news on missing links.”, Castiglioncello, Sept. 2014. Keynote: Prof. G. t’Hooft (Nobel Prize), Prof. A. Connes (Fields Medal)
 4. L. Diosi, H. T. Elze (Chair), L. Fronzoni, J. Halliwell, C. Kiefer, E. Prati, G. Vitiello, DICE2016 “Space, Time, Quantum Mechanics”, Castiglioncello, 12-16 Sept. 2016. Keynote: Noam Chomsky
 5. L. Diosi, H. T. Elze (Chair), L. Fronzoni, J. Halliwell, C. Kiefer, E. Prati, G. Vitiello, DICE2018 “Space, Time, Quantum Mechanics”, Castiglioncello, 17-21 Sept. 2018. Keynote: G. F. R. Ellis
 6. Cavazzoni, D. Ottaviani, E. Prati “Quantum Computing and High Performance Computing 2019”, Casalecchio Reno (Bologna), Italia with CINECA, 19 December 2019
 7. D. Ottaviani, E. Prati “Quantum Computing and High Performance Computing 2020”, (Online), with CINECA, 15 December 2020
 8. M. Caligiuri, E. Prati, L. Rucco, “Workshop on Quantum Security” ITASEC21 (online) 7th April 2021
 9. “QCE IEEE Quantum Week 2021”, (Online), IEEE October 2021 Steering committee
 10. D. Ottaviani, Mengoni, E. Prati “Quantum Computing and High Performance Computing 2021”, (Online), with CINECA, 15-16 December 2021
 11. A. Malaschini, E. Prati, “Winning the artificial intelligence era: Quantum Diplomacy and the Power of Automation”, with Centro Studi Americani and Fondazione Leonardo, 27 April 2022
 12. L. Dispenza, E. Prati, “Workshop on Quantum Security”, Roma, ITASEC22 20th June 2022
 13. L. Diosi, H. T. Elze (Chair), L. Fratino, J. Halliwell, C. Kiefer, E. Prati, G. Vitiello, DICE2022 “Space, Time, Quantum Mechanics”, Castiglioncello, 19-23 Sept. 2022. Keynote: G. T’Hooft (Nobel laureate)
 14. S. Achilli, C. Benedetti, E. Prati, D. Tamascelli, “Open Problems in Quantum Machine Learning”, Milan, 13 October 2022
 15. D. Ottaviani, Mengoni, L. Moro, E. Prati “Quantum Computing and High Performance Computing 2022”, Bologna, with CINECA, 15 December 2022

Italy-Japan Bilateral Workshops

16. E. Prati and T. Shinada, I Italy-Japan Workshop on Single Atom Control for Future Nanoelectronics, November 2011, Tokyo, Japan (granted by Italian Embassy in Tokyo).
17. E. Prati and T. Shinada, II Italy-Japan Workshop on Silicon nanoelectronics for advanced applications, May 2013, Riva del Garda, Italy (granted by Active Technologies SRL)
18. E. Prati and T. Shinada, III Italy-Japan Workshop on Silicon nanoelectronics for advanced applications, June 2015, Kyoto, Japan (granted by Italian Embassy in Tokyo and CIES Tohoku)
19. E. Prati and T. Tani, IV Italy-Japan Workshop Silicon nanoelectronics for advanced applications, May 2017, Lago di Como, Italy (granted by CNR and JSPS)

Seminars

1. E. Prati "Random Telegraph signal in MOSFET devices", Hitachi Cambridge Seminar, 8/10/2006
2. E. Prati, "A Lab in a silicon chip: Single Atom Based Nanoelectronics and THz applications", Consorzio Nazionale Interuniversitario delle Telecomunicazioni, Pisa 18/1/2011
3. E. Prati, "Emerging physics in single electron and single atom devices", INFN Frascati 12/10/ 2011
4. E. Prati, "P-monolayer deterministic doping of silicon for THz applications"; Tsinghua University, Hsinchu, Taiwan, 12/2011
5. E. Prati, "Emerging physics in single electron and single atom devices", NSC Hsinchu Taiwan 12/2011
6. E. Prati, "Silicon nanoelectronic devices based on few donors", Seminario presso CNR-IMM Catania, 28/9/2012
7. E. Prati, "Silicon nanoelectronic devices based on few donors" Seminari INFN, Firenze 31/10/2012
8. E. Prati, "Experimental breakdown of classical physics in large one dimensional systems", Seminar of Shizuoka University, Hamamatsu- Japan, 15/10/ 2014
9. E. Prati, "Atomic scale nanoelectronics: advancements and directions", Università di Parma, Parma 14/11/2014
10. E. Prati, "Single atom based nanoelectronic silicon devices", TUDelft Seminar, 12/2/2015
11. E. Prati, "Silicon nanoelectronics: from atom based devices to the quantum Moore's law", RIKEN Seminars, Tokyo Japan, 10/11/2015
12. E. Prati, " Silicon nanoelectronics from atom based devices to the quantum Moore's law + extra content on artificial neurons", UCL Seminars, Londra, UK, 18/2/ 2016
13. E. Prati, "Quantum neuromorphic hardware for quantum artificial intelligence", IIT, Genova 27/11/2016
14. E. Prati, "Single atom devices for nanoelectronics and nanophotonics", at FBK and INFN Trento, 16/2/2017
15. E. Prati, "Single atom devices for nanoelectronics and nanophotonics", at Università di Padova, 27/4/2017
16. E. Prati, "Sicurezza e tecnologie quantistiche" Modena 21/11/2017
17. E. Prati, "Machine learning for quantum technology", Seminari Dip. Fisica, Milano 23/1/2019
18. E. Prati, "Quantum computers: hardware, software and applications", Seminario della Scuola Superiore Sant'Anna, Pisa 22/1/ 2020
19. E. Prati, "Programming artificial intelligence on quantum computers", Dipartimento di Fisica - Università degli Studi di Milano, online live webinar, 8/4/ 2020
20. E. Prati, "Deep learning and quantum machine learning: Applications to materials science", Duke University Seminar online, 23/4/2021
21. E. Prati, "Programming artificial intelligence on quantum computers" invito ricevuto da Università Milano Bicocca at the "Ciclo di seminari interdipartimentali sulle tecnologie quantistiche" 14/6/2021
22. E. Prati, "Quantum diplomacy: understanding international relations in the digital age" 27/4/2022
23. E. Prati, "Quantum artificial intelligence" Summer School Physical Sensing and Processing, Bologna, 14/7/2022

Presentations

Plenary Keynote

1. E. Prati, IEDM 2014, San Francisco, Dec. 2014 (KEYNOTE) IEDM `la maggiore conferenza al mondo di dispositivi elettronici con 1900 partecipanti in sala da industria, università e centri di ricerca. TEDx
2. E. Prati, Cosa chiederemo all'oracolo quantistico, TEDxCNR, Rome 8 Oct. 2016
Invited Speaker
3. E. Prati, Microwave effects in silicon nanostructures, ANM 2008, Aveiro, Portugal, 23-25 June 2008
4. E. Prati, From classical to quantum observables in a mesoscopic electronic system, 21st-century directions in de Broglie-Bohm theory and beyond, Vallico, Italy, 28 Aug – 4 Sept. 2010
5. E. Prati, Competition of Spin and Valley Degrees of Freedom in Silicon Quantum Dots for Quantum Information Processing, ANM2010, Agadir, 12-15 Sept. 2010
6. E. Prati Control of the Energy Levels of a Single Atom in a Back Gated Silicon Quantum Dot, Nano2010, Rome, 13-17 Sept. 2010
7. E. Prati, Exploring the foundations of physics in solid state systems at ultra-low energy, DICE2010 - Space Time Matter: QM and Beyond, Castiglioncello, Italy, Sept. 2010
8. E. Prati, Experiments with individual electrons, COST Action: Quantum Mechanics Without Observers, Sesto, Italy, Aug. 2011
9. E. Prati, "From coherent transport to Hubbard band formation in donor array in silicon", Italy-Japan Bilateral Seminar 2011, Tokyo japan 10 Novembre 2011
10. E. Prati, Phase transitions in few electron systems, CORTONA 2012, Convegno Informale di Fisica Teorica, Cortona, May 2012
11. E. Prati, Atom Arrays in Semiconductors: From Quantum Computers to Quantum Encryption, PQCrypto 2011, Rhodes, Greece, Sept. 2012
12. E. Prati, "Deterministic doping – Overview and issues", ITRS 2013, Berkely, 31 Gennaio 2013
13. E. Prati, Formation of Hubbard bands in arrays of a few dopant atoms in a silicon transistor, Edison18, Matsue, Japan, Jul. 2013
14. E. Prati, Atomic scale nanoelectronics for quantum neuromorphic devices, INEC 2014, Hokkaido, Japan, Jul 2014
15. E. Prati, Single ion implantation of Ge donor impurity in silicon transistors, Silicon Nanoelectronic Workshop, Kyoto, Jun 2015
16. E. Prati, Quantum transport in silicon quantum devices: from valley states to the quantum Moore's law, QUAINT 2015, Swansea, UK Jul 2015
17. E. Prati, Quantum information at the time-reversal symmetry edge of quantum chaos, Time Machine Conference 2015, Torino, Italy, Oct. 2015
18. E. Prati, The quantum Moore's law: from atoms to scalability of silicon quantum information processing, PNIp 2015, Cambridge, Dec. 2015
19. E. Prati, CTAP in exchange-only spin qubits and scalability perspectives by CMOS quantum electronics, Mini Symposium "Spatial Adiabatic Passage", Okinawa, , Japan, 25-27 May 2016,
20. E. Prati, "Nanoelectronics for brain emulation at the edge between noise and quantum information processing", V Symposium Nanoelectronics for brain emulation at the edge between noise and quantum information processing, Sendai, Japan, 27-28 February 2017
21. E. Prati, "Cibernetica del XXI secolo", L'ecosistema cibernetico al servizio della sicurezza nazionale, Camera dei Deputati 21/12/2017, Roma
22. E. Prati, "Reinforcement learning-based control of quantum systems" DICE2018 - Space Time Matter QM and Beyond, Castiglioncello, Italy, 21/09/2018
23. E. Prati, "Intelligenza artificiale tra la Potenza e l'atto", AI+BOTS, Milano, 26/9/2018
24. E. Prati, "Dal deep learning all'intelligenza artificiale quantistica", Computer Quantistico in Life Science, Forum Sistema Salute, Firenze 12 /17/2018
25. E. Prati, "From Artificial Intelligence to the Quantum Mind", IOP London and South East Branch Lecture Program Fall 2018, London, UK, 31/10/2018
26. E. Prati, "Extending the supply chain of silicon towards quantum communications", Workshop in QKD for Space Systems, Roma, 23/10/2018
27. E. Prati, "Machine learning for quantum technology", Quantum Digital Winter Workshop, Milano, Italia, 23 January 2019
28. E. Prati, "Deep Reinforcement Learning for Coherent Transport of Spin Qubits", Workshop Quantum vs. Classical Technologies: The Electronics Perspective, TUDelft, Delft (NL), 1 May 2019
29. E. Prati, "Deep reinforcement learning for steering qubits", Machine Learning for Quantum Technology Workshop 2019, Erlangen, Germany , 8-10 May 2019
30. E. Prati, "Machine Learning in Optical Quantum Technologies", Workshop ASI/ESA on Optical & Quantum communication, Roma, Italia, 2 July 2019.
31. E. Prati, "Deep learning for quantum technologies", IQIS2019, Milano, Italia, 9-12 September 2019
32. E. Prati, "Dal deep learning all'intelligenza artificiale quantistica", SINNOVA 2019, Cagliari, Italia, 4 October 2019
33. E. Prati, "Introduction to quantum computers", Workshop Quantum computing and High Performance computing, CINECA Casalecchio Reno, Bologna, Italia, 19 Dec 2019.

34. E. Prati, "Training methods of quantum neural networks", The 7th International Symposium on Brainware LSI", Sendai, Japan, 28-29 February 2020 (cancelled for COVID19)
 35. E. Prati, "Deep reinforcement learning for quantum firmware", Codemotion2020 online 27/05/ 2020
 36. E. Prati, Seminario del Dipartimento di Fisica – Università Statale di Milano, 8 Aprile 2020
 37. E. Prati, "Deep learning and quantum machine learning: Applications to materials science", ACS Spring Meeting, online, 12/04/2021
 38. E. Prati, "Multiclass Supervised Learning by Quantum Tensor Networks", IEEE Quantum Week QCE21, Quantum Artificial Intelligence Workshop, online, 20 Ottobre 2021
 39. E. Prati, "Quantum compiling by deep reinforcement learning", APS March Meeting 2022
 40. E. Prati, "Quantum machine learning: training a quantum system to learn a task" DICE2022 - Space Time Matter: QM and Beyond, Castiglioncello, Italy, 17/09/2022
- Contributed talks
41. E. Prati, "Electrically detected electron spin resonance in low density GaAs 2DES", INFM Meeting 2004, Genova 8-10/06/2004
 42. E. Prati et al., Atom Arrays in Semiconductors: From Quantum Computers to Quantum Encryption, PQCrypto 2011, Taipei, Taiwan, 2/12/2011 (RECENT RESULTS SESSION)
 43. E. Prati, "Charge dynamics of a single donor coupled to a few electron quantum dot in silicon", IQIS 2012, Padova 26/9/2012
 44. E. Prati, "Timeless physics from an experiential perspective", Time Machine Conference 2012, Torino 15 /17/2012
 45. E. Prati, "Single atom arrays for coherent transport in silicon devices", International Workshop on Silicon Quantum electronics, Villard de Lans, France, 7/2/2013
 46. E. Prati, "Quantum transport at inter-device distance in single-ion implanted arrays of atoms in silicon devices", Quantum Dots 2014, Pisa, Italy 14/05/2014
 47. E. Prati, The quantum Moore's law: an upper bound to the amount of workable quantum information in silicon platform, SiQIP 2015 IoP Conference, Cambridge, Sept. 2015 (SELECTED ORAL)

Publications ORCID 0000-0001-9839-202X

Peer reviewed international articles

1. E. Prati, Propagation in gyroelectromagnetic guiding systems, J. Electr. Wav. Appl., 17, 8, 1177-1196 (2003) [IF2019 1.373] DOI: 10.1163/156939303322519810
2. E. Prati, S. Faralli, M. Martinelli, G. Annino, G. Biasiol, L. Sorba, Improved Microwave Hall Effect Measurements Method, Review Scientific Instruments, 74, 1, 154-159 (2003) [IF2019 1.480] DOI: 10.1063/1.1523645
3. E. Prati, Crossover between the cell size and the wavelength of the incident radiation in metamaterials, Microw. Opt. Technol. Lett. 40, 4, 272 (2004) [IF 0.743] DOI: 10.1002/mop.11349
4. E. Prati, G. Annino, M. Martinelli, Complex Variational Axial Matching Method for Single-mode and Overmoded Dielectric Resonators, Electromagnetism, 24, 8, 565-582 (2004) [IF 0.792] DOI: 10.1080/02726340490513257
5. E. Prati, Microwave propagation in ferromagnetic semiconductors, J. Magnetism and Magnetic Materials, 272-276, 3, 1999-2001 (2004) [IF 1.283]
6. G. Ferrari, L. Fumagalli, M. Sampietro, E. Prati and M. Fanciulli, CMOS fully compatible microwave detector based on MOSFET operating in resistive regime, IEEE Microwave and Wireless Components Letters, 15, 7, 445 (2005) [IF2019 2.236] DOI: 10.1109/LMWC.2005.851550
7. G. Ferrari, L. Fumagalli, M. Sampietro, E. Prati and M. Fanciulli, DC current modulation in field effect transistors operating under microwave irradiation for quantum read out, Journal Applied Physics, 98, 044505 (2005) [IF2019 2.328] DOI: 10.1063/1.2007852
8. E. Prati, M. Fanciulli, F. Capotondi, G. Biasiol, L. Sorba, A. Kovalev, J. D. Caldwell, and C.R. Bowers, Magneto-resistively Detected Electron Spin Resonance in Low Density Two Dimensional Electron Gas in GaAs/AlGaAs Single Quantum Wells, IEEE Transactions on Nanotechnology 4, 100 (2005) [IF2019 2.196]
9. E. Prati, M. Fanciulli, G. Ferrari, M. Sampietro, Effect of the Triplet State on the Random Telegraph Signal in Si n-MOSFETs, Physical Review B 74, 033309 (2006) [IF2019 3.575] DOI: 10.1103/Phys
10. E. Prati, Microwave Propagation in Round Guiding Structures Based on Double Negative Metamaterials, Int. Journ. Infr. And Mill. Waves, 27, 1227-1239 (2006) [IF 0.692] DOI: 10.1007/s10762-006-9134-3 RevB.74.033309

11. E. Prati, M. Fanciulli, A. Calderoni, G. Ferrari, M. Sampietro, Microwave irradiation effects on random telegraph signal in a MOSFET, *Physics Letters A* 370, 491-493 (2007) [IF2019 2.278] DOI: 10.1016/j.physleta.2007.05.086
12. E. Prati, M. Fanciulli, Manipulation of localized charge states in n-MOSFETs with microwave irradiation, *Physics Letters A* 372, 3102-3104 (2008) [IF2019 2.278] DOI: 10.1016/j.physleta.2008.01.039
13. E. Prati, M. Fanciulli, G. Ferrari, A. Calderoni, M. Sampietro, Effect of microwave irradiation on the emission and capture dynamics in silicon metal oxide semiconductor field effect transistors, *Journal of Applied Physics* 103, 104502, (2008) [IF2019 2.328] DOI: 10.1063/1.2924407
14. E. Prati, M. Fanciulli, G. Ferrari, M. Sampietro, Giant random telegraph signal generated by single charge trapping in submicron n-metal-oxide-semiconductor field-effect transistors, *Journal of Applied Physics* 103, 1 (2008) [IF2019 2.328] DOI: 10.1063/1.2939272
15. E. Prati, R. Latempa, M. Fanciulli, Microwave Assisted Transport in a Single Donor Silicon Quantum Dot, *Physical Review B* 80, 14, 165331 (2009) [IF2019 3.575] DOI: 10.1103/PhysRevB.80.165331
16. M. Pierre, R. Wacquez, B. Roche, X. Jehl, M. Sanquer, M. Vinet, E. Prati, M. Belli, M. Fanciulli, Compact silicon double and triple dots realized with only two gates, *Applied Physics Letters*, 95, 242107 (2009)[IF2019 3.597] DOI: 10.1063/1.3273857
17. E. Prati, R. Latempa, M. Fanciulli, Photon assisted tunneling in quantum dots, in: "Electron spin resonance in low dimensional structures and related phenomena", *Topics in Applied Physics*, 115/2009, 241-258, Springer (2009) [IF 1.510] DOI: 10.1007/978-3-540-79365-6_12
18. E. Prati, R. Latempa, M. Fanciulli, Microwave Effects in Silicon Low Dimensional Nanostructures, *Journal of Nanoscience and Nanotechnology*, 10, 4, 2650-2655 (2010) [IF2019 1.354]
19. E. Prati, Finite Quantum Grand Canonical Ensemble and Temperature from Single Electron Statistics in a Mesoscopic Device, *Journal of Statistical Mechanics* P01003 (2010)[IF2019 2.215] DOI: 10.1088/1742-5468/2010/01/P01003
20. E. Prati, M. Belli, M. Fanciulli and G. Ferrari, Measuring the Temperature of a Mesoscopic Electron System by means of Single Electron Statistics, *Applied Physics Letters* 96, 113109 (2010) [IF2019 3.597] DOI: 10.1063/1.3365204
21. G. Leti, E. Prati, M. Belli, G. Petretto, M. Fanciulli, R. Wacquez, M. Vinet, and M. Sanquer, Switching quantum transport in a three donors silicon Fin-Field Effect Transistor, *Applied Physics Letters*, 99, 242102 (2011) [IF2019 3.597] DOI: 10.1063/1.3669702
22. E. Prati, M. Belli, S. Cocco, G. Petretto and M. Fanciulli, Adiabatic Charge Control in a Single Donor Atom Transistor, *Applied Physics Letters*, 98, 5, 053109 (2011) [IF2019 3.597] DOI: 10.1063/1.3551735
23. F. Costa, C. Amabile, A. Monorchio, E. Prati, Waveguide Dielectric Permittivity Measurement Technique Based on Resonant FSS Filters, *IEEE Microwave and Wireless Components Letters*, 21,5, 273 - 275 (2011) [IF2019 2.236] DOI: 10.1109/LMWC.2011.2122303
24. E. Prati, Valley Blockade Quantum Switching in Silicon Nanostructures, *Journal of Nanoscience and Nanotechnology*, 11, 10, 8522-8526 (2011) [IF2019 1.354]
25. C. Amabile, E. Prati, F. Costa, A. Monorchio, Effect of the metal sheet thickness on the frequency blueshift in single layer composite materials at Ka microwave frequency, *Progress in Electromagnetic Research Letters* 22, 47-58 (2011) DOI: 10.2528/PIERL11010405
26. X. Jehl, B. Roche, M. Sanquer, ..., E. Prati, M. Fanciulli, Mass production of silicon MOS-SETs: Can we live with nano-devices' variability?, *Procedia Computer Science* 7, pp. 266-268 (2011)
27. E. Prati, M. Hori, F. Guagliardo, G. Ferrari, and T. Shinada, Anderson-Mott transition in arrays of a few dopant atoms in a silicon transistor, *Nature Nanotechnology* 7, 443-447 (2012) [IF2019 31.538] DOI: 10.1038/nnano.2012.94
28. G. Mazzeo, E. Prati, M. Belli, G. Leti, S. Cocco, M. Fanciulli, F. Guagliardo, and G. Ferrari, Charge dynamics of a single donor coupled to a few-electron quantum dot in silicon, *Applied Physics Letters* 100, 213107 (2012) [IF2019 3.597] DOI: 10.1063/1.4721433
29. E. Prati, M. De Michielis, M. Belli, S. Cocco, M. Fanciulli, D. Kotekar-Patil, M. Ruoff, D. P. Kern, D. A. Wharam, J. Verduijn, G. C. Tettamanzi, S. Rogge, B. Roche, R. Wacquez, X. Jehl, M. Vinet and M. Sanquer, Few electron limit of n-type metal oxide semiconductor single electron transistors, *Nanotechnology*, 23, 215204 (2012) [IF2019 3.551] DOI: 10.1088/0957-4484/23/21/215204
30. T.-T. Yeh, S. Genovesi, A. Monorchio, E. Prati, F. Costa, T.-Yu H., and T.-J. Yen, Ultra-broad and sharp-transition bandpass terahertz filters by hybridizing multiple resonances mode in monolithic metamaterials, *Optics Express*, 20, 7, 7580-7589 (2012) [IF2019 3.669] DOI: 10.1364/OE.20.007580
31. M. De Michielis, E. Prati, M. Fanciulli, G. Fiori, G. Iannaccone, Geometrical Effects on Valley-Orbital Filling Patterns in Silicon Quantum Dots for Robust Qubit Implementation, *Applied Physics Express* 5, 124001 1-3 (2012) [IF2019 3.086] DOI: 10.1143/APEX.5.124001
32. E. Prati, Single electron effects in silicon quantum devices, *Journal of Nanoparticle Research* 15(5),1615 (2013) DOI: 10.1007/s11051-013-1615-4
33. Y. Shimizu, H. Takamizawa, K. Inoue, F. Yano, Y. Nagai, L. Lamagna, M. Perego, G. Mazzeo, E. Prati, Behavior of phosphorous and contaminants from molecular doping combined with a conventional spike annealing method, *Nanoscale*, 6(2), 706-710 (2014) [IF2019 6.895] DOI: 10.1039/c3nr03605g

34. E. Ferraro, M. Michielis, G. Mazzeo, M. Fanciulli, and E. Prati, Effective Hamiltonian for the hybrid double quantum dot qubit, *Quantum Information Processing*, 13, 1 (2014) (ISSN): 1570-0755 [IF2019 2.433] DOI: 10.1007/s11128-013-0718-2
35. Rotta, D., Vellei, A., Mazzeo, G.,..., Prati, E., Fanciulli, M., Spin-dependent recombination and single charge dynamics in silicon nanostructures, *European Physical Journal Plus* 129(6),121 (2014) [IF2019 3.229] DOI: 10.1140/epjp/i2014-14121-4
36. E. Ferraro, M. De Michielis, M. Fanciulli, and E. Prati, Effective Hamiltonian for two interacting double-dot exchange-only qubits and their controlled-NOT operations, *Quantum Information Processing*, 14(1), 47-65 (2015) (ISSN): 1570-0755 [IF2019 2.433] DOI: 10.1007/s11128-014-0864-1
37. M. De Michielis, E. Ferraro, M. Fanciulli, and E. Prati, Universal set of quantum gates for double-dot exchange-only spin qubits with intradot coupling, *Journal of Physics A: Mathematical and Theoretical*, 48 065304 (2015) [IF2019 1.996] DOI: 10.1088/1751-8113/48/6/065304
38. E. Ferraro, M. De Michielis, M. Fanciulli, and E. Prati, Coherent tunneling by adiabatic passage of an exchange-only spin qubit in a double quantum dot chain, *Physical Review B*, 91(7), 075435 (2015) [IF2019 3.575] DOI: 10.1103/PhysRevB.91.075435
39. A. Crippa, M.L.V. Tagliaferri, D. Rotta, M. De Michielis, G. Mazzeo, M. Fanciulli, R. Wacquez, M. Vinet, and E. Prati, Valley blockade and multielectron spin-valley Kondo effect in silicon, *Physical Review B*, 92, 035424 (2015) [IF2019 3.575] DOI: 10.1103/PhysRevB.92.035424
40. E. Prati, K. Kumagai, M. Hori, and T. Shinada, Band transport across a chain of dopant sites in silicon over micron distances and high temperatures, *Scientific Reports*, 6, 19704 (2016) [IF2019 3.998] DOI: 10.1038/srep19704
41. M. Turchetti, H. Homulle, F. Sebastiano, G. Ferrari, E. Charbon, and E. Prati, Tunable single hole regime of a silicon field effect transistor in standard CMOS technology, *Applied Physics Express* 9, 014001 (2016) [IF2019 3.086] DOI: 10.7567/APEX.9.014001
42. D. Rotta, M. De Michielis, E. Ferraro, M. Fanciulli, and E. Prati, Maximum density of quantum information in a scalable CMOS implementation of the hybrid qubit architecture, *Quantum Information Processing*, 15(6), 2253-2274 (2016) (ISSN): 1570-0755 [IF2019 2.433] DOI: 10.1007/s11128-016-1282-3
43. M.L.V. Tagliaferri, A. Crippa, S. Cocco, ...G. Ferrari, and E. Prati, Modular Printed Circuit Boards for Broadband Characterization of Nanoelectronic Quantum Devices, *IEEE Transactions on Instrumentation and Measurement* 65(8),7466094, pp. 1827-1835 (2016) (ISSN): 0018-9456 [IF2019 3.658] DOI: 10.1109/TIM.2016.2555178
44. E. Prati, "Atomic scale nanoelectronics for quantum neuromorphic devices, *International Journal of Nanotechnology*, 13, 7, 509-523 (2016) [IF2019 0.532]
45. E. Prati, E. Giussani, G. Ferrari and T. Asai, "Noise-assisted transmission of spikes in Maeda–Makino artificial neuron arrays", *International Journal of Parallel, Emergent and Distributed Systems*, 32 (3), pp. 278-286 (2016) DOI: 10.1080/17445760.2016.1189914
46. M.L.V. Tagliaferri A. Crippa, M. De Michielis, G. Mazzeo, M. Fanciulli, and E. Prati, A compact T-shaped nanodevice for charge sensing of a tunable double quantum dot in scalable silicon technology, *Physics Letters A*, 380 (11-12), pp. 1205-1209 (2016) [IF2019 2.278] DOI: 10.1016/j.physleta.2016.01.031
47. D. Rotta, F. Sebastiano, E. Charbon and E. Prati, Quantum information density scaling and qubit operation time constraints of CMOS silicon-based quantum computer architectures, *NPJ Quantum Information*, 3, 26 (2017) (ISSN): 2056-6387 [IF2019 7.286]
48. H. Homulle, S. Visser, B. Patra, G. Ferrari, E. Prati, F. Sebastiano, and E. Charbon, A reconfigurable cryogenic platform for the classical control of quantum processors, *Review of Scientific Instruments* 88(4),045103 (2017) (ISSN): 0034-6748 [IF2019 1.480] [39 citazioni Fonte: Scopus] DOI: 10.1063/1.4979611
49. M. Celebrano, L. Ghirardini, M. Finazzi, Y. Shimizu, Y. Tu, K. Inoue, Y. Nagai, T. Shinada, Y. Chiba, A. Abdelghafar, M. Yano, T. Tani and E. Prati, 1.54 μm photoluminescence from Er:Ox centers at extremely low concentration in silicon at 300 K, *Optics Letters* 42, 3311-3314 (2017) (ISSN): 0146-9592 [IF2019 3.714] DOI: 10.1364/OL.42.003311
50. S. Achilli, N. Manini, G. Onida, T. Shinada, T. Tani, Takashi, and E. Prati, GeV(n) complexes for silicon-based room-temperature single-atom nanoelectronics, *Scientific Reports* (2018) (ISSN): 2045-2322 [IF2019 3.998] DOI: 10.1038/s41598-018-36441-w
51. R. Porotti, D. Tamascelli, M. Restelli, and E. Prati, Coherent transport of quantum states by deep reinforcement learning, *Communications Physics*, 2(1), 1-9 (2019) (ISSN): 2399-3650 Nature Publishing Group [IF2019 4.685] DOI: 10.1038/s42005-019-0169-x
52. M. Celebrano, L. Ghirardini, M. Finazzi,...T. Tani, and E. Prati, Room temperature resonant photocurrent in an erbium low-doped silicon transistor at telecom wavelength, *Nanomaterials* 9(3),416 (2019) (ISSN): 2079-4991 [IF2019 4.324] DOI: 10.3390/nano9030416

53. E. Ferraro, and E. Prati. Is all-electrical silicon quantum computing feasible in the long term? *Physics Letters A*, 384(17), 126352 (2020) (ISSN): 0375-9601 [IF2019 2.278]
54. S. Bigoni, M. L. Tagliaferri, D. Tamascelli, S. Strangio, R. Bez, P. Organtini, ..., and E. Prati. Observation of single phonon-mediated quantum transport in a silicon single-electron CMOS single-atom transistor by RMS noise analysis. *Applied Physics Express*, 13(12), 125001. (2020) [IF2019 3.086] DOI: 10.35848/1882-0786/abc7cf
55. I. Paparelle, L. Moro, E. Prati, Digitally stimulated Raman passage by deep reinforcement learning, *Physics Letters A*, 126266 (2020) (ISSN): 0375-9601 [IF2019 2.278] DOI: 10.1016/j.physleta.2020.126266
56. F. Cavaliere, E. Prati, L. Poti, I. Muhammad, and T. Catuogno, T. Secure Quantum Communication Technologies and Systems: from Labs to Markets. *Quantum Reports*, 2(1), 80-106 (2020) DOI: 10.3390/quantum2010007
57. S. Achilli, N. H. Le, G. Fratesi, N. Manini, G. Onida, G. M. Turchetti, G. Ferrari, T. Shinada, T. Tani, and E. Prati. Position-Controlled Functionalization of Vacancies in Silicon by Single - Ion Implanted Germanium Atoms, *Advanced Functional Materials*, 31(21) 2011175 (2021). [IF2021 19.9] DOI: 10.1002/adfm.202011175
58. L. Rocutto, C. Destri, E. Prati, Quantum Semantic Learning by Reverse Annealing of an Adiabatic Quantum Computer, *Advanced Quantum Technologies* 4(2) 2000133, (2021) DOI: 10.1002/qute.202000133
59. R. Hasani, G. Ferrari, H. Yamamoto, T. Tani, and E. Prati, Role of Noise in Spontaneous Activity of Networks of Neurons on Patterned Silicon Emulated by Noise-activated CMOS Neural Nanoelectronic Circuits, *Nano Express*, <https://doi.org/10.1088/2632-959X/abf2ae> (2021)
60. L. Rocutto, E. Prati, A Complete Restricted Boltzmann Machine on an Adiabatic Quantum Computer, *International Journal of Quantum Information*, accepted, in press (2021) [IF=1.175]
61. M. Maronese, E. Prati, A Continuous Rosenblatt Quantum Perceptron, *International Journal of Quantum Information*, accepted, in press (2021) [IF=1.175]
62. L. Moro, I. Paparelle, E. Prati, Using Deep Learning for Digitally Controlled STIRAP, *International Journal of Quantum Information* [IF=1.175]
63. M. Maronese, C Destri, E. Prati, Quantum activation functions for quantum neural networks, *Quantum Information Processing* (2022)
64. S. Corli, L. Moro, D. Galli, E. Prati, Solving Rubik's Cube via Quantum Mechanics and Deep Reinforcement Learning, *Journal of Physics A: Mathematical and Theoretical* (2021)
65. L. Moro, M. Paris, M. Restelli, E. Prati, Quantum Compiling via Deep Reinforcement Learning, *Nature Communication Physics* (2021)
66. M. Castriotta, E. Prati, and G. Ferrari, Cryogenic characterization and modeling of a CMOS floating-gate device for quantum control hardware. *Solid-State Electronics*, 108190 (2021)
67. G. Agliardi and E. Prati, Optimal Tuning of Quantum Generative Adversarial Networks for Multivariate Distribution Loading, *Quantum Reports* 4(1), 75-105 (2022)
68. G. Agliardi, M. Grossi, M. Pellen, E. Prati, Quantum integration of elementary particle processes, *Physics Letters B* 137228 (2022)
69. M. Lazzarin, D. Galli, and E. Prati, Multi-class quantum classifiers with tensor network circuits for quantum phase recognition, *Physics Letters A* (2022)

Conference proceedings

70. Prati, E., Faralli, S., Annino, G., Martinelli, M., Contactless microwave Hall effect transport in ZnSe Conference Proceedings - 33rd European Microwave Conference, EuMC 2003 1,1262329, pp. 479-482 (2003)
71. Prati, E., Fanciulli, M., Ferrari, G., Sampietro, M., High magnetic field dependence of capture/emission fluctuations of a single defect in silicon MOSFETs, AIP Conference Proceedings 780, pp. 221-224 (2005)
72. Prati, E., Fanciulli, M., Ferrari, G., Sampietro, M., Fantini, P., Microwave induced effects on the random telegraph signal in a MOSFET, AIP Conference Proceedings 780, pp. 171-174 (2005)
73. Fanciulli, M., Prati, E., Ferrari, G., Sampietro, M., Random telegraph signal in Si n-MOSFETs: A way towards single spin resonance detection AIP Conference Proceedings 800, pp. 125-130 (2005)
74. Ferrari, G., Prati, E., Fumagalli, L., Sampietro, M., Fanciulli, M., Microwave power detector based on a single MOSFET in standard technology, 35th European Microwave Conference 2005 - Conference Proceedings 2,1610150, pp. 1207-1210 (2005)
75. Pierre, M., Jehl, X., Wacquez, R., (...), Prati, E., (...), Wharam, D., Kern, Sample variability and time stability in scaled silicon nanowires. Proceedings of the 10th International Conference on ULtimate Integration of Silicon, ULIS 2009 4897583, pp. 249-252 (2009)

76. Prati, E., Virtual states and decoherence in a single impurity atom solid state quantum device, *Journal of Physics: Conference Series* 174(1), 012029 (2009)
77. Amabile, C., Prati, E., Lattice density effect on the negative refractive index of a uniaxial metamaterial, *Materials Research Society Symposium Proceedings* 1223, pp. 8-11 (2010)
78. Prati, E., Exploring the foundations of physics in solid state systems at ultra-low energy, *Journal of Physics: Conference Series* 306(1), 012012 (2011) [CIT=1]
79. Prati, E., Generalized clocks in timeless canonical formalism, *Journal of Physics: Conference Series* 306(1), 012013 (2011)
80. Genovesi, S., Yen, T.-J., Monorchio, A., (...), Prati, E., (...), Chiang, Y.-J., Costa, F. Optimization of wide-bandpass filter within the terahertz frequency regime, 2011 30th URSI General Assembly and Scientific Symposium, URSIGASS 2011 6050615 (2011)
81. Costa, F., Monorchio, A., Amabile, C., Prati, E., Dielectric permittivity measurement technique based on waveguide FSS filters, *European Microwave Week 2011: "Wave to the Future", EuMW 2011, Conference Proceedings - 41st European Microwave Conference, EuMC 2011 6101974*, pp. 945-948 (2011)
82. Shinada, T., Hori, M., Guagliardo, F., Ferrari, G., Komatubara, A., Kumagai, K., Tanii, T., Endo, T., Ono, Y., Prati, E., Quantum transport in deterministically implanted single-donors in Si, *Technical Digest - International Electron Devices Meeting, IEDM, 6131644*, pp. 30.4.1-30.4.4 (2011) [17 Citazioni Fonte: Scopus]
83. Hori, M., Shinada, T., Guagliardo, F., Ferrari, G., Prati, E. Quantum transport property in FETs with deterministically implanted single-arsenic ions using single-ion implantation, 2012 IEEE Silicon Nanoelectronics Workshop, SNW 2012 6243338 (2012)
84. Prati, E., From single constituents to correlation: Phase transitions in few atom systems, *Journal of Physics: Conference Series* 442(1), 012023 (2013)
85. Prati, E., Speakable and unspeakable in physics of time, *EPJ Web of Conferences* 58, 01019 (2013)
86. Prati, E., Shinada, T., Atomic scale devices: Advancements and directions, *Technical Digest - International Electron Devices Meeting, IEDM 2015-February, 7046961*, pp. 1.2.1-1.2.4 (2015) [11 citazioni Fonte: Scopus]
87. Prati, E., Towards room temperature solid state quantum devices at the edge of quantum chaos for long-living quantum states, *Journal of Physics: Conference Series* 626(1), 012011 (2015)
88. Ferrari, G., Carminati, M., Gervasoni, G., (...), Prati, E., Lezzi, F., Pisignano, D., High sensitivity noise measurements: Circuits, techniques and applications, 2015 International Conference on Noise and Fluctuations, ICNF 2015 7288556 (2015)
89. Shinada, T., Prati, E., Tamura, S., (...), Jelezko, F., Isoya, J., Opportunity of single atom control for quantum processing in silicon and diamond, 2014 Silicon Nanoelectronics Workshop, SNW 2014, 7348533 (2015)
90. Prati, E., Chiba, Y., Yano, M., (...), Shinada, T., Tanii, T., Single ion implantation of Ge donor impurity in silicon transistors, 2015 Silicon Nanoelectronics Workshop, SNW 2015, 7275290 (2015)
91. Homulle, H., Visser, S., Patra, B., (...), Prati, E., (...), Sebastiano, F., Charbon, E., CryoCMOS hardware technology a classical infrastructure for a scalable quantum computer, 2016 ACM International Conference on Computing Frontiers - Proceedings, pp. 282-287 (2016)
92. Shinada, T., Prati, E., Tanii, T., (...), Jelezko, F., Isoya, J., Deterministic doping to silicon and diamond materials for quantum processing, 16th International Conference on Nanotechnology - IEEE NANO 2016, 7751573, pp. 888-890 (2016)
93. Prati, E., Quantum neuromorphic hardware for quantum artificial intelligence, . In *Journal of Physics: Conference Series* (Vol. 880, No. 1, p. 012018) (2017) [11 Citazioni Fote: WOS]
94. Prati, E., Rotta, D., Sebastiano, F., Charbon, E., From the quantum Moore's law toward silicon based universal quantum computing, 2017 IEEE International Conference on Rebooting Computing, ICRC 2017 - Proceedings 2017-January, pp. 1-4 (2017)
95. Shimizu, Y., Tu, Y., Abdelghafar, A., (...), Prati, E., (...), Inoue, K., Nagai, Y., Atom probe study of erbium and oxygen co-implanted silicon, 2017 Silicon Nanoelectronics Workshop, SNW 2017, 8242316, pp. 99-100 (2017)
96. Prati, E., Celebrano, M., Ghirardini, L., (...), Yano, M., Tanii, T., Revisiting room-temperature 1.54 μm photoluminescence of ErOx centers in silicon at extremely low concentration 2017 Silicon Nanoelectronics Workshop, SNW 2017, 8242319, pp. 105-106 (2017)
97. Prati, E., Celebrano, M., Ghirardini, L., (...), Yano, M., Tanii, T., Resonant photocurrent at 1550 nm in an erbium low-doped silicon transistor at room temperature, 2019 Silicon Nanoelectronics Workshop, SNW 2019 8782962 (2019)
98. Porotti, R., Tamascelli, D., Restelli, M., Prati, E., Reinforcement Learning Based Control of Coherent Transport by Adiabatic Passage of Spin Qubits, *Journal of Physics: Conference Series* 1275(1), 012019 (2019)
99. Castriotta, M., Prati, E., Ferrari, G., Floating-gate transistor at cryogenic temperature: Characterization and modelling of tunnelling and hot electrons injection, 2020 IEEE Silicon Nanoelectronics Workshop, SNW 2020 9131666, pp. 89-90 (2020)

100. Fujimoto, T., Gi, K., Bigoni, S., (...), Prati, E., Tanii, T., Electroluminescence of Er:O-doped nano pn diode in silicon-on-insulator and its current-voltage characteristics at room temperature, 2020 IEEE Silicon Nanoelectronics Workshop, SNW 2020, 9131655, pp. 123-124 (2020)
101. Mastella, M., Toso, F., Sciortino, G., Prati, E., Ferrari, G., Tunneling-based CMOS Floating Gate Synapse for Low Power Spike Timing Dependent Plasticity, Proceedings - 2020 IEEE International Conference on Artificial Intelligence Circuits and Systems, AICAS 2020 9073965, pp. 213-217 (2020)
102. S. Achilli, N. H Le, G. Fratesi, N. Manini, G. Onida, M. Turchetti, ... and E. Prati, Quantum transport through a disordered array of Ge-vacancy defects in silicon for application in quantum technologies, 2021 Silicon Nanoelectronics Workshop (SNW) (pp. 1-2) (2021)
103. M. Di Giancamillo, P. Biagioni, V. Sorianello, and E. Prati, Design of erbium doped silicon nanocavities for single photon applications, EPJ Web of Conferences, 255, EDP Sciences (2021)
104. L. Moro, A. Likmeta, E. Prati, and M. Restelli, Goal-Directed Planning via Hindsight Experience Replay. In International Conference on Learning Representations. (2021)

Prefaces

105. Diósi, L., Elze, H.-T., Fronzoni, L., Prati, E., Vitiello, G., Yearsley, J., 5th International Workshop DICE2010: Space-Time-Matter - Current Issues in Quantum Mechanics and beyond, Journal of Physics: Conference Series 306(1), 011001 (2011)
106. Vitiello, G., Diósi, L., Elze, H.-T., Peati, E., Vitiello, G., Yearsley, J. DICE 2012 : Spacetime matter quantum mechanics-from the Planck scale to emergent phenomena, Journal of Physics: Conference Series 442(1), 011001 (2013)
107. Prati, E., Shinada, T., Preface, pp. xi-xii, Single-Atom Nanoelectronics, Pan Stanford Publishing Singapore (2013)
108. Elze, H.T., Diósi, L., Fronzoni, L., Prati, E., Vitiello, G., Preface, Journal of Physics: Conference Series 626(1),011001 (2015)
109. Diósi, L., Elze, H.T., Fronzoni, L., Halliwell, J., Kiefer., C., Prati, E., Vitiello, G., 8th International Workshop DICE2016: Spacetime- Matter - Quantum Mechanics, Journal of Physics: Conference Series 880 01100 (2017)
110. Elze, H.-T., Blasone, M., Diósi, L., (...), Prati, E., Vitiello, G., DICE 2018 : Spacetime Matter Quantum Mechanics, Journal of Physics: Conference Series 1275(1), 011001 (2019)

Books

111. Prati, E., La fisica attraverso gli esercizi – Cinematica, Alpha Test, Hoepli (2003)
112. Prati, E., Shinada, T., Single-Atom Nanoelectronics (Eds.), Pan Stanford Publishing Singapore (2013)
113. Prati, E., *Mente Artificiale*, EGEA Editore, ISBN: 9788823827608 (2017)

Book Chapters

114. Fanciulli, M, Costa, O, Baldovino, S, Cocco, S, Seguini, G , Prati, E, Scarel, G, Defects at the high-k/semiconductor interfaces investigated by spin dependent spectroscopies, ISBN: 1-4020-4365-1 NATO Series book II-Mathematics Physics and Chemistry on "Defects in High-K Gate Dielectric tacks", Vol. 220 p. 263 (2006)
115. Prati, E., Latempa, R., Fanciulli, M., Photon assisted tunneling in quantum dots, ISBN: 978-3-540-79364-9 in Ed. Fanciulli, Marco Eletron spin resonance in low dimensional structures and related phenomena, Berlin Heidelberg: Springer-Verlag (2009)
116. Prati, E., Morello, A., Quantum information in silicon devices based on individual dopants, Single-Atom Nanoelectronic, pp. 5-39 Pan Stanford Publishing Singapore (2013)
117. Shinada, T., Prati, E., Tanii, T., Deterministic single-ion implantation method for quantum processing in silicon and diamond, Integrated Nanodevice and Nanosystem Fabrication: Breakthroughs and Alternatives pp. 3-26, Pan Stanford Series on Intelligent Nanosystems (2017)
118. Rotta, D., Prati, E., Nanosilicon for quantum information, ISBN 978-1-4987-6388-2; 978-1-4987-6378-3, Silicon Nanomaterials Sourcebook Vol II: Hybrid Materials, Arrays, Series in Materials Science and Engineering (2017)
119. Crippa, A., Tagliaferri, M., Prati, E., Capacitance Spectroscopy in Single-Charge Device, ISBN: 981477454, 978-9814774543 Eds. Jian V. Li and Giorgio Ferrari Capacitance Spectroscopy of Semiconductors, Pan Stanford Series (2018)
120. Prati, E. (2021). Reformulating Physics without Time. In Rhythmic Oscillations in Proteins to Human Cognition (pp. 37-50). Springer, Singapore. (2021)
121. Maronese, M., Moro, L., Rocutto, L., Prati, E., Capitolo "Quantum Compiling", Quantum Computing Environments, Springer (2022)

- Courses
- Teaching
- 2022-2023 Laurea Magistrale in Intelligenza Artificiale – UNIMI – UNIPV - UNIMIB – Quantum Simulation (with quantum computing laboratory) – 28 h
 - 2022-2023 Laurea Magistrale in Intelligenza Artificiale – UNIMI – UNIPV - UNIMIB – Artificial intelligence for Physics – 56 h
 - 2022-2023 Università degli Studi di Milano – Laurea Triennale in Fisica: Meccanica (Es.) – 36 h
 - 2020-2021 Politecnico di Milano – Corso di Dottorato in Fisica - Quantum Artificial Intelligence – 25 h
 - 2019-2020 IUSS Pavia – Corso seminariale – Introduction to Quantum Artificial Intelligence – 10 h
 - 2018-2019 Politecnico di Milano – Corso di Dottorato in Fisica - Quantum Artificial Intelligence 5 CFU 25 h
 - 2013-2014 Politecnico di Milano - Fondamenti di Fisica Sperimentale I (INTEGR.) 2 semester 40 h
- National and international Schools
- 2020-2021 - Teaching assignement at Politecnico di Milano Scuola di Dottorato Politecnico di Milano Advanced PhD course on "High Resolution Electronic Measurements in Nano-Bio Science", previsto per i giorni 7-18 June 2021
 - 2019 - Scientific responsible of the 1-day course "Programmazione di algoritmi e intelligenza artificiale su computer quantistici", Milano, Italia by Vista Technology SRL, 19 September 2019 and teaching "Introduction to quantum computers" and "Introduction to Artificial Intelligence", 19 September 2019
 - 2018-2019 - Teaching assignement at Master Sicurezza – Link Campus University su "Intelligenza artificiale: opportunità e rischi", 7 February 2019
 - 2018-2019 - Teaching assignement at Politecnico di Milano Scuola di Dottorato Politecnico di Milano "High Resolution Electronic Measurements in Nano-Bio Science", 8-12 April 2019
 - 2017-2018 - Teaching assignement at Master in "Digital Forensics e Tecnologie Cyber"– Scuola delle Telecomunicazioni Forze Armate in Chiavari-Stato Maggiore Difesa, "Uno sguardo internazionale alla cyber security", Chiavari 8 March 2018
 - 2016-2017 - Teaching assignement at Politecnico di Milano Scuola di Dottorato Politecnico di Milano "Electrical characterisation of nanoscale samples & biochemical interfaces: methods and electronic instrumentation", 21-25 November 2016
 - 2014-2015 - Teaching assignement at Politecnico di Milano Scuola di Dottorato Politecnico di Milano "Electrical characterisation of nanoscale samples & biochemical interfaces: methods and electronic instrumentation", 24-28 November 2014
 - 2012-2013 - Teaching assignement at Politecnico di Milano Scuola di Dottorato Politecnico di Milano "Electrical characterisation of nanoscale samples & biochemical interfaces: methods and electronic instrumentation", 19-23 November 2012
 - 2010-2011 - Teaching assignement at Politecnico di Milano Scuola di Dottorato Politecnico di Milano "Electrical characterisation of nanoscale samples & biochemical interfaces: methods and electronic instrumentation", 16-19 November 2010
 - 2008-2009 - Teaching assignement at Politecnico di Milano Scuola di Dottorato Politecnico di Milano "Caratterizzazione elettrica di strutture nanoscopiche: metodi e strumentazione elettronica", 5-7 November 2008
 - Anno 2007 - Teaching assignement at INSTM XIII Scuola Nazionale di Scienza dei Materiali, Giornata su Caratterizzazione dei nanosistemi: V modulo - "Trasporto di carica e spin in nanostrutture", Bressanone, 30 September - 9 October 2007