Curriculum Vitae of Paolo Lugli

Prof. Paolo Lugli
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Education

1979 **Laurea** in Physics, with honor, University of Modena, Italy
1981 **M.Sc.** in Electrical Engineering", Colorado State University, Fort Collins, CO, USA
1985 **Ph. D.** in Electrical Engineering", Colorado State University, Fort Collins, CO, USA

Employment history

2017-present **Full Professor**, Faculty of Engineering, Free University of Bozen-Bolzano
2002-2016 **Full Professor**, Dept. of Electrical and Computer Engineering, Technical University of Munich (TUM)
1993-2002 **Full Professor**, Faculty of Engineering, University of Rome „Tor Vergata“
1991-1993 **Associate Professor**, Faculty of Engineering of the University of Rome „Tor Vergata“
1984-1988 **Research Associate**, („Ricercatore Universitario“), Physics Dept., University of Modena, Italy
1980-1983 **Graduate Research Assistant**, Dept. of Electrical Eng., Colorado State University, USA

Institutional responsibilities

2017-2024 **Rector** of the Free University of Bozen-Bolzano
2017-2024 **Member of the Scientific Board** of NOI AG, in house of the Autonomous Province Bozen
2017-2024 **Member of the Scientific Committee** for Research and Innovation of the Autonomous Province Bozen
2014-2016 **Dean** of the Department of Electrical and Computer Engineering, Technical University of Munich
2017-present **Adjunct Professor** at Beijing University of Chemical Technology, Beijing, China
2000-2002 **Director** of the CNR National Group for Solid State Matter, Italy
1999-2002 **President** of the Scientific Council of MDM (Materials and Devices for Microelectronics) Laboratory, a joint venture of STMicroelectronics and Istituto Nazionale di Fisica della Materia
1992-1997 **Chairman** of the Semiconductor Section (GNSM) of the Italian National Research Council (CNR)

Prof. Lugli has an outstanding technical and scientific record (with more than 500 scientific papers published in peer reviewed international journals and a h-index of 50 in SCOPUS) with a strong interdisciplinarity accent. He is Fellow IEEE, the most important professional association for Electrical Engineering worldwide. He is also member of ACATECH, the prestigious National Academy of Science and Engineering in Germany. His academic and scientific carrier has been characterized by a strong international experience coupled to a deep knowledge of the Italian research and innovation systems. He studied in Italy, did his graduate and PhD studies in USA, worked in Rome for 15 years and then moved to Munich. He developed a network of partnerships with several European countries, with China, Japan and Singapore, in addition to USA and Canada. In the last five years, joining the Free University of Bozen-Bolzano as Professor of Electronics and his duty of Rector has brought him in close touch with the productive sectors of South Tirol. He has started an experimental research group on flexible electronics and sensors, contributed to the establishment the NOI TechPark, and stimulated the interaction of unibz and of his own group with local companies and other research institutions.

Cooperation with industry has been one of the focuses in his own research as well as in his institutional responsibilities. Out of the almost 10 M€ third-party funding he acquired over the years were related to projects with companies. About two-third of the more than 80 PhD students that he supervised were financed externally. He has contributed to the establishment of a culture for technology transfer in national institutions both in Italy and in Germany, fostering start-ups and educating students towards an entrepreneurial approach. He himself founded two start-ups in Rome with three of his former PhD students and has been co-author of 8 patents. He has developed strong managing and governance skills.

Teaching activities

Since 1989 Dr. Lugli has given lectures, seminars and laboratory sessions in Rome, Munich and lately in Bozen. His teaching activity, offered in Italian, German or English, has covered Bachelor, Master and PhD Programs, mostly in the field Electrical and Computer Engineering. He has been involved in the international Masters "Communication Engineering" and "Power Engineering" (at TUM) and "Food Innovation and Authenticity" (in Bozen). At TUM he has coordinated the joint MSc program with Nanyang Technological University of Singapore in "Green Electronics" and was involved in a second one in "Integrated Circuit Design". A compact list of his teaching portfolio is given here:

2017-present	**Free University of Bozen-Bolzano**: Lectures in "Electonic devices", "Sensors and biosensors for food processing", "Materials and Sensors for Food Engineering and Biotechnologies", "Introduction to printing technologies and flexible components"
2002-2016	**Technische Universität München**, Germany: Lectures in "Mikrosysteme", "Nanotechnology", "Nanoelectronics", "Molecular Electronics", "Computational Methods in Nanoelectronics"; Labs in "Nanoelektronik und Nanotechnologie", "Simulation and characterization of organic devices", "Nanobioelectronics", "Wissenschaftlichen Aspekten der Nanotechnologie"; Seminar Series in "Special topics in Nanoelectronics"
1989-2002	**University of Rome "Tor Vergata"**, Italy: Lectures in "Fisica II", "Optoelettronica", "Sistemi di Telecomunicazione", "Molecular und Biological Electronics"

Memberships in panels, boards, and individual scientific reviewing activities (last 10 years)

2021	**Chair of the evaluation Panel** of the Department of Electrical Engineering, TU Dresden
2019	**Member of the Panel** for the selection of the Director of the Italian Institute of Technology
2019	**Member of the evaluation Committee** for the IIT Center for nanoscience (Milano)
2018	**Member of the Selection Committee** for the Director of the of the CNR Institute of Nanoscience
2017-present	**Member of the Conferenza Rettori** Universita' Italiane (CRUI)
2015-2019	**Member of the Technical Committee** for Research and Innovation of the Provincia Autonoma Trento, Italy
2015-2016	**Member of the Supervisory Board** of the TUM Integrative Center for Translational Oncology
2015-2016	**Member of the Extended Board** of the TUM Munich School of Bioengineering
2015-2016	**Member of the Evaluation Committee** of the Italian Institute of Technology
2010-2014	**Member of the Executive Board** of the Cluster of Excellence "Nanosystem Initiative Munich"
2006-2016	**Member of the Board of NanoTUM**, the TUM Institute for Nanoscience and Nanotechnology
2002-2010	**Member of the Board** of the Office of Technological Transfer at the National Institute for Astrophysics, Italy
1999-2002	**Member of the "Nucleo Applicativo",** the INFM Board in charge of technology transfer activities
1999-2002	**Responsible** of the Space-Related activities (interaction with Italian Space Agency and European Space Agency) for INFM
1991-1999	**Consultant** for the Helmholtz Research Center (KFA) Jülich, Germany
1998-present	**Member** of various review panels for European, German, Austrian, Israel, USA, Singapore research institutions and funding agencies

Organization of conferences, schools and workshops

2020	**Chair** of the Int. Workshop on "Technologies for the future", Bolzano, Italy
2017	**Co-chair** of the VDE "MikroSystemTechnik Kongress", München, Germany
2017	**Chair** of the Int. Workshop on "Internet of Things, Sustainability and Energy Awareness", Bolzano, Italy
2016	**Program Co-Chair** of the 16th IEEE Int. Conference on Nanotechnology , Sendai, Japan
2015	**Program Chair** of the 15th IEEE Int. Conference on Nanotechnology , Rome, Italy
2014	**Chair** of the Int. School on "System Integration", Munich, Germany
2011	**Chair** of the Int. Workshop "Advances in Photocatalysis and Photovoltaics", Garching Germany
2010	**Chair** of the Int. Workshop on "Frontiers of the Nanoelectronics", Munich, Germany
2009	**Chair** of the II Int. Workshop on "Non Volatile Memories", Genova, Italy
2008	**Chair** of the I Int. Workshop on "Non Volatile Memories", Munich, Germany
2005	**Chair** of the SPIE International Symposium on "Nanotechnology", Seville, Spain
2004	**General Chair** of IEEE International Conference on Nanotechnology, Munich, Germany
2003	**General Chair** of the 8th International Workshop on „Computational Electronics", Frascati, Italy
2001	**Chair** of the Int. Workshop on „Wide gap semiconductors: physics and novel sensor applications", Cagliari, Italy
1996-98	**Co-Director** of Euroconferences Series on "Advanced Heterostructure Devices for Micro and

Optoelectronics" Torino (1996), Grenoble (1997), Torino (1998)

1994 **Co-chair** of the II Euroconference on "Ultrafast Phenomena in Semiconductors", Frascati, Italy

1994 **Co-chair** of the NATO Advanced Study Institute "Pseudomorphic HEMTs: Technology and Applications", Erice, Italy

1992 **Co-chair** of the Int. Workshop on Semiconductor Nanostructures, Rome, Italy

1989 **Co-chair** of the Nato Advanced Research Workshop on "Spectroscopy of Semiconductor Microstructures",Venezia, Italy

Member of the Program Committee and/or Advisory Committee of several international Conferences (e.g. HCIS „Hot Carriers in Semiconductors"; IPRM „InP and Related Materials", IWCE "International Workshop on Computational Electronics"; "IEEE International Conference in Nanotechnology", IEEE "International Conference on Flexible and Printable Sensors and Systems")

Invited presentations at international conferences, schools and workshops

2024 XXII Conferenza Nazionale Sensori e Microsistemi (AISEM 2024), Bologna, Italy
2023 Int. Conf. Nano Research and Development (ICNRD-2023), Singapore (*Keynote*)
2023 UnILiON Annual Event, Bruxelles, Belgium (*Keynote*)
2023 2023 IEEE Nanotechnology Materials and Devices Conference (NMDC), Paestum, Italy (*Plenary*)
2019 International Workshop on Innovative Nanoscale Devices and Systems, Kona, USA
2019 Summer School on " Sensor Technologies for Water Monitoring", Trento, Italy
2017 38th International Association of University Libraries, Bolzano, Italy (*Keynote*)
2016 9th International Conference on Nanostructured Polymers and Nanocomposites, Rome, Italy (*Plenary*)
2016 Int. Workshop on "Surface, Interfaces and Functionalization Processes in Organic Compounds and Applications", Napoli, Italy
2014 AAAS Annual Meeting, Chicago, USA
2013 VI International School of Nanophotonics and Photovoltaics, Maratea, Italy
2012 Int. Conference 3M-NANO, Xi-an, China (*Keynote*)
2011 Int. Workshop NANO-TEC, Granada, Spain
2010 Int. Microwave Symposium, Anaheim, CA, USA
2009 Workshop on Hybrid and Organic Solar Energy (WHOSE 2009), Rome, Italy
2009 Int. School of Nanophotonics and Photovoltaics, Maratea (PZ), Italy
2009 Int. Workshop Radio-Frequency Applications of Nanotechnology, Boston, USA
2009 Int. Conf. on Nano Giga Challenges, Hamilton, ON, Canada (*Keynote*)
2008 Int. Workshop on Transport in Molecular Systems, Bonn, Germany
2008 MTT-Workshop on RF-Applications of Nanotechnology, Atlanta, USA
2008 NANO-E3 Joint Australian-Italian Workshop on Nanotechnology, Margaret River, Australia
2007 IEEE Int. Conf. Nanotechnology, Hong Kong
2007 Int. Workshop on Transport through single Molecules, Bremen, Germany
2007 Int. Workshop of Future Information Technology, Dresden, Germany
2007 Int. Workshop on Flexible Electronics, Munich (*Keynote*)
2007 Int. Symposium on Microwave and Optical Technologies, Rome, Italy
2006 Workshop on Enabling Technologies for ICT "Future Perspectives of the Nanotechnologies", Rome
2006 EDA Forum „Technology beyond CMOS", Berlin, Germany (*Keynote*)
2006 International Workshop on Optical Engineering, Ancona, Italy
2006 Heraeus-Seminar "Quantum transport at the molecular scale", Bad Honnef
2006 R&D Days: International Forum on Project Development, Bologna
2006 BMBF Strategiegespräch „Beyond CMOS", Bonn, Germany
2006 International Meeting in Molecular Electronics, Grenoble, France
2006 VDE Kongress, Aachen
2005 Workshop "Analog '05", Hannover, Germany
2005 General Assembly URSI 2005, New Delhi, Indien
2005 Workshop "Devices nach CMOS", Munich, Germany
2004 International Workshop on Computational Electronics, Purdue, IN, USA
2004 5th Int. Symposium on MEMS and Nanotechnology, Costa Mesa, CA, USA
2003 Int. Conf. on Hot Carrier in Semiconductors, Modena, Italy
2003 Int. Symposium on Mathematical Modelling, Wien, Austria
2003 Eur. Conf. on Circuit Theory and Design, Krakow, Poland
2002 URSI General Assembly meeting, Maastricht, Netherland
2001 Short Course on Wide Bandgap Semiconductor, GAAS2001, London, UK

2000 International Workshop on Computational Electronics, Glasgow, UK
1997 Euroconference on Ultrafast Phenomena in Semiconductors, Oxford, UK
1995 Int. Conf. on Computational Electronics, Tempe, AZ, USA
1995 Italian-German Symposium, Villa Vigoni, Como, Italy
1994 NATO Advanced Study Institute on 'PM-HEMT Technology and Applications". Erice, Italy
1994 Advanced Heterostructure Workshop, Hawaii, USA
1993 Condensed Matter and Material Physics Conference CMMP93, Leeds, UK
1992 European Solid State Device Research Conference ESSDERC92, Leuven Belgium
1992 International School on Physics and Technology of Semiconductor Quantum Devices, Brindisi, Italy
1992 International Workshop on Light Emitting Silicon LESi II, Garching, Germany
1991 Int. Conf. on Hot Carrier in Semiconductors, Nara, Japan
1991 Int. Workshop on Parallel Computing, Taormina, Italy
1991 School on Materials for Electronics: Growth, Properties and Applications, ICTP, Trieste, Italy
1990 Spring College in Condensed Matter on ``Physics of Low-Dimensional Semiconducotr Structures", ICTP,Trieste, Italy
1990 National Congress of the Italian Physical Society, Trento, Italy
1990 Int. Conf. on Ultrafast Laser Probe Phenomena in Bulk and Microstructure Semiconductors III, S. Diego, CA (USA)
1989 6th Int. Conf. on Numerical Analysis of Semiconductor Devices and Integrated Circuits NASECODE VI, Dublin, Ireland
1989 Italian-Swiss Symposium, Villa D'Este, Como, Italy
1988 Int. Conf. on Ultrafast Laser Probe Phenomena in Bulk and Microstructure Semiconductors II, Newport Beach, CA (USA)
1988 SPIE Advances in Semiconductors and Superconductors, Physics and Device Applications, Newport Beach, CA (USA)
1988 March Meeting of the American Physical Society, New Orleans, LI (USA)
1988 NATO Advanced Research Workshop on Band Structure Engineering in Semiconductor Microstructures, Il Ciocco (LU), Italy
1988 Int. Conf. on Simulation of Semiconductor Devices and Processes, Bologna, Italy
1988 Int. Conf. on the Physics of Semiconductors, Warsaw, Poland
1987 7th General Con. of European Physical Society, Pisa, Italy
1987 Int. Conf. on Hot Carriers in Semiconductors, Boston, USA
1987 School on Superlattices and Hot Electrons, Bad Hoffer, Bonn, Germany

Language proficiency

Italian (mother tongue)
English (excellent – C1 certificate from 2017)
German (very good – C1 certificate from 2017)

Major scientific achievements

Prof. Paolo Lugli is full professor of Electronics at the Free University of Bozen-Bolzano since January 2017, where he also serves as Rector. For the previous 15 years he was full professor at the Technical University of Munich, where he led the Institute for Nanoelectronics and, for the last two years, was Dean of the Department of Electrical and Computer Engineering. Before that, he was Full Professor of Optoelectronics at the University of Rome “Tor Vergata”. His current research interests are in printed electronics, simulation of semiconductor devices, modeling of charge transport in organic and inorganic semiconductors, realization and characterization of molecular devices. Prof. Lugli is author of more than 500 scientific papers published in peer reviewed international journals, has an h-index (Google Scholar) of 68, a total number of 16408 citations, and a total funding since 2006 of more than 7 million €. The h-index on SCOPUS is 50 with 11.397 citations. He is co-author or co-editor of 6 books and co-author of 8 patents.

Dr. Lugli have made sustained contributions to engineering education as a university faculty for over 30 years, having supervised more than 200 Bachelor, Master and Diplom/Laurea students and more than 80 doctoral candidates, many of whom now held significant positions in academic, research and industrial institutions. Among others, M. Saraniti is full professor and Vice Dean of Faculty Administration at the School of Electrical, Computer and Energy Engineering, Arizona State University; A. Di Carlo is full professor at the University of Rome Tor Vergata and Director of the ISM-CNR laboratory; A. Neviani is full Professor at the University of Padova; A. Reale and F. Brunetti are Associate Professors at the University of Rome Tor Vergata. M. Berliocchi, A. Bolognesi and M. Manenti have created the two spin-offs Raptech and Kenergia in Rome; S. Harrer is senior researcher at the IBM Melbourne Laboratory. Among the recent TUM PhD graduates, S. Joshi and V. Bhatt are senior project managers at Infineon AG in Munich. Dr. Lugli is

currently supervising 11 PhD students in Bolzano.

In 2011 he was elevated to the grade of IEEE Fellow of the Electron Device Society for contributions to nanostructured materials and devices. In the same year he was also elected as member of ACATECH, the prestigious National Academy of Science and Engineering in Germany.

In 2020 he was ranked among the top 2% world scientists in the field of "Applied Physics": https://doi.org/10.1371/journal.pbio.3000918

He is currently ranked 30st in the list of the Top Italian Scientists for the area of "Material & Nano Sciences": https://topitalianscientists.org/TIS_HTML/Top_Italian_Scientists_Material_Nano_Sciences.htm

Since 2023 he has been nominated "Socio Corrispondente" of the "Accademia Nazionale di Scienze Lettere e Arti di Modena" (former "Accademia dei Dissonanti")

Approved research projects

Prof. Lugli has been involved, both as partner and coordinator, in several national and international research projects with a variety of public and private funding agencies and companies. Here a list of the most important projects:

2022 Joint Project South Tirol-Switzerland: *In-Memory sensing* - **246 k€**
2022 PNRR-MUR: *Interconnected Nord-Est Innovation Ecosystem (iNEST)*- **160 k€**
2019 FESR: *Smart textile for monitoring muscles activity* - **208 k€**
2018 Unibz Interdisciplinary Project: *Sustainable Smart Parasites* – **198 k€**
2018 FESR: Sensing Laboratory - **1.199 k€**
2017 Industrial Project (with ASK SpA): *Printed Electronic Components* – **450 k€**
2013 UE/Open FET: *Graphene doping and texturing in efficient electrodes for organic solar cells* - **210 k€**
2013 UE/Marie Curie ITN: *Network for Training in Organic Optoelectronics integrated with living systems* – **280 k€**
2012 UE/Marie Curie ITN Project: *Network for Training in Electronic Skin Technology* - **640 k€**
2012 DFG/Excellenzcluster Nanosystems Initiative Munich: *Nanoimprint lithography* - **520 k€**
2011 Industrial Project (with Sharp Corp.) *Modeling of THz quantum cascade lasers* - **70k€**
2010 DARPA Project: *Nanomagnetic Logic* **580 k$**
2009 DFG Project: *Field-coupled computing devices in magnetic multilayers* - **240 k€**
2009 TUM/IAS Focus Research Group: *Nanotransfer and nanoimprinting* - **600 k€**
2009 Fondazione Bruno Kessler - Joint Project: *Integration of organic photodiodes on CMOS* - **81 k€**
2009 TUM/IAS: *Highly complex nanostructured systems for cryptography and security* - **100 k€**
2008 TUM/IAS/NTU Project: *Towards manufacturability of carbon nanotube-based printed electronics* - **350 k€**
2008 BMW Grant: *Low cost FIR camera* - **30k€**
2006 EU/FET: *Vertically stacked memory cells based on heterojunctions made of hybrid organic/inorganic materials* - **340 k€**
2006 EU/Marie Curie Intra-European Fellowship: *Realization and characterization of flexible arrays of photodetectors* - **130 k€**
2006 DFG/SSP 1243: *Multiscale modeling and simulation of molecular devices and systems* - **140 k€**
2006 DFG/Excellenzcluster NIM: *Modeling and simulation of functional networks and Nanoimprint lithography* – **450 k€**
2005 DFG/SFB 631: *Solid state quantum information processing: physical concepts and material aspects: Circuit modeling of interaction between electromagnetic fields and superconducting qubits* - **210 k€**
2005 EOARD Grant *Modelling of THz Quantum Cascade Lasers for room temperature operation* – **230 k€**
2005 DFG/SSP 1121 *Organische Feldeffekt-Transistoren: strukturelle und dynamische Eigenschaften: Modeling and simulation of OTFT-based circuits* - **140 k€**
2004 INFN Trieste Joint Project: *Characterization of infrared devices for a high-energy experiment* - **150 k€**
2003 EU/FET: *Silicon heterostructure intersubband emitters* - **100 k€**
2001 ASI: *Nitride-based devices for space applications* - **200.000 kLIT**
2000 MIUR: *Physics of nitride-based heterostructures* - **130.000 kLIT**
2000 MIUR: *Organic LED sourced for telecommunication* - **90.000 kLIT** (in collaboration with CISCO)
2000 ONR: *Transport Phenomena in Semiconductor Nanostructures* - **200 K$**
2000 EU Network "Diode" **– 150.000 kLIT**
1999 ONR: *Novel methods of quantum transport in nanostructures* – **100 k$**

1999 MIUR: *Quantum effects in nanometer-size Silicon nanostructures* - **130.000 kLIT**
1999 ASI: *InP-based HEMTs for space applications* - **105.000 kLIT** (in collaboration with Alenia Marconi System)
1998 CNR: Finalized Project for Material and Devices in Microelectronics II *Quantum effects in submicron EEPROM cells*" – **150.000 kLIT** (in collaboration with SGS-Thomson)
1998 CNR - Finalized Project for Material and Devices in Microelectronics II *Simulation and modeling of HBTs* **60.000 kLIT** (in collaboration with Alenia)
1998 CNR - Finalized Project for Material and Devices in Microelectronics II *Modeling of SOA* - **60.000 kLIT** (in collaboration with Agilent)
1998 INFM - *Quantum Cascade Lasers* - **90.000 kLIT**
1998 TMR Network "Ultrafast Quantum Electronics" - **165.000 kLIT**
1997 MIUR *Semiconductor nanostructures* - **75.000 kLIT**
1997 ERO: *Simulation of SiC diodes* - **20 k$**
1995 TMR Network "ULTRAFAST" - **150.000 kLIT**
1994 MIUR: *HEMT Devices* - **150.000 kLIT**
1991 ESPRIT Working Group ELTRASIN ("Electronic Transport Parallel and Perpendicular to Semiconductor heterostructures") - **120.000 kLIT**
1991 MIUR: *Nanostructures* - **110.000 kLIT**
1990 NATO: Bilateral Grant Italy (Roma II)-USA (OSU) *Microwave GaAs Devices* - **10 k$**
1989 IBM-Yorktown Grant *Non-equilibrium Phonons in Heterostructures* - **30 k$**
1989 CNR-Finalized Project for Material and Devices in Microelectronics *Monte Carlo Simulation of HEMT*s – **150.000 kLIT** (in collaboration with Alenia)
1989 MIUR - Monte Carlo Simulation of GaAs Devices - **120.000 kLIT**

Acronyms. DARPA: Defense Advanced Research Projects Agency, USA; DFG: Deutsche Forschungsgemeinschaft; EOARD: European Office of Aerospace Research & Development, London UK; ERO: European Research office; EU/FET: European Union Future and Emerging Technologies; FESR: Fondo europeo per lo sviluppo regionale (FESR); INFN: Istituto Nazionale di Fisica Nucleare, Italy; MIUR: Ministero dell'Universita' e Ricerca, Italia; TMR: training and mobility of researchers; TUM/IAS: Institute of Advance Study at TUM; FBK: Fondazione Bruno Kessler, Trento, Italy; NTU: Nanyang Technological University, Singapore; ONR: Office of Naval Research, USA

Research Output

Selected publications

1. P. Lugli, D. K. Ferry, *Degeneracy in the ensemble Monte Carlo method for high-field transport in semiconductors* IEEE Trans. Electron Dev., ED-32, 2431 (1985) [298 cit]
2. P. Lugli, P. Bordone, L. Reggiani, M. Rieger, P. Kocevar, S. Goodnick, *Monte Carlo studies of nonequilibrium phonon effects in polar semiconductors and quantum wells: Laser photoexcitation*, Phys. Rev. B39, 7865 (1989) [131 cit]
3. V. Fiorentini, F. Bernardini, F. Della Sala, A. Di Carlo, P. Lugli*, Effects of macroscopic polarization in III-V nitride multiple quantum wells,* Phys. Rev. B 60, 8849 (1999) [597 cit]
4. H. Rucker, E. Molinari, and P. Lugli, *Microscopic calculation of the electron-phonon interaction in quantum wells*, Phys. Rev. B45, 6747 (1992) [318 cit]
5. U Rührmair, C Jaeger, M Bator, M Stutzmann, P Lugli, G Csaba, *Applications of high-capacity crossbar memories in cryptography,* IEEE Transactions on Nanotechnology 10 (3), 489 (2010) [87 cit]
6. D Baierl, L Pancheri, M Schmidt, D Stoppa, GF Dalla Betta, G Scarpa, P Lugli, *A hybrid CMOS-imager with a solution-processable polymer as photoactive layer*, Nature Communications 3, 1175 (2012) [108 cit]
7. A Abdellah, B Fabel, P Lugli, G Scarpa, *Spray deposition of organic semiconducting thin-films: Towards the fabrication of arbitrary shaped organic electronic devices,* Organic Electronics 11 (6), 1031 (2010) [137 cit]
8. B Shkodra, BD Abera, G Cantarella, A Douaki, E Avancini, L Petti, P Lugli, *Flexible and printed electrochemical immunosensor coated with oxygen plasma treated SWCNTs for histamine detection,* Biosensors 10, 35 (2020) [43 cit]
9. P Ibba, A Falco, BD Abera, G Cantarella, L Petti, P Lugli, *Bio-impedance and circuit parameters: An analysis for tracking fruit ripening,* Postharvest Biology and Technology 159, 110978, 2020 [76cit]
10. B Dudem, R. Dharmasena, R. Riaz, V. Vivekananthan, K. Wijayantha, P. Lugli, L. Petti L. and S. Silva, *Wearable Triboelectric Nanogenerator from Waste Materials for Autonomous Information Transmission via Morse Code.* ACS applied materials & interfaces, 14, 5328, 2022 [51cit]

Selected Books

- *High Speed Optical Communications*, (with R. Sabella) Kluver Academic, Dordrecht, 1999

- *Optoelettronica (vol. 1): i materiali semiconduttori* (with A. Di Carlo), Aracne, Roma, 1999
- *Optoelettronica (vol. 2): le fibre e i sistemi ottici* (with A. Di Carlo and A. Reale), Aracne, Roma, 1999
- *Pseudomorphic HEMTs: Technology and Applications*, Editor (with R. L. Ross und S. Swensson), Kluwer 1996
- *The Monte Carlo Method for Semiconductor Device Simulation* (with C. Jacoboni) Springer Verlag, 1989
- *Spectroscopy of Semiconductor Microstructures*, Editor (with G. Fasol und A. Fasolino) Plenum Press, 1989

Selected Patents

1. P Lugli, L Larcher, Y Ricci, L Cattani, T Nili, *Manufacturing method of a piezoelectric microphone with pillar structure*, US Patent App. 16/792,691 (2020)
2. V.D.Bhatt, S. Joshi, P. Lugli, *Sensor arrangement for analyzing substances in a material and method for operating such a sensor arrangement*. US Patent US 2019/0030531 A1 (2019)
3. P. Lugli, V.D. Bhatt, K. Melzer, *Device for analyzing biological Substances in a Test Solution and Production Method*, US Patent US10145838 (2018)

Bolzano, 6.2.2026