Academic CV – Luisa Petti

Personal Information

Name: **Luisa Petti**
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Education

- **2009** – **B.Sc. in Electronic Engineering** (Grade: 110/110 cum laude), Politecnico di Milano, Milan, Italy. Thesis Title: "Development of a computational code for a quick calculation of the contrasts that are obtained in x-ray imaging". Referee: Prof. Chiara Guazzoni (Politecnico di Milano).
- **2011** – **M.Sc. in Electronic Engineering** (Grade: 110/110 cum laude), Politecnico di Milano, Milan, Italy. Thesis Title: "Development and application of x-ray optics suitable for microanalysis techniques". Referee(s): Prof. Chiara Guazzoni (Politecnico di Milano), Prof. Christopher Hierold, and Dr. Olga Kurapova (ETH Zürich).
- **2016** – **Ph.D. in Science**, ETH Zurich, Zurich, Switzerland. Thesis Title: "Metal oxide semiconductor thin-film transistors for flexible electronics". Referee(s): Prof. Gerhard Tröster (ETH Zürich), Prof. Thomas Anthopoulos (Imperial College London).

Present Appointments

- **Associate Professor in Electronics** (SSD: ING-INF/01) at the Faculty of Engineering, Free University of Bolzano-Bozen.
- **Habilitated as Full Professor in Electronics** (SSD: ING-INF/01).
- **Course Director of the B.Sc. in Electronic and Cyber-Physical Systems Engineering** (L-8) at the Faculty of Engineering, Free University of Bolzano-Bozen.
- **Member of the Competence Center "Health of the Plants"**, Free University of Bolzano-Bozen.
- **Head of the Sensor System Technology Laboratory** at NOI Techpark, Free University of Bolzano-Bozen.
- **Vice-head of the Sensing Technologies Laboratory** – an Interdisciplinary Research Group currently including 1 Full Professor, 1 Associate Professor, 1 Assistant Professor, 3 Technologists, 7 Postdocs, 16 PhD Students, and 1 Technician – at the Faculty of Engineering, Free University of Bolzano-Bozen.
- **Member of the Scientific Committee ("Collegio Docenti") of the Ph.D. Program Advanced Systems Engineering** (ASE) at the Faculty of Engineering, Free University of Bolzano-Bozen.
- **Member of the Scientific Committee ("Collegio Docenti") of the National Ph.D. Program Micro- and Nano-Electronics** (MNE) coordinated by the University of Pavia.
- **Local Unit Responsible of the Italian Electronic Society** (SIE) for the Free University of Bolzano-Bozen.
- **Local Unit Responsible for the Inter University Consortium for Nanoelectronics** (IUNET) for the Free University of Bolzano-Bozen.
- **Supervisor of 4 Postdoctoral Researchers, 1 Technologist, 9 Ph.D. Students** at the Faculty of Engineering, Free University of

Bolzano-Bozen.

- **Academic Tutor/Referee of 4 B.Sc. Students** in Industrial and Mechanical Engineering (L-9) or Wood Engineering (L-9-wood) at the Faculty of Engineering, Free University of Bolzano-Bozen.
- **Lecturer of "Fundamentals of Electronics"** at the B.Sc. in Electronic and Cyber-Physical Systems Engineering (L-8) at the Faculty of Engineering, Free University of Bolzano-Bozen.
- **Lecturer of "Flexible Electronics: From Materials to Systems and Applications"** at the Ph.D. in Advanced Systems Engineering (PhD ASE) at the Faculty of Engineering, Free University of Bolzano-Bozen.
- **Member of the Board of Governor (BoG)** of the IEEE Electron Device Society (EDS).
- **Member of the Flexible Electronics and Display (FED) Technical Committee** of the IEEE Electron Device Society (EDS).
- **Member of the Additive Manufacturing Electronic Systems (AMES) Technical Committee** of the IEEE RFID Council (RFIDC).
- **Member of the MEMS and Nanotechnologies Technical Committee** of IEEE Industrial Electronics Society (IES).
- **Member of the Special Interest Group on Electronics for Agri-food** of the IEEE Circuits and Systems Society (CASS).
- **Member of the Meetings Committee** of IEEE EDS.
- **Member of the Women in EDS Committee** of IEEE EDS.
- **Associate Editor in Chief** of *IEEE Journal on Flexible Electronics (IEEE J-FLEX)*.
- **Associate Editor** of *IEEE Transaction on Agrifood Electronics (IEEE TAFE).*
- **Associate Editor** of *Frontiers in Electronics* (Specialty Section: Flexible Electronics).
- **Review Editor** of *Frontiers in Nanotechnology*.
- **Guest Editor** of the *IEEE Electron Devices Magazine (IEEE ED-M)* Special Issue "Large-Area and Flexible Electronics".
- **Guest Editor** of the *IEEE Journal of Flexible Electronics (IEEE J-FLEX)* Special Issue "Thin-Film Transistor Technologies".
- **Program Committee Member** of the *Innovations in Large Area Electronics Conference (InnoLAE) 2024*, Cambridge, UK (20-22 February 2024).
- **Track Chair** of the Sensors, Flexible & Bioelectronics Subcommittee of the *IEEE Electron Device Technology Manufacturing (EDTM) 2024*, Bangalore, India (3-6 March 2024).
- **General Chair** of the *IEEE International Flexible Electronics Technology Conference (IFETC) 2024*, Bologna, Italy (15-18 September 2023).
- **Organizer** of Symposium "Innovations in Materials and Processes for Printed, Flexible and Stretchable Energy-autonomous Sensing Systems" at the *2024 Materials Research Society (MRS) Fall Meeting*, Boston, USA (1-6 December 2024).

Past Professional Experience

From/to	Job Title	Name of Institution	Academic Level	Responsibilities
03/2011 – 09/2011	Student research assistant	ETH Zurich, Zurich, Switzerland	M.Sc.	●Research in the areas of design, micro-fabrication, and characterization of x-ray refractive optical micro-lenses.
09/2011	Student	Politecnico di	M.Sc.	●Research in the areas of x-ray

– 12/2011	research assistant	Milano, Milan, Italy		fluorescence micro-analysis of biological samples.
02/2012 – 08/2016	Research assistant	ETH Zurich, Zurich, Switzerland	Ph.D.	●Research in the areas of flexible thin-film transistors, sensors, memories, and integrated circuits based on metal oxide and organic semiconductors. ●Demonstrated first flexible vertical indium gallium zinc oxide transistors. ●Authored and co-authored >58 publications in >21 peer-reviewed journals. ●Coordinated the preparation of an extensive and well-cited review on flexible metal oxide semiconductor electronics (53 pages, 363 references). ●Presented >7 contributed and invited talks at international top conferences. ●Collaborated with >16 academic and industrial partners over >6 countries. ●Main reader and responsible for semester and master thesis supervision. ●Involved in >3 European and Swiss third-party projects.
02/2014 – 08/2014	Visiting research assistant	Imperial College London, London, UK	Ph.D.	●Research in the areas of flexible solution-processed thin-film transistors and complementary digital circuits.
09/2014 – 12/2014	Intern	Apple Incorporated, Cupertino, US	Ph.D.	●Developed innovative designs and fabrication processes for next-generation flexible and stretchable display products. ●Co-inventor of an international patent application on stretchable displays.
09/2016 – 12/2017 (from 10/16 at 10%)	Research Associate	ETH Zurich, Zurich, Switzerland	Postdoc	●Research in the areas of flexible short-channel thin-film transistors and complementary analog circuits based on metal oxide semiconductors. ●Demonstrated shortest channel length ever reported for flexible transistors. ●Authored and co-authored >16 publications in >14 peer-reviewed journals. ●Responsible for Ph.D. student supervision and cleanroom user trainings. ●Scientific evaluator of European H2020 FET-OPEN and ICT projects.
10/2016 – 12/2017	Scientist	Cambridge Display Technology Limited,	Postdoc	●Responsible for the fabrication, characterization, and integration of flexible printed organic thermoelectric

		Godmanchester, UK		generators for industrial IoT applications. ●Responsible for the electrochemical and physical characterization of novel materials for thin-film flexible polymer-based batteries. ●Responsible for the integration of flexible organic batteries and solar cells for medical wearable, healthcare, and smart home IoT applications. ●Co-inventor of a patent on gel electrolytes for flexible batteries. ●Involved in the 3rd Horizon group for a long-term planning of CDT's research and development activities.
12/2017 – 06/2018	Research Engineer	FlexEnable Limited, Cambridge, UK	Postdoc	●Responsible for the electrical and optical characterization of flexible organic liquid crystal displays (OLCDs). ●Responsible for the management of internal, customer and European research projects on flexible OLCDs. ●Dark-room manager.
07/2018 – 02/2021	Fixed-term Assistant Professor	Free University of Bolzano-Bozen, Bolzano, Italy	Postdoc	●Research in the areas of flexible, printed, and environmentally friendly electronics (sensors, biosensors, energy harvesters, actuators, and integrated sensor systems). ●Responsible for the management of internal, regional, and national research projects, as well as of for the management of the laboratories (rooms E1.21, E.1.23, E2.11). ●Responsible for postdoc, Ph.D. and master student supervision and training. ●Responsible for the setup of the new Sensor System Technology Laboratories at NOI Techpark. ●Lecturer for electronics and sensor courses at B.Sc. and M.Sc. level. ●Authored and co-authored >17 publications in >10 peer-reviewed journals. ●Presented >6 invited talks at international top conferences and webinars. ●Collaborated with a wide range of academic and

				industrial partners both locally, nationally, and internationally. ●Involved in a wide range of third-mission public activities (newspapers, radio, TV services). ●Actively participated to the editoral boards of different journals and to the technical and scientific committee of various international top conferences.

Participation in Exhibitions, Competitions, and Awards

Exhibitions:

- Organization and participation to "**Long Night of Research**" 2019, Free University of Bolzano-Bozen, Bolzano, Italy, September 2019.
- Participation to "**Rome Maker Fair**" 2022 exhibition, Gazometro di Roma, Rome, Italy, October 2022.
- Organization and participation to the festival "**Le mille e una Scienza**" 2022, Free University of Bolzano-Bozen, Bolzano, Italy, November 2022.
- Participation to "**Rendezvous mit dem Traumberuf**", Free University of Bolzano-Bozen, Bolzano, Italy, November 2022.
- Participation to Festival "**Science Live. Get Curious**!", Free University of Bolzano-Bozen, Bolzano, Italy, October 2023.
- Participation to "**Thrive Festival**", NOI Techpark Bruneck, Bruneck, Italy, October 2023.

Competitions:

- Participation to the competition "**Il Linguaggio Della Ricerca**" (LDR) with the project "La Fisica della Vita" together with a group of students of the ITIS Leonardo Da Vinci in Carpi, Italy, 2019 and 2020.

Awards:

- Awarded with the **gold medal for the top 40 B.Sc. graduates** 2008-2009, Politecnico di Milano, Milan, Italy, April 2011.
- Awarded with the **prize for the most innovative solution** at the European Society for Precision Engineering and Nanotechnology (EUSPEN) Challenge 2011, University of Cambridge, Cambridge, UK, July 2011.
- Awarded with the **best student paper award** at the International Thin-Film Transistor Conference 2013, University of Tokyo, Tokyo, Japan, March 2013.
- Awarded with the **ETH medal for outstanding doctoral theses** in 2016, ETH Zurich, Zurich, Switzerland, November 2016.
- Awarded with the **IEEE EDS early career award** 2019, IEEE EDS, San Francisco, US, December 2019.
- Awarded with the Frontiers in Nanotechnology 2021 **outstanding review editors awards**, London, UK, December 2021.

Experience in Academic Teaching

Teaching at Free University of Bolzano-Bozen:

Academic Year 2018/2019

- Lecturer and course responsible of *Physik* (6 CFU, 30 hours in German), B.Sc. in Wood Engineering (L-9-wood); Evaluations: *No evaluations*

available as the course was attended by less than 5 students.

Academic Year 2019/2020

- Lecturer and course responsible of *Elektronische Qualität und Diagnose* (6 CFU, 54 hours in German), B.Sc. in Wood Engineering (L-9-wood); Evaluations: *No evaluations available as the course was attended by less than 5 students.*
- Lecturer of *Sensors and Biosensors for Food Processing* (6 CFU, 6 hours in English); M.Sc. in Food Sciences for Innovation and Authenticity (LM-70); Evaluations: *No evaluations available as the course was attended by less than 5 students.*
- Lecturer at the 15th International Summer Schools on Nanosciences & Nanotechnologies, Organic Electronics & Nanomedicine (ISSON20); held online on 11th July 2020.

Academic year 2020/2021

- Lecturer and course responsible of *Elektronische Qualität und Diagnose* (6 CFU, 60 hours in German), B.Sc. in Wood Engineering (L-9-wood) and B.Sc. in Industrial and Mechanical Engineering (L-9); Evaluations: *Am I generally satisfied with the course taught? Generally, Yes + Definitely Yes: 100%.*
- Lecturer and course responsible of *Introduction to Printing Technologies and Flexible Components* (3 CFU, 30 hours in English), Ph.D. in Advanced Systems Engineering; Evaluations: *No evalutations available as the course was at a Ph.D. level.*
- Lecturer at the 16th International Summer Schools on Nanosciences & Nanotechnologies, Organic Electronics & Nanomedicine (ISSON21); held online on 4th July 2021.

Academic year 2021/2022

- Lecturer and course responsible of *Sensors and Biosensors for Food Processing* (6 CFU, 30 hours in English); M.Sc. in Food Sciences for Innovation and Authenticity (LM-70); Evaluations: *Am I generally satisfied with the course taught? Generally, Yes + Definitely Yes: 94%.*
- Lecturer and course responsible of "*Information and DSS in Fruit Production*" (6 CFU, 30 hours in English) at the M.Sc. in Horticultural Science (LM-69); Evaluations: *No evaluations available as the course was managed by the University of Bologna.*
- Lecturer and course responsible of *Elektronische Qualität und Diagnose* (6 CFU, 60 hours in German), B.Sc. in Wood Engineering (L-9-wood) and B.Sc. in Industrial and Mechanical Engineering (L-9); Evaluations: *Am I generally satisfied with the course taught? Generally, Yes + Definitely Yes: 100%.*
- Lecturer at the 2nd Seasonal School-2021 Technology and Agri-Business: Feeding a Growing Population; held online on 9th December 2021.

Academic year 2022/2023

- Lecturer and course responsible of "*Information and DSS in Fruit Production*" (6 CFU, 30 hours in English) at the M.Sc. in Horticultural Science (LM-69); Evaluations: *No evaluations available as the course was managed by the University of Bologna.*
- Lecturer and course responsible of *Elektronische Qualität und Diagnose* (6 CFU, 60 hours in German), B.Sc. in Wood Engineering (L-9-wood)

and B.Sc. in Industrial and Mechanical Engineering (L-9); *Am I generally satisfied with the course taught? Generally, Yes + Definitely Yes: 100%.*
- Lecturer and course responsible of *Fundamentals of Electronics* (6 CFU, 30 hours in Italian) at the B.Sc. in Electronic and Cyber physical Systems Engineering (L-8); *Am I generally satisfied with the course taught? Generally, Yes + Definitely Yes: 100%.*

Academic year 2023/2024
- Lecturer and course responsible of *Flexible Electronics: From Materials to Systems and Applications* (3 CFU, 30 hours in English), Ph.D. in Advanced Systems Engineering; Evaluations: *No evaluations available as the course was at a Ph.D. level.*
- Lecturer and course responsible of *Fundamentals of Electronics* (6 CFU, 60 hours in Italian) at the B.Sc. in Electronic and Cyber physical Systems Engineering (L-8); *No evaluations available yet.*

Experience in Academic Supervision

Post-doctoral Researcher Supervision at Free University of Bolzano-Bozen:

Main supervisor of the following technologists:
- Sahira Carolina Vasquez Baez, Technologist, Free University of Bozen-Bolzano, from January 2023.

Main supervisor of the following "assegno di ricerca" (AR):
- Pietro Ibba, Postdoctoral researcher, Free University of Bozen-Bolzano, from January 2021 to September 2022.
- Giada Cattelan, Postdoctoral researcher, Free University of Bozen-Bolzano, from October 2022.
- Mattia Petrelli, Postdoctoral researcher, Free University of Bozen-Bolzano, from January 2023 to September 2023.
- Ahmed Rasheed, Postdoctoral researcher, Free University of Bozen-Bolzano, from July 2023.
- Giuseppe Ciccone, Postdoctoral researcher, Free University of Bozen-Bolzano, from January 2024.
- Arvind Gurusekaran, Postdoctoral researcher, Free University of Bozen-Bolzano, from February 2024.

PhD Student Supervision at Free University of Bolzano-Bozen:

Main supervisor of the following Ph.D. theses:
- Elia Scattolo, "Advanced Photonic Nanostructures for Optical Sensing", Ph.D. in *Advanced Systems Engineering*, 35th cycle in collaboration (and co-financing) with Fondazione Bruno Kessler (FBK), Free University of Bolzano-Bozen, from November 2019 to July 2023.
- Mattia Petrelli, "Printed Wearable Sensors for Real-Time Monitoring of Muscular Activity", Ph.D. in *Advanced Systems Engineering*, 35th cycle in collaboration (and co-financing) with Italian Institute of Technology (IIT), Free University of Bolzano-Bozen, from November 2019 to December 2023.
- Mukhtar Ahmad, "Biodegradable Wireless Sensors for Precision Agriculture", Ph.D. in *Advanced Systems Engineering*, 35th cycle, Free University of Bolzano-Bozen, from November 2019 to December 2023.
- Raheel Riaz, "Smart Wearable Device for Mountain Sports and Rescue Activities", Ph.D. in *Advanced Systems Engineering*, 35th cycle in

collaboration (and co-financing) with Eurac Research, Free University of Bolzano-Bozen, from November 2019 to December 2023.
- Saleh Hamed, "Sustainable Plant-based Sensors for Plant Health Monitoring", Ph.D. in *Advanced Systems Engineering*, 36th cycle in collaboration (and co-financing) with Italian Institute of Technology (IIT), Free University of Bolzano-Bozen, from November 2020 to now.
- Arvind Gurusekaran, "Development of Coatings and Components on Polymers Suitable for Space Applications", Ph.D. in *Advanced Systems Engineering*, 36th cycle in collaboration (and co-financing) with Thales Alenia, Free University of Bolzano-Bozen, from November 2020 to now.
- Antonio Orlando, "Innovative Printed Nanomaterials for Selective Gas Sensing Applications", Ph.D. in *Advanced Systems Engineering*, 37th cycle in collaboration (and co-financing) with Fondazione Bruno Kessler (FBK), Free University of Bolzano-Bozen, from November 2021 to now.
- Giovanna Gentile, "Optoelectrical Monitoring of Autonomic Modulation of Cardiac Cells", Ph.D. in *Advanced Systems Engineering*, 37th cycle in collaboration (and co-financing) with Eurac Research, Free University of Bolzano-Bozen, from November 2021 to now.
- Eduardo Suraci Picchiotti, "Development of a Low-cost, Energy-efficient Sensor Platform for Field Monitoring of Crop Stress Conditions for Precision Agriculture", Ph.D. in *Advanced Systems Engineering*, 37th cycle in collaboration (and co-financing) with Fondazione Bruno Kessler (FBK) and Tessa Agritech, Free University of Bolzano-Bozen, from January 2022 to now.
- Moritz Ploner, "Cytokine Detection in Sweat for Wearable Devices in E-Health Applications", Ph.D. in *Advanced Systems Engineering*, 38th cycle in collaboration (and co-financing) with Empatica, Free University of Bolzano-Bozen, from November 2022 to now.
- Camilo Eduardo Tellez Villamiraz, "Skin Conformal Dry Electrodes for Impedance Plethysmography Measurements", Ph.D. in *Advanced Systems Engineering*, 38th cycle, Free University of Bolzano-Bozen, from November 2022 to now.
- Guglielmo Trentini, "Organic-based Membranes for Selective Permeation of Specific Target Gases for Enhanced Selectivity in Low-cost Gas Sensors", Ph.D. in *Advanced Systems Engineering*, 38th cycle in collaboration (and co-financing) with Fondazione Bruno Kessler (FBK), Free University of Bolzano-Bozen, from November 2022 to now.
- Ciro Allarà, "Electronic Enhancement of Bio-photosynthetic Systems", Ph.D. in *Advanced Systems Engineering*, 38th cycle, Free University of Bolzano-Bozen, from November 2022 to now.

Bachelor/Master Student Supervision at Free University of Bolzano-Bozen:

Academic tutor for the following bachelor thesis:
- Academic year 2020/2021
  - Elena Helfer, B.Sc. in *Wood Engineering*, Free University of Bolzano-Bozen, from June 2020 to July 2021.
- Academic year 2021/2022
  - Ludwig Julius Ließmann, B.Sc. in *Wood Engineering*, Free University of Bolzano-Bozen, from March 2021 to July 2023.
  - Luca Finozzi, B.Sc. in *Wood Engineering*, Free University of Bolzano-Bozen, from December 2021 to July 2022.
- Academic year 2022/2023

- Anna Berger, B.Sc. in *Industrial and Mechanical Engineering*, Free University of Bolzano-Bozen, from October 2022.
- Giulia Dillon, B.Sc. in *Wood Engineering*, Free University of Bolzano-Bozen, from March 2023.
- Jonah Kersting, B.Sc. in *Industrial and Mechanical Engineering*, Free University of Bolzano-Bozen, from April 2023.
- Julian Schwellensattl, B.Sc. in *Industrial and Mechanical Engineering*, Free University of Bolzano-Bozen, from May 2023.

Referee for the following master thesis:

- Academic year 2021/2022
  - Arvind Das, M.Sc. in *Food Sciences for Innovation and Authenticity*, Free University of Bolzano-Bozen, from April 2022 to March 2023.

Other Academic Responsibilities or Appointments

Internal Appointments at Free University of Bolzano-Bozen

- **Responsible for the Sensor System Technology Laboratories** at NOI Techpark, Free University of Bolzano-Bozen (March 2019 – now).
- **Member of the Technical Committee for the Purchase** of a Probe Station and a Parameter Analyzer at the Faculty of Science and Technology (April 2019 – February 2020).
- **Member of the Scientific Committee ("Collegio Docenti") of the PhD Program Advanced Systems Engineering** (ASE) at the Faculty of Engineering of the Free University of Bolzano-Bozen (April 2019 – now).
- **Member of Various Faculty Hiring Committees** for Assistant Professors, Research Assistants, Technologists, Commissioned Researchers and Adjunct Professors (July 2019 – now).
- **Member of the Competence Center "Health of the Plants"** at the Free University of Bolzano-Bozen (December 2020 – now).
- **Member of the Quality Committee** of the Free University of Bolzano-Bozen (May 2021 – July 2023).
- **Member of the Technical Committee for the Purchase** of a Sputter Machine at the Faculty of Science and Technology (May 2021 – July 2021).
- **Member of the Technical Committee for the Purchase** of a Probe Station and a Parameter Analyzer at the Faculty of Engineering of the Free University of Bolzano-Bozen (February 2022 – April 2022).
- **Course Director of the B.Sc. in Electronic and Cyber-Physical Systems Engineering** (L-8) at the Faculty of Engineering, Free University of Bolzano-Bozen (September 2022 – now).
- **Member of the Scientific Committee ("Collegio Docenti") of the National PhD program Micro- and Nano-Electronics** (MNE) coordinated by the University of Pavia (September 2023 – now).

External Appointments at National/International Level

- **Local Unit Responsible for the Italian Electronic Society** (June 2021 – now).
- **Local Unit Responsible for the Inter University Consortium for Nanoelectronics** (IUNET) (January 2022 - now).
- **Member of the Board of Governor (BoG)** of the IEEE Electron Device Society (EDS).
- **Member of the Flexible Electronics and Display Technical Committee** of IEEE EDS (January 2020 – now).

- **Member of the Special Interest Group on Electronics for Agrifood** of IEEE CASS (June 2020 – now).
- **Member of Women in EDS (WiEDS) Committee** of IEEE EDS (November 2020 – now).
- **Member of Additive Manufactured Electronic Systems (AMES) Technical Committee** of IEEE RFiDC (January 2022 – now).
- **Member of the MEMS and Nanotechnologies Technical Committee** of IEEE IES (January 2022 – now).
- **Member of Meetings Committee** of IEEE EDS (January 2023 – now).

Responsibilities for Organizing Conferences

- **Member of the Organizing Committee** at the 11th Body Sensor Network Conference, ETH Zurich, Zurich, Switzerland (17-18 June 2014).
- **Organizer** of the Workshop *Technologies for the Futures*, NOI Techpark Bolzano, Bolzano, Italy (28th September 2020).
- **Chair** of the Focused Session "Emerging Technologies for Flexible and Printed Energy Autonomous Sensing Systems" at the *IEEE Sensors Conference 2020*, online (25-28 October 2020).
- **Technical Co-Chair** of the *IEEE International Flexible Electronics Technology Conference (IFETC) 2021*, hybrid (8-11 August 2021).
- **Chair** of the "Flexible & Wearable Electronics" Subcommittee of the *IEEE Electron Device Technology Manufacturing (EDTM) 2022,* online (6-9 March 2022).
- **Chair** of the "Flexible & Wearable Electronics" Tutorial and Short Courses Session of the *IEEE Electron Device Technology Manufacturing (EDTM) Conference 2022*, online (6-9 March 2022).
- **Chair** of the Special Session "Wearable Sensors and Devices for Unobtrusive Human Activities and Physiological Monitoring" of the *IEEE International Workshop on Metrology for Industry 4.0 & IoT 2022*, Trento, Italy (7-9 June 2022).
- **Awards Co-Chair** of the *IEEE Flexible and Printed Sensors Conference (FLEPS) 2023*, Boston, US (10-14 June 2023).
- **Technical Co-Chair** of the *IEEE International Flexible Electronics Technology Conference (IFETC) 2023*, San Jose, US (14-16 August 2023).
- **Special Session Chair** of the *IEEE Conference on AgriFood Electronics (CAFE) 2023*, Turin, Italy (25-27 September 2023).
- **Program Committee Member** of the *Innovations in Large Area Electronics Conference (InnoLAE)* 2024, Cambridge, UK (20-22 February 2024)
- **Track Chair** of the "Sensors, Flexible & Bioelectronics" Subcommittee of the *IEEE Electron Device Technology Manufacturing (EDTM) 2024*, Bangalore, India (3-6 March 2024).
- **General Chair** of the IEEE *International Flexible Electronics Technology Conference (IFETC) 2024*, Bologna, Italy (15-18 September 2023).
- **Organizer** of Symposium "Innovations in Materials and Processes for Printed, Flexible and Stretchable Energy-autonomous Sensing Systems" at the *2024 Materials Research Society (MRS) Fall Meeting*, Boston, USA (1-6 December 2024).

Memberships

Membership of Academic or Professional Bodies

- **Senior Member** of the IEEE since 2021 (previously, since 2012,

Member).
- **Member** of the IEEE Young Professionals (YP) since 2014.
- **Member** of the IEEE Electron Device Society (EDS) since 2015.
- **Member** of the IEEE Women in Engineering Society (WIE) since 2015.
- **Member** of the IEEE Solid-State Circuits Society (SSCS) since 2016.
- **Member** of the Engineering in Medicine and Biology Society (EMBS) since 2021.
- **Member** of the Circuits and Systems Society (CASS) since 2021.
- **Member** of the Italian Electronic Society (SIE) since 2021.

Membership of Editorial Boards
- **Associate Editor in Chief** of *IEEE Journal on Flexible Electronics* (IEEE JFLEX) (September 2023 – now).
- **Associate Editor** of *Frontiers in Electronics* (August 2020 – now).
- **Associate Editor** of *IEEE Transaction on Agrifood Electronics (IEEE TAFE)* (January 2023 – now).
- **Review Editor** of *Frontiers in Nanotechnology* (May 2020 – now).
- **Guest Editor** of the *IEEE Journal of Flexible Electronics (IEEE J-FLEX)* Special Issue "Thin-Film Transistor Technologies".
- **Guest Editor** of the *IEEE Electron Devices Magazine (IEEE EDM)* Special Issue "Large-Area and Flexible Electronics" (July 2023 – now).
- **Guest Editor** of the *IEEE Journal of Flexible Electronics (IEEE J-FLEX)* Special Topic "Extension of the Proceedings of the IEEE IFETC 2022 Conference" (August 2022 – September 2023).
- **Guest Editor** of the *Frontiers in Electronics* Research Topic "Flexible Oxide Semiconductor Based Thin-Film Transistors and Circuits" (November 2020 – now).
- **Guest Editor** of the Special Issue of "Flexible and Stretchable Electronic Sensors" in *MDPI Sensors* (2019-2020).

Membership of Committees/Boards for International Conferences
- **Member of the Technical Program Committee** (TPC) of the *IEEE Electron Device Technology Manufacturing (EDTM) Conference 2021*, online (8-11 April 2021).
- **Member of the Scientific Committee** of the *IEEE Flexible and Printed Sensors (FLEPS) Conference* 2020, online (17-19 August 2020).
- **Member of the Scientific Committee** of the *IEEE International Flexible Electronics Technology Conference (IFETC) 2021,* online (8-11 August 2021).
- **Member of the Technical Program Committee** (TPC) of the *IEEE Electron Device Technology Manufacturing (EDTM) Conference 2022*, online (hybrid, 6-9 March 2022).
- **Member of the International Advisory Board** of the *2nd International Conference on Micro/Nanoelectronics, Devices, Circuits and Systems (MNDCS22),* online (29-21 January 2022).
- **Member of the Technical Program Committee** (TPC) of the *IEEE International Flexible Electronics Technology Conference (IFETC) 2023*, San Jose, US (14-16 August 2023).
- **Member of the Technical Program Committee** (TPC) of *IEEE Conference on Agrifood Electronics* (CAFE) 2023, Turin, Italy (25-27 September 2023).
- **Member of the Technical Program Committee** (TPC) of the *IEEE Electron Device Technology Manufacturing (EDTM) 2024*, Bangalore,

India, (3-6 March 2022)

Membership of Commissions of Trust

- **Reviewer** of the H2020 IA project "High-ACCuracy printed electronics down to µm size, for Organic Large Area Electronics (OLAE) Thin Film Transistor (TFT) and Display Applications".
- **Scientific Evaluator** of the H2020 FET-OPEN RIA Call 2016-2017 "Novel Ideas for Radically New Technologies" and of the H2020 ICT-2018-2 Call "Flexible and Wearable Electronics".
- **Vice-Chair** (Quality Control) of the H2020 FET-OPEN RIA Call 2018-2020 "FET-Open Challenging Current Thinking".
- **Scientific Evaluator** of the Deutsche Forschungsgemeinschaft (DFG).
- **Scientific Evaluator** of the Academy of Finland.
- **Scientific Evaluator** for KAUST.

Membership of Ph.D. Evaluation Committees

- Pietro Ibba, "Fruit Quality Evaluation Using Electrical Impedance Spectroscopy", PhD in Food Engineering and Biotechnology at Free University of Bolzano-Bozen, online, 16th July 2021.
- Raphael Tiziani, "Root Processes Shaping Spatial and Temporal Nutrient Dynamics and Gradients in the Rhizosphere to improve Crop Yield and its Quality", PhD in Food Engineering and Biotechnology at Free University of Bolzano-Bozen, online, 16th July 2021.
- Francisco Romero, "Design, Modeling and Fabrication of Flexible Sensors for IoE Applications using Emerging Technologies", Ph.D. in Information and Communication Technologies at the University of Granada, online, 9th July 2021.
- Arunprabaharan Subramanian, "Metal Oxides for Ion-Gated Transistors", Ph.D. in Materials Engineering at Polytechnique Montreal, online, 22nd December 2021.
- Daniel Corzo, "Ink Formulation, Green Processing, and Integration Strategies for Printable Organic Photovoltaics", Ph.D. in Material Science Engineering at KAUST, Saudi Arabia, online, 22nd June 2022.
- Alina Sharova, "Edible Organic Transistors and Circuits Operating at Low Voltage", Ph.D. in Physics at Politecnico di Milano, Italy, 8th July 2022.
- Valentina Tolardo, "Synthesis, Characterization and Toxicological Assessment of a new model of Nanoplastics", Ph.D. in Bioengineering and Robotics at the University of Genova, Italy, online, 27th July 2022.
- Rassen Boukraa, "Analogue Voltage Inverter from Electrolyte Gated Graphene Field Effect Transistors for Ion Sensing Applications in Aqueous Media", Université Paris Cité, Paris, France, 4th October 2023.

Research Projects

Research Projects:

In the last 6 years, Prof. Luisa Petti has been principal investigator (PI), unit leader, or responsible of the following projects:

Period	Award Holder/ Responsible	Funding Body	Title / Topic	Budget (own share)
2024 – 2026	Luisa Petti (responsible)	Bando mobilità ricercatori 2023, Provincia	BIOelectronic microfluidic platform to study neuronal REgeneration of SEnsory	170,4 k€

		Autonoma di Bolzano	Neurons (BioReSeN)	
2023 – 2025	Luisa Petti (unit leader)	PRIN 2022	BIOdegradable thin film ELectronics for massively deployable and sustainable internet of things applications (BIOEL)	79,5 k€
2023 – 2024	Luisa Petti (coordinator)	Fondazione Cassa di Risparmio di Bolzano and Loacker Ag (Fusion Grant 2022)	Towards smart factories: SENSorization and digitalization of the production plant for wasteWATER monitoring (SENSWATER)	50,4 k€
2023 – 2024	Luisa Petti (responsible)	UNIBZ (Near Misses Call 2022)	Flexible and sustainable electronics	40 k€
2023 – 2026	Luisa Petti (responsible)	COMET K1 Centre Project (Research Agreement)	Sustainable sensors on cellulose	40 k€
2022 – 2023	Luisa Petti (responsible)	UNIBZ (Teaching Investments)	Unibz grant for the set-up of the teaching laboratories of the B.Sc. in Electronics and Cyber-Physical Systems Engineering (L8)	1,5 M€
2022 – 2025	Luisa Petti (responsible)	Eurac Research (Research Contribution)	Autonomic modulation of cardiac cells in a dish: set up of a NEUROcardiac construct and OPTOelectrical monitoring (NEURO–OPTO)	96 k€
2022	Luisa Petti (responsible)	Pizzolli Spa (Commissioned Research Contract)	Electrical impedance spectroscopy measurements of potato samples (KARTEIS)	3 k€
2021	Luisa Petti (responsible)	Holz Pichler Ag (Commissioned Research Contract)	PRINTing tests with conductive inks on WOOD (PRINTWOOD)	0,8 k€
2021 – 2024	Luisa Petti (responsible)	UNIBZ (Start-up Funds)	Electronic enhancement of bio-photosynthetic systems (ELPLANT)	50 k€
2020 – 2023	Luisa Petti (coordinator)	UNIBZ (ID Call 2020)	New directions in statistical methods for BIO-impedance analysis of FRUIT ripeness (BIOFRUIT)	100 k€
2019 – 2026	Luisa Petti (responsible)	10 PhD External (Co)Fundings from IIT (2), FBK (3), Laimburg (1), EURAC (2), EMPATICA (1), Thales Alenia (1)	Various PhD Topics (see pp. 8-9)	313 k€
2019 – 2022	Luisa Petti (responsible)	UNIBZ (RTD Call 2019)	Environmentally friendlY ElectRonics on PapEr (EYRE)	13,5 k€

In the last 6 years, Prof. Luisa Petti has been co-investigator or team member of the following research projects:

Period	**Award Holder/ Responsible**	**Funding Body**	**Title / Topic**	**Budget (unibz share)**
2024 – 2026	Erwin Rauch (unit leader)	Erasmus+ KA	Smaller Universities for Sustainability in Engineering	97,8 k€

			Education (SUSEE)	
2022 – 2025	Renato Vidoni (unit leader)	Horizon Europe	Physical cognition for intelligent control and safe human robot interaction (SESTOSENSO)	273 k€
2022 – 2025	UNIBZ	PNNR	PNNR national research center for AGRIcultural TECHnologies (AGRITECH)	250 k€ (own share)
2022 – 2024	Martina Aurora Costa Angeli	UNIBZ (ID call 2022)	WEarable self-powered textile sensors for health CARE applications (WE-CARE)	110 k€
2022 – 2024	Paolo Lugli	CH Joint Project	IN MEmory sensing (IN-ME)	245 k€
2022	Merlyne De Souza	IEEE EDS Project Funds	Creating video material for promoting women in EDS	15 k€
2021 – 2023	Niko Münzenrieder (unit leader)	Royal Society (International Exchanges Scheme 2020)	Integrated flexible sensor Conditioning Circuits for high performance wearables (ICC)	13,4 k€
2020 – 2023	Paolo Lugli	UNIBZ (ID call 2020)	discovering complexity: Advanced Technology for Narrative Education and System Thinking (AT-NE-ST)	163 k€
2020 – 2023	Giuseppe Cantarella	UNIBZ (RTD call 2020)	Flexible ElectRonics-integrated MIcromachines (FERMI)	13,7 k€
2019 – 2023	Niko Münzenrieder	DFG FFlexCom project	WIreless Indium-Gallium-Zinc-Oxide TranSmitters and Devices On Mechanically Flexible Thin-Film Substrates II (WISDOM II)	283 k€
2019 – 2022	Paolo Lugli	EFRE-FESR-2014-2020	Smart TEXtile for monitoring muscles activity (STEX)	623,9 k€
2018 – 2022	Paolo Lugli	UNIBZ (ID call 2017)	Sustainable Smart Parasites (SSP)	198 k€
2018 – 2021	Paolo Lugli	EFRE-FESR-2014-2020	SENSing LABoratory (SensLab)	1,5 Mk€

As shown above, Prof. Petti's research activities are based on a wide range of regional, national, and international collaborations from both academic and industrial partners. Just to mention a few, these collaborations include Microgate, Tex Market, Loacker, Dolomites Milk, Kerr Italy, Empatica, Thales Alenia, Microtec, Biometic, Tessa Agritech, Eurac Research, Laimburg Research, Fondazione Bruno Kessler, Istituto Italiano di Tecnologia, Università di Trento, Università di Verona, Università di Venezia Cà Foscari, Università di Modena e Reggio Emilia, Università di Padova, Università di Roma Tor Vergata, Università della Tuscia, Politecnico di Milano, Politecnico di Torino, Technische Universität München, ETH Zurich, EPFL, Universidad de Granada, University of Oslo, Universitè Paris Citè, University of Sussex, University of Surrey, Hemholtz Zentrum Dresden Rossendorf, University of Duisburg-Essen, Technical University of Denmark, Ludwig Maximilians University in Munich.

Publications

Luisa Petti is author of **149 (157) SCOPUS (Google Scholar) listed publications**, and co-inventor of 2 patent applications (1 granted). According to SCOPUS (Google Scholar) her **H-Index is 32 (35)**, with a **total number of citations of 3172 (4039)**.

Bibliometric Indexes - Prof. Luisa Petti		
	Values for ING-INF/01 for full professors	***Values for Luisa Petti (according to SCOPUS)***
Number of publications last 10 years	*18*	***131***
Number of citations last 15 years	*462*	***3172***
H-index last 10 years	*13*	***32***

Publications in the Last 10 Years (2013-2023):

a. Journal Articles in Refereed Academic Journals *(Main Author in Italics)*

1. *C. Zysset*, N. Münzenrieder, **L. Petti**, L. Büthe, G. A. Salvatore, and G. Tröster, "IGZO TFT-Based All-Enhancement Operational Amplifier Bent to a Radius of 5 mm," in Electron Device Letters 34 (11), pp. 1394-1396, 2013, doi: 10.1109/LED.2013.2280024.
2. *G. A. Salvatore*, N. Münzenrieder, C. Barraud, **L. Petti**, C. Zysset, L. Büthe, K. Ensslin, and G. Tröster, "Fabrication and Transfer of Flexible Few-Layers MoS_2 Thin Film Transistors to Any Arbitrary Substrate," in ACS Nano 7 (10), pp. 8809-8815, 2013, doi: 10.1021/nn403248y.
3. *C. Perumal*, K. Ishida, R. Shabanpour, B. K. Boroujeni, **L. Petti**, N. Münzenrieder, G. A. Salvatore, C. Carta, G. Tröster, and F. Ellinger, "A Compact a-IGZO TFT Model Based on MOSFET SPICE Level=3 Template for Analog/RF Circuit Designs," in IEEE Electron Device Letters 34 (11), pp. 1391-1393, 2013, doi: 10.1109/LED.2013.2279940.
4. *C. Zysset*, T. Kinkeldei, N. Münzenrieder, **L. Petti**, G. A. Salvatore, and G. Tröster, "Combining electronics on flexible plastic strips with textiles," in Textile Research Journal 83 (11), pp. 1130-1142, 2013, doi: 10.1177/0040517512468813.
5. *N. Münzenrieder*, C. Zysset, **L. Petti**, T. Kinkeldei, G. A. Salvatore, and G. Tröster, "Flexible self-aligned amorphous InGaZnO thin-film transistors with sub-micrometer channel length and a transit frequency of 135 MHz," in IEEE Transactions on Electron Devices 60 (9), pp. 2815-2820, 2013, doi: 10.1109/TED.2013.2274575.
6. *C. Zysset*, N. Nasseri, L. Büthe, N. Münzenrieder, T. Kinkeldei, **L. Petti**, S. Kleiser, G. A. Salvatore, M. Wolf and, and G. Tröster, "Textile Integrated Sensors and Actuators for Near-Infrared Spectroscopy," in Optics Express 21 (3), pp. 3213-3224, 2013, doi: 10.1364/OE.21.003213.
7. *N. Münzenrieder*, C. Zysset, **L. Petti**, T. Kinkeldei, G. A. Salvatore, and G. Tröster, "Room temperature fabricated flexible NiO/IGZO pn diode under mechanical strain," in Solid-State Electronics 87, pp. 17-20, 2013, doi: 10.1016/j.sse.2013.04.030.
8. *N. Münzenrieder*, C. Zysset, **L. Petti**, T. Kinkeldei, G. A. Salvatore, and G. Tröster, "Flexible double gate a-IGZO TFT fabricated on free standing polyimide foil," in Solid-State Electronics 84, pp. 198-204, 2013, doi: 10.1016/j.sse.2013.02.025.
9. *G. A. Salvatore*, N. Münzenrieder, T. Kinkeldei, **L. Petti**, C. Zysset,

I. Strebel, L. Büthe, and G. Tröster, "Wafer-scale design of lightweight and transparent electronics that wraps around hair," in Nature Communications 5 (2982), pp. 1-8, 2014, doi: 10.1038/ncomms3982.

10. *N. Münzenrieder*, P. Voser, **L. Petti**, C. Zysset, L. Büthe, C. Vogt, G. A. Salvatore, and G. Tröster, "Flexible Self-Aligned Double-Gate IGZO TFT," in IEEE Electron Device Letters 35 (1), pp. 69-71, 2014, doi: 10.1109/LED.2013.2286319.
11. *N. Münzenrieder*, G. A. Salvatore, **L. Petti**, C. Zysset, L. Büthe, C. Vogt, G. Cantarella, and G. Tröster, "Contact resistance and overlapping capacitance in flexible sub-micron long oxide thin-film transistors for above 100 MHz operation," in Applied Physics Letters 105 (26), p. 263504, 2014, doi: 10.1063/1.4905015.
12. ***L. Petti***, N. Münzenrieder, G. A. Salvatore, C. Zysset, T. Kinkeldei, L. Büthe, and G. Tröster, "Influence of mechanical bending on flexible InGaZnO-based ferroelectric memory TFTs," in IEEE Transactions on Electron Devices 61 (4), pp. 1085-1092, 2014, doi: 10.1109/TED.2014.2304307.
13. *D. Karnaushenko*, N. Münzenrieder, D. D. Karnaushenko, B. Koch, A. K. Meyer, S. Baunack, **L. Petti**, G. Tröster, D. Makarov, and O. G. Schmidt, "Biomimetic Microelectronics for Regenerative Neuronal Cuff Implants," in Advanced Materials 27 (43), pp. 6797-6805, 2015, doi: 10.1002/adma.201503696.
14. *N. Münzenrieder*, G. Cantarella, C. Vogt, **L. Petti**, L. Büthe, G. A. Salvatore, Y. Fang, R. Andri, Y. Lam, R. Libanori, D. Widner, A. Studart, and G. Tröster, "Stretchable and Conformable Oxide Thin-Film Electronics," in Advanced Electronic Materials 1 (3), p. 1400038, 2015, doi: 10.1002/aelm.201400038.
15. *G. Cantarella*, N. Münzenrieder, **L. Petti**, C. Vogt, L. Büthe, G. A. Salvatore, A. Daus, and G. Tröster, "Flexible In-Ga-Zn-O Thin-Film Transistors on elastomeric substrate bent to 2.3%," in IEEE Electron Device Letters 36 (5), pp. 475-477, 2015, doi: 10.1109/LED.2015.2442271.
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doi: 10.1007/s10470-015-0655-3.
20. *N. Münzenrieder*, D. Karnaushenko, **L. Petti**, G. Cantarella, C. Vogt, L. Büthe, D. Karnaushenko, O. G. Schmidt, D. Makarov, and G. Tröster, "Entirely flexible on-site conditioned magnetic sensorics," in Advanced Electronic Materials, p. 1600188, 2016, doi: 10.1002/aelm.201670043.
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24. *A. Daus*, C. Vogt, N. Münzenrieder, **L. Petti**, S. Knobelspies, G. Cantarella, M. Luisier, G. A. Salvatore, G. Tröster, "Positive charge trapping phenomenon in n-channel thin-film transistors with amorphous alumina gate insulators," in Journal of Applied Physics 120 (24), p. 244501, 2016, doi: 10.1063/1.4972475.
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29. *G. Cantarella*, C. Vogt, R. Hopf, N. Münzenrieder, P. Andrianakis, **L. Petti**, A. Daus, S. Knobelspies, L. Büthe, G. Tröster, and G. A. Salvatore, "Buckled Thin-Film Transistors and Circuits on Soft Elastomers for Stretchable Electronics," in ACS Applied Materials & Interfaces, 2017, doi: 10.1021/acsami.7b08153.
30. ***L. Petti***, P. Pattanasattayavong, Y. H. Lin, N. Münzenrieder, G. Cantarella, N. Yaacobi-Gross, F. Yang, G. Tröster, and T. D

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spray deposition and drift through electrical conductivity and fluorescence", 2022 IEEE Workshop on Metrology for Agriculture and Forestry (MetroAgriFor), 2022, doi: 10.1109/MetroAgriFor55389.2022.9964955.

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64. S. Hamed, P. Ibba, A. Altana, P. Lugli, and **L. Petti**, "Towards Tomato Plant Iron Stress Monitoring Through Bioimpedance and Circuit Analysis", 2023 IEEE Conference on AgriFood Electronics (CAFE), 2023, doi: 10.1109/CAFE58535.2023.10292001.
65. S. Vasquez, P. Ibba, A. Altana, MA. Costa Angeli, A. Rivadeneyra, P. Lugli, and **L Petti**, "Paper-based Impedimetric Sensor for on-Plant Humidity and Transpiration Monitoring", 2023 IEEE Conference on AgriFood Electronics (CAFE), 2023, doi: 10.1109/CAFE58535.2023.10291980.
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c. Book Chapters *(Main Author in Italics*)

1. *MA. Costa Angeli*, M. Ciocca, **L. Petti**, P. Lugli, "Advances in printing technologies for soft robotics devices applications", Advanced in Chemical Engineering, 2021, doi: /10.1016/bs.ache.2021.05.001.

d. Journal Cover Pages *(Main Author in Italics*)

1. *N. Münzenrieder*, D. Karnaushenko, **L. Petti**, G. Cantarella, C. Vogt, L. Büthe, D. Karnaushenko, O. G. Schmidt, D. Makarov, and G. Tröster, "Entirely flexible on-site conditioned magnetic sensorics," in Advanced Electronic Materials, 2016.
2. *D. Karnaushenko*, N. Münzenrieder, D. D. Karnaushenko, B. Koch, A. K. Meyer, S. Baunack, **L. Petti**, G. Tröster, D. Makarov, and O. G. Schmidt, "Biomimetic Microelectronics for Regenerative Neuronal Cuff Implants," in Advanced Materials, 2015.
3. *N. Münzenrieder*, G. Cantarella, C. Vogt, **L. Petti**, L. Büthe, G. A. Salvatore, Y. Fang, R. Andri, Y. Lam, R. Libanori, D. Widner, A. Studart, and G. Tröster, "Stretchable and Conformable Oxide Thin-Film Electronics," in Advanced Electronic Materials, 2015.
4. *B. Shkodra*, B.D. Abera, G. Cantarella, A. Douaki, E. Avancini, **L. Petti**, and P. Lugli, "Flexible and Printed Electrochemical Immunosensor Coated with Oxygen Plasma Treated SWCNTs for Histamine Detection," in Biosensors 10(4), 2020.
5. *B. Shkodra*, M. Petrelli, M. A. Costa Angeli, D. Garoli, N. Nakatsuka, P. Lugli, and **L. Petti**, "Electrolyte-gated carbon nanotube field-effect transistor-based biosensors: Principles and applications", Applied Physics Reviews 8(4), 041325, 2021.
6. *G. Cantarella*, M. Madagalam, I. Merino, C. Ebner, M. Ciocca, A. Polo, P. Ibba, P. Bettotti, A. Mukhtar, B. Shkodra, AKM. S. Inam, AJ. Johnson, A. Pouryazdan, M. Paganini, R. Tiziani, T. Mimmo, S. Cesco, N. Münzenrieder, **L. Petti**, N. Cohen, P. Lugli, "Laser-Induced, Green and Biocompatible Paper-Based Devices for Circular Electronics", Advanced Functional Materials 33 (17), 2023.
7. *R. Riaz*, B. Dudem, MA. Costa Angeli, A. Douaki, M. Ahmad, A.

Mejia-Aguilar, R. Monsorno, P. Lugli, SRP Silva, **L. Petti**, "Surface Textured Double Layer Triboelectric Nanogenerator for Autonomous and Ultra-Sensitive Biomedical Sensing", Advanced Materials Technologies 8 (13), 2023.

8. *B. Shkodra*, M. Petrelli, KA. Yang, A. Tagliaferri, P. Lugli, **L. Petti**, N. Nakatsuka, "Polymeric integration of structure-switching aptamers on transistors for histamine sensing", Faraday Discussions, 2024.

Publications About the Applicant

Mentions in Newspapers/Magazines:

- **L. Petti**, "Hybridization and Thin-Film Sensors Key Enablers of Flexible Electronics Today", *Electronics for You*, May 2015.
- **L. Petti**, "Awarded", Südtiroler Wirtschaftszeitung, January 2020.
- **L. Petti**, "High-tech und Motherhood", *Academia* + *Salto.bz* + *Südtirol News*, February 2020.
- **L. Petti**, P. Lugli, and B. Shkodra, "Università di Bolzano: ricerca su sensori e anticorpi per prevenire le intossicazioni alimentari", *Academia* + *Italicom.net* + *Tecnomedicina.it* + *Automazione-plus.it* + *Macchinealimentari.it* + *Dolomiten* + *La Usc Di Ladins* + *Teknoscienze.com* + *Innovami.news*, April-May 2020.
- **L. Petti**, "Jenseits der Klischees", *Die Südtiroler Frau*, June 2020.
- **L. Petti**, "La maglietta che misura la fatica e le altre invenzioni del Senslab, il nuovo laboratorio Unibz al NOI Techpark", *Salto.bz*, 6th November 2020.
- **L. Petti**, P. Lugli, and E. Avancini, "Tecnologie per il futuro: ecco il «Senslab», il nuovo laboratorio di unibz al NOI", *Alto Adige Innovazione* + *Südtirol News* + *La Usc Di Ladins* + *Dolomiten*, September 2020.
- **L. Petti,** "Luisa Petti: Reflections from an EDS Young Professional", *IEEE Electron Devices Society (EDS) Newsletter*, July 2021.
- **L. Petti**, T. Mimmo, R. Vidoni, H. Schuler, F. Mazzetto, and G. Orzes," Plant Health 4.0", Academia, December 2021.
- **L. Petti,** P. Lugli, B. Shkodra, and M. Petrelli, "Scientific Advances of Electrolyte-Gated Carbon Nanotube Field-Effect Transistor Biosensors"; Azonano, December 2021.
- **L. Petti** "Wir wollen transversales Wissen und vertikale Kompetenzen vermitteln", *Unibz News* + *Südtirol News* + *Dolomiten* + *Alto Adige Innovazione*, July 2022.
- **L. Petti**, "Dalla buccia al condensatore", *Salto.bz* + *Unibz News* + *Südtirol News* + *Dolomiten* + *Alto Adige Innovazione*, August 2023.
- **L. Petti,** G. Cantarella, and P. Lugli, "Elektronikkomponenten aus Obstabfällen", *Unibz News* + *Südtirol News* + *Dolomiten* + *Alto Adige Innovazione*, July 2023.
- **L. Petti,** MA. Costa Angeli, and P. Lugli, "UniBz, realizzati nuovi sensori triboelettrici per applicazioni indossabili", *Unibz News* + *Technomedicina.it* + *30science.com* + *Stol.it* + *Südtironews.it* + *Magazine-Italia.it* + *Alto Adige Innovazione* + *Labussolanews.it* + *Ilcorrieredibologna.it*, September 2023.
- **L. Petti**, and MA. Costa Angeli, "Tessuti intelligenti grazie all'elettronics", Newsletter Società Italiana di Elettronica, November 2023.

Participation to Radio/TV/Podcast Services:

- **L. Petti** and N. Münzenrieder, in Südtirol forscht, *Radio Südtirol*, Bolzano, February 2020.
- **L. Petti** and P. Lugli, "Al Senslab di Bolzano di studiano i sensori per la società dei big data", *RAI TGR Alto Adige* and *RAI TG Leonardo*, December 2020.
- **L. Petti** and P. Lugli, "Das neue Senslab an der Freien Universität Bozen", in *ORF Südtirol Heute*, April 2021.
- **L. Petti,** "Cosa è la sensoristica?", Unibz Insight Podcast on *RAI Radio Alto Adige*, July 2022.
- **L. Petti**, MA. Costa Angeli, A. Scarton, and S. Poliaghi, "The STEX project: a video", *NOI Techpark Podcast*, November 2022.
- **L. Petti**, MA. Costa Angeli, and B. Shkodra, "IEEE WiEDS Video Series on Female in STEM", *IEEE EDS Podcast*, December 2022.
- **L. Petti**, "Luisa Petti: Elektronik Ingenieurin", Unibz Insight Podcast on *RAI Alto Adige*, April 2023.
- **L. Petti** and P. Lugli, "Dagli scarti della frutta circuiti e sensori biodegradabili", *RAI TGR Alto Adige*, July 2023.
- **L. Petti**, N. Cohen, and G. Cantarella, "Dank Laserbehandlung leitfähig-Gedruckte Elektronik aus Obstabfällen", *Deutschlandfunk*, September 2023.

Invited Presentations

Keynote Presentations:

1. **L. Petti**, "Flexible Electronics for Low-Cost and Unobtrusive Sensor Systems Everywhere", in International Conference on Micro/Nanoelectronics Devices, Circuits and Systems, National Institute of Technology Silchar, online, 30th January 2022.
2. **L. Petti,** "Environmentally Friendly Electronics", International Forum Mechatronics, NOI Techpark Bruneck, Bruneck, September 2023.

Invited Presentations:

1. **L. Petti**, N. Münzenrieder, C. Zysset, T. Kinkeldei, G. A. Salvatore, and G. Tröster, "Mechanically flexible InGaZnO-based ferroelectric memory thin-film-transistors," in International Device Physics Young Scientists Symposium (IDYS), Nara, Japan, March 2013.
2. **L. Petti**, P. Aguirre, N. Münzenrieder, G. A. Salvatore, C. Zysset, A. Frutiger, L. Büthe, C. Vogt, and G. Tröster, "Mechanically flexible vertically integrated a-IGZO thin-film transistors with 500 nm channel length fabricated on free standing plastic foil," in Wagner's Group Seminar, Princeton University, US, December 2013.
3. **L. Petti**, N. Münzenrieder, and G. Tröster, "Oxide semiconductor thin-film transistors for flexible electronics," in IIN Seminar, IFW Dresden, Dresden, Germany, July 2014.
4. **L. Petti**, N. Münzenrieder, G. A. Salvatore, C. Zysset, T. Kinkeldei, L. Büthe, C. Vogt, and G. Tröster, "Flexible electronics based on oxide semiconductors," in 21st International Workshop of the IEEE on Active-Matrix Flat-Panel Displays and Devices (AM-FPD), Kyoto, Japan, July 2014.
5. **L. Petti**, N. Münzenrieder, F. Bottacchi, H. Faber, C. Zysset, G. Cantarella, C. Vogt, L. Büthe, T. D. Anthopoulos, and G. Tröster, "Flexible integrated circuits on plastic substrates," in 581. WE-Heraeus-Seminar on Flexible, Stretchable and Printable High-Performance Electronics, Bad Honnef, Germany, January 2015.

6. **L. Petti**, G. Cantarella, and N. Münzenrieder, "Flexible InGaZnO Thin-Film Transistors: Towards High-Frequency and High-Gain Analog Systems on Plastic," in International Symposium on Flexible and Organic Electronics (ISFOE19), Thessaloniki, Greece, July 2019.
7. **L. Petti**, "Flexible InGaZnO Thin-Film Transistors: Towards High-Frequency and High-Gain Analog Systems on Plastic," in electronic-based Systems Event, NOI Techpark, Bolzano, Italy, October 2019.
8. **L. Petti**, B. Shkodra, P. Ibba, B. D. Abera, E. Avancini, G. Cantarella, N. Münzenrieder, and P. Lugli "Flexible and Printed Electronics: From Materials to Sensor Systems", in Arias's Research Group Seminar, University of California Berkeley, Berkeley, US, December 2019.
9. **L. Petti**, G. Cantarella, N. Münzenrieder, and P. Lugli, "Flexible Hybrid Electronics: From Materials to Sensor Systems," in International Symposium on Flexible and Organic Electronics (ISFOE20), online, July 2020.
10. **L. Petti**, B. Shkodra, A. Douaki, P. Ibba, M. Rivola, C. Ebner, M. Costa Angeli, M. Petrelli, E. Avancini, and P. Lugli, "Flexible and Printed Electronics: Overview of Current Activities at the Free University of Bozen-Bolzano," Workshop Technologies for the Future, NOI Techpark Bolzano, Bolzano, Italy, September 2020.
11. **L. Petti**, R. Monsorno, P. Lugli, "Sensor System Technology Laboratory: Overview of Current Activities for Textile Electronics", Webinar Textile Comfort, online, December 2020.
12. **L. Petti**, G. Cantarella, J. C. Costa, N. S. Münzenrieder, "Bendable Metal Oxide Thin-Film Transistors and Circuits for Analog Electronics Applications", SPIE Photonics West, online, March 2021.
13. **L. Petti**, and P. Lugli, "Flexible and Printed Electronics: Overview of Current Activities at the Sensing Technologies Laboratories (STL) of the Free University of Bozen-Bolzano", Caironi's group seminar, online, March 2021.
14. **L. Petti**, G. Cantarella, N. Münzenrieder, P. Lugli, "Flexible electronics and sensorics based on low-cost and high throughput processes", 717. WE-Heraeus-Seminar "Curvilinear Condensed Matter: Fundamentals and Applications", online, June 2021.
15. **L. Petti**, G. Cantarella, N. Münzenrieder, and P. Lugli, "Cost-effective and high throughput processing of flexible electronics: from materials to systems and applications," in International Symposium on Flexible and Organic Electronics (ISFOE21), online, July 2021.
16. **L. Petti**, G. Cantarella, and N. Münzenrieder, "Flexible Amorphous Oxide Thin-Film Transistors for Analog Circuits and Systems" in 2021 IEEE Computer-Aided Thin-Film Transistor (CAD-TDT) conference, online, September 2021.
17. **L. Petti**, G. Cantarella, and N. Münzenrieder, "Flexible Analog Circuits based on Oxide Thin-Film Transistors: from Modelling to Applications" in 18th MOS-AK ESSDERC/ESSCIRC Workshop Grenoble, online, September 2021.
18. **L. Petti** and P. Lugli, "Flexible and printed electronics for sensing and biosensing devices and systems" in International Workshop on Flexible Hybrid Electronics - Manufacturing, Processes & Applications, online, October 2021.
19. **L. Petti**, "Flexible and Printed Sensors and Biosensors: From Materials and Processes to Systems and Applications", in 9th Forum on New Materials, CIMTEC 2022, Perugia, June 2022.

20. **L. Petti**, "Flexible, printed, and sustainable Electronics: Overview of current activities at the sensor system technology laboratory", ERDF Seminar on the Opportunities and development of unconventional electronics, Free University of Bozen Bolzano. November 2022.
21. **L. Petti**, "Functional Materials and Devices for Emerging Bioelectronic Interfaces", in Innovations in Large Area Electronics Conference (innoLAE) 2023, Cambridge, UK, February 2023.
22. **L. Petti**, "Functional Materials and Devices for Emerging Bioelectronic Interfaces", in 2023 MRS Spring Meeting, San Francisco, April 2023.
23. **L. Petti**, "Presentation of the Sensing Technologies Lab at Libera Università di Bolzano: Overview of Current Activities", Sensing Technologies Talks at DISI Seminar, Department of Information Engineering and Computer Science, University of Trento, May 2023.
24. **L. Petti**, "Flexible and Printed (Bio)Electronics @Free University of Bozen-Bolzano: an Overview of the Activities of the Sensing Technologies Lab", Coffee Seminars at Istituto Italiano di Tecnologia, Genova, Italy, November 2023.
25. **L. Petti**, "Sustainable Sensors for a More Sustainable World", ELFO Winter Workshop, Bormio, Italy, December 2023.

Other (Third Mission) Presentations:

1. **L. Petti**, "La ricerca scientifica: esperienza e vissuti a cavallo fra industria ed accademia", online to High School Salesiani Sesto, 2021 & 2022.
2. **L. Petti**, "Wie macht man Karriere in der Wissenschaft?", Various High Schools in Bolzano, 2022 & 2023.
3. **L. Petti**, "Women in Electron Devices Society (WiEDS) Presentation", IEEE 52nd European Solid-State Device Research Conference (ESSDERC), Milan, Italy, September 2022.
4. **L. Petti**, "Series of Lectures on Sustainability: Sustainable Electronics", Free University of Bozen Bolzano, March 2023.

Patents

Luisa Petti is co-inventor of one granted patent and one deposited patent application:

- H. S. Kim, Y. Y. Hsu, P. S. Drzaic, **L. Petti**, "Electronic Devices with Soft Input-Output," US Patent No 9, 841, 548, 2017.
- T. Kugler, M.C. O'Sullivan, **L. Petti**, "Separator," UK Patent Application GB 2566991, 2019.

Language Competences

Italian: First Language
English: C1 (IELTS test, Cambridge, June 2018).
German: C1 (Language Center of the Free University of Bozen-Bolzano, Bolzano, October 2018).

26th January 2024