

## **Vittorio Ferrari, Ph.D.**

Professor of Electronics  
at the University of Brescia, Italy

### **Affiliation and contact address:**

Department of Information Engineering (DII)  
University of Brescia  
Via Branze 38, I 25123 Brescia - Italy  
phone: +39 030 3715444  
fax: +39 030 380014  
E-mail: [vittorio.ferrari@unibs.it](mailto:vittorio.ferrari@unibs.it)  
URL: <http://vittorio-ferrari.unibs.it/>

**ORCID ID:** [0000-0002-3949-9975](https://orcid.org/0000-0002-3949-9975)

**Scopus ID:** [57194493639](https://scopus.com/authorid/57194493639)

### **Google scholar profile:**

[https://scholar.google.com/citations?hl=it&user=zSVthx4AAAAJ&view\\_op=list\\_works](https://scholar.google.com/citations?hl=it&user=zSVthx4AAAAJ&view_op=list_works)

### **General:**

- *Date and place of birth:* October 3, 1962; Milan, Italy.
- *Citizenship:* Italian

### **Education:**

- 1988: Laurea degree *cum laude* in Physics at the University of Milan, Italy.
- 1993: Research Doctorate (PhD) degree in Electronic Instrumentation at the University of Brescia, Italy.

### **Employment and positions:**

- 1988-1989: Postgraduate research scholar with Istituto Nazionale di Fisica Nucleare at the University of Pavia, Italy.
- 1993-2001: Assistant Professor with the Department of Electronics for Automation (DEA) at the University of Brescia.
- 1994: Visiting fellow at the HP Laboratories, Palo Alto, CA, USA.
- 2001-2006: Associate Professor of Electrical and Electronic Measurements with the DEA at the University of Brescia.
- 2006-present: Full Professor of Electronics with the DEA (DII since 2010) at the University of Brescia.
- 2017: Visiting Professor at the Institut Polytechnique de Grenoble, France.  
(July; December)

## □ Research activity:

▣ The research activity of Vittorio Ferrari deals with the design and characterization of sensors, microsystems, and the related signal-conditioning interface electronics.

▣ Present topics of interest include thick-film piezoelectric acoustic-wave devices and sensors, energy harvesting techniques and devices for autonomous and wearable sensors, MEMS and microsystems, passive resonant sensors with contactless interrogation, low-noise electronic circuits for sensors, circuit interfaces and instrumentation for quartz-crystal microbalances and microresonator sensors, sensing systems for fluidics, microfluidics and biomedical applications.

▣ Since 1990, participation in national and international research projects on sensors and electronic instrumentation with both academic and industrial presence, often with coordination roles.

▣ From 1994 to 1996, involvement in the working group that at HP Laboratories started the activity on what lately became the IEEE 1451.2 *Standard for a Smart Transducer Interface for Sensors and Actuators*.

▣ Author of more than 300 publications in international peer-reviewed journals and conference proceedings, invited presentations, book chapters, edited books and journal issues, 8 patent applications (6 of which are under industrial exploitation).

▣ Recent and ongoing research collaborations with:

Beijing Institute of Aerospace Control Devices (BIACD) / CERN – Geneva. / Danube University Krems. / Institute of Microelectronics A\*STAR - Singapore. / Johannes Kepler University - Linz. / Otto-von-Guericke Universität - Magdeburg. / Université de Monastir / Politecnico di Milano. / SPAWAR San Diego. / Universidad Politécnic de Catalunya (UPC). / Universidad Politécnic de Valencia (UPV). / Università di Catania. / VU University Amsterdam. / Vienna University of Technology (TUV). / Institut Polytechnique de Grenoble (INP). // City University of Hong Kong.

▣ Selected funded projects based on competitive evaluations:

- Linz Center of Mechatronics (LCM), Austria, project K2-COMET center (2018-2021 & 2022-2026) on sensors for mechatronics;
- INP Grant for visiting professorship, Institut Polytechnique de Grenoble, France (2017): Microsystems based on Acoustic Waves in Fluids for in vitro Experiments on Biological Samples;
- EU project PETRA II (2004-2007) on piezoelectric transducers and applications;
- MUR-PNRR Italian project (2023-2026) on Made in Italy circolare e sostenibile (MICS);
- MIUR-PRIN Italian projects (2009-2010) on nonlinear energy harvesting techniques for sensor applications (2011-2013) on energy harvesting from broadband vibrations;
- MISE Italian project (2011-2013) on ICT for territorial security;
- Regione Lombardia project (2020-2022) on infrastructures and ICT for sustainable mobility;
- Regione Lombardia project (2018-2020) on sensor systems for indoor air quality monitoring;
- Regione Lombardia project (2006-2008) on smart kitchenware based on sensors.

▣ Selected funded collaborative research with companies:

Accent, Angelo Po Grandi Cucine, Beretta, Bialetti Industrie, Camozzi, CESI, COBO, CSMT, Entech, Finmek, Geca, Gefran, Hewlett Packard, HUAWEI, Intellimech, Intesa Sanpaolo, InvisibleFarm, Logimec, Markos Mefar-Air Liquide, Meggit-Ferropem, OMAL, Raccorderie Metalliche, ST-Microelectronics, Technobiochip, Tecmint HTE, Tenaris-Dalmine, Zinco Global.

## □ Teaching activity:

▣ Vittorio Ferrari has been teaching several university courses in the field of sensors, microsystems, electronics and measuring instrumentation, including class lectures, laboratory activities and project-based training.

▣ He is in charge of the following courses at the University of Brescia:

- Fundamentals of Electronics and Instrumentation;
- Instrumentation Electronics, Sensors and Microsystems;

plus one additional course upon invitation from another Italian university.

▣ Supervisor and thesis director of more than 30 Master and PhD students in Italy and abroad (Uruguay, Brasil, Colombia) within international co-tutorship programmes.

▣ From 2010 to 2013, coordinator of the academic board of the PhD program in *Electronic Engineering, Sensors and Instrumentation* at the University of Brescia.

▣ From 2013 to 2016, coordinator of the academic board of the PhD program in *Information Engineering* at the University of Brescia (<http://drii.unibs.it/>).

▣ From 2013, member of the academic board of the PhD program in *Information Engineering* at the University of Brescia.

▣ From 2023, member of the academic board of the National PhD program in *Micro- and Nano-Electronics* at the University of Pavia.

▣ Repeatedly involved in teaching courses on sensors and measuring instrumentation to professionals and engineers in industry.

#### ▣ Selected academic offices and responsibilities:

▣ From 2012 to 2016, member of the Quality Assurance Committee of the University of Brescia.

▣ From 2016 to 2022, Rector's delegate for Research Quality Management and Postgraduate Studies at the University of Brescia.

▣ Since 2022, external invited member of the governing council of the Doctoral School of Politecnico di Torino.

▣ From 2023 to 2025, coordinator of a national working group on Doctoral Programmes within the Italian Conference of University Rectors (CRUI).

#### ▣ Services and recognitions:

▣ Invited/selected member in the Technical Program Committee of prominent international conferences, including:

Euroensors / IEEE Sensors / IEEE International Ultrasonics Symposium (IUS)-Group 5: Transducers & Transducer Materials / Ph.D. Research in Microelectronics & Electronics – PRIME / Sensordevices / IEEE Int. Conf. on Sensors, Circuits and Instrumentation Systems – SSD SCI / Mechatronics / IEEE ISQED / IEEE-ISSNIP: Intelligent Sensors / EDERC / ECMS / International Conference on Materials Science, Engineering and Technology.

▣ Invited member of editorial boards:

*Journal of Sensors* (ISSN 1687-7268); *Sensors* (ISSN 1424-8220); *Micro* (ISSN 2673-8023); *Micro- and Nanoelectromechanical Systems in Frontiers in Mechanical Engineering* (ISSN 2297-3079); scientific committee of the *Revista EIA* (ISSN: 1794-1237); co-editor for *Sensors & Transducers Journal* (SSN 1726-5479).

▣ Since 2024, section editor-in-chief of *Electronic Sensors* in *Sensors* (ISSN 1424-8220).

▣ Reviewer on a regular basis for most salient international journals and conferences on sensors and electronic instrumentation.

▣ Project evaluator for the Italian Ministry for University and Research (MUR) and other international Organizations, including:

Agence Nationale de la Recherche (ANR), France / Agencia Nacional de Promoción Científica y Tecnológica - FONCyT, Argentina / Research Foundation - Flanders (FWO), Belgium / Dutch Technology Foundation (STW), The Netherlands. / Netherlands Organisation for Scientific Research (NWO), The Netherlands. / Christian Doppler Research Association (CDG), Austria / Alexander von Humboldt Foundation, Germany.

▣ Affiliations and membership:

Institute of Electrical and Electronic Engineers - IEEE *Senior Member* / IEEE Instrumentation and Measurement Society / IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society / IEEE Sensors Council / Associazione Società Italiana di Elettronica - SIE / Associazione Gruppo Misure Elettriche ed Elettroniche - GMEE / Istituto Nazionale di Ottica (INO) in Consiglio Nazionale delle Ricerche - CNR / Istituto Nazionale di Fisica Nucleare - INFN.

▣ From 2008 to 2013, member of the scientific advisory board for the Institute for Integrated Sensor Systems at the Austrian Academy of Sciences.

▣ From 2012 to 2014, chairman of the scientific advisory committee of the EU FP7-FET project ZEROPOWER.

▣ From 2014 to 2017, elected Italian national coordinator of the research line on *Sensors, Microsystems and Instrumentation* and member of the governing board in the Associazione Gruppo Italiano di Elettronica (GE), now Società Italiana di Elettronica (SIE).

▣ From 2014 to 2020, elected member of the governing board of the Società Italiana di Elettronica (SIE).

▣ Since 2012, member of the steering committee of the Associazione Italiana Sensori e Microsistemi (AISEM).

▣ Since 2016, member of the directing board in the Associazione Microelettronica Elettronica Semiconduttori (AMES-AEIT).

▣ Since 2020, member of the cultural committee of Collegio Universitario di Merito Luigi Lucchini, Brescia.

▣ Since 2023, chairman of the technical evaluation committee for the cascade project calls within one national innovation ecosystem funded by Italian MUR under the National Recovery and Resilience Plan (PNRR).

▣ Co-chair of the 17<sup>th</sup> AISEM Annual Conference 2013.

▣ Co-chair of the Electric, Electronic and Electromechanical Engineering track and program committee member in *European Conference on Modelling & Simulation 2014*.

▣ Program chair of the 28<sup>th</sup> EUROSENSORS Conference 2014.

▣ Coordinator of the 48<sup>th</sup> Annual Meeting of Associazione Gruppo Italiano di Elettronica (GE) 2016.

▣ Chair together with H. Espinosa, A. Frangi and M. Pantano of the symposium “Micro and Nano Mechanics Systems” at the *ESMC Conference 2018*.

▣ Track chair for the topic “Energy Harvesting” at 32<sup>nd</sup> EUROSENSORS Conference 2018.

▣ Hosting organizer of the 2019 EUA Council for Doctoral Education Annual Meeting in Brescia.

▣ Chair together with H. Espinosa, A. Frangi and M. Pantano of the symposium “Micro and Nano Systems and Applications” at the *ESMC Conference 2022*.

- ▣ Organizer and chair together with M. De Vittorio of the special session “Sustainable sensors” at 35<sup>th</sup> *EUROSENSORS Conference 2023*.
- ▣ Organizer and chair together with L. Rufer of the special session “Acoustic MEMS” at *Forum Acusticum 2023*.
- ▣ Invited lecturer in national and international schools on the topic of sensors, energy harvesting, sensor electronics and instrumentation.
- ▣ Invited examiner and member of the evaluation panels of doctoral theses in Italy and abroad (Australia, Austria, France, Germany, Portugal, Spain, Suisse, Uruguay).
- ▣ Most recent invited and keynote presentations:
  - *Fundamentals of Piezoelectricity*, • *Applications in Transducers and Energy Harvesting*,  
Invited lectures, *International Summer School on Ultrasonic and Piezoelectric Sensors*, Florence, July 22-24, 2020.
  - *Energy Harvesting and Passive Resonators with Contactless Interrogation for Stand-Alone Sensors Based on Piezoelectric Films*,  
Invited lecture, *IEEE International Ultrasonics Symposium*, Xi’an, China, September 15, 2021.
  - *Lumped-Element Modelling and Equivalent Circuits in Microsystems*,  
Invited lecture, *MEMS Before and After 2025: From Application Requirements and Theoretical Aspects to Practical Design Approach*, Villa Grumello, Como, Italy, May 29-June 1, 2023.
  - *Exploring New Detection Opportunities with ElectroMechanical Microsystems*,  
Invited lecture, *CNR-INO Galileo's Briefings 2024*, Brescia, October 10, 2024.

#### ▣ **Achievements and awards:**

- ▣ Co-author of the book “*Applied Structural and Mechanical Vibrations: Theory, Methods and Measuring Instrumentation*”, P.L. Gatti, V. Ferrari, 1999, CRC Press.
- ▣ Co-author of 3 papers in the Highly Cited Papers in ISI-WoS ranking in the top 1% in Engineering.
- ▣ Co-author of 3 papers that in different times ranked in the Most Cited Papers of the journal *Sensors and Actuators A* (ISSN: 0924-4247).
- ▣ Co-author of 1 paper that in 2012 ranked in the Most Cited Papers of the journal *Smart Materials and Structures* (ISSN: 0964-1726).
- ▣ 1<sup>st</sup> most cited author in 2008 and 2010, and 3<sup>rd</sup> most cited author in lifetime in the journal *Sensors and Actuators A* (ISSN: 0924-4247) as per <https://exaly.com/author/4286957/vittorio-ferrari/rankings>
- ▣ Listed in *Top 2% Scientists Worldwide 2024 Ranking* by Stanford University and Elsevier for lifetime career in Electrical & Electronic Engineering as per <https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/7>
- ▣ Outstanding Poster Presentation Award for “Autonomous Sensor Module Powered by Impact-Enhanced Energy Harvester from Broadband Low-Frequency Vibrations” at *TRANSDUCERS 2013-Euroensors XXVII*.
- ▣ Best Paper Award for “A Microfluidic Device with Embedded Capacitive Sensor for Fluid Discrimination and Characterization” at *SENSORDEVICES 2010*.
- ▣ Best Poster Award for “Piezoelectric Energy Harvesting From Von Karman Vortices” at *AISEM 2013*.
- ▣ Best Poster Award for “Piezoelectric Actuators for Microfluidic Acoustic-Wave Manipulation of In-Liquid Particles” at *SIE 2017*.

- ▣ Best Poster Award for “Electrical Tuning of the Resonant Frequency of a Piezoelectric Micromachined Acoustic Transducer” at *AISEM 2019*.
- ▣ Best Oral Award for “MEMS Inclinometer with Double-Actuator Servo-Assisted Position-Feedback and Tunable Sensitivity” at *SIE 2019*.
- ▣ Silver Leaf Award for “Servo-Assisted Position-Feedback MEMS Inclinometer with Tunable Sensitivity” at *PRIME 2019*.
- ▣ Best Paper Award for “Flexible Passive Sensor Patch with Contactless Readout for Measurement of Human Body Temperature” at *qBATS 2022*.

▣ **Bibliometric data:**

- 300+ journal and conference papers, 10+ books/chapters, 8 patents.
- Total number of publications in peer-review journals: 107
- Citations (Scopus / WoS / GoogleScholar): 4666 / 3725 / 6351
- H-index (Scopus / WoS / GoogleScholar): 32 / 29 / 36

▣ **Extended publication list:** [OpenBS archive](#)

▣ **Selection of most significant publications from 2020 to present:**

▣ ***International Journals***

- RI-87** M. Baù, M. Ferrari, V. Ferrari,  
Quartz Crystal Resonator Sensor With Printed-on-Crystal Coil for Dual-Harmonic Electromagnetic Contactless Interrogation,  
*IEEE Trans. on Ultrason. Ferroelect., Freq. Contr.*, **67**, 4, (2020) 883-886. ISBN/ISSN: 0885-3010. Electronic ISSN: 1525-8955.
- RI-88** M. Serzanti, M. Baù, M. Demori, S. Calamaio, M. Cominelli, P.L. Poliani, P. Dell’Era, M. Ferrari, V. Ferrari,  
Arrangement of Live Human Cells through Acoustic Waves Generated by Piezoelectric Actuators for Tissue Engineering Applications,  
*Appl. Sci.*, **10**, 10, 3477, (2020) 1-13. ISBN/ISSN: 2076-3417.
- RI-89** A. Speciale, R. Ardito, M. Baù, M. Ferrari, V. Ferrari, A.A. Frangi,  
Snap-Through Buckling Mechanism for Frequency-Up Conversion in Piezoelectric Energy Harvesting,  
*Appl. Sci.*, **10**, 10, 3614, (2020) 1-18. ISBN/ISSN: 2076-3417.
- RI-90** M. Baù, M. Ferrari, H. Begum, A. Ali, J. E.-Y. Lee, V. Ferrari,  
Technique and Circuit for Contactless Readout of Piezoelectric MEMS Resonator Sensors,  
*Sensors*, **20**, (2020) 3483. ISBN/ISSN: 1424-8220. **Open Access**
- RI-91** A. Nastro, M. Ferrari, V. Ferrari,  
Double-Actuator Position-Feedback Mechanism for Adjustable Sensitivity in Electrostatic-Capacitive MEMS Force Sensors,  
*Sensors and Actuators A*, **312**, (2020) 112127. ISBN/ISSN: 0924-4247.
- RI-92** M. Baù, D. Alghisi, S. Dalola, M. Ferrari, V. Ferrari,  
Multi-Frequency Array of Nonlinear Piezoelectric Converters for Vibration Energy Harvesting,  
*Smart Mater. Struct.*, **29**, 8, (2020) 085047 (18pp). ISBN/ISSN: 0964-1726.
- RI-93** F. G. Alabarse, M. Polisi, M. Fabbiani, S. Quartieri, R. Arletti, B. Joseph, F. Capitani, S. Contreras, L. Konczewicz, J. Rouquette, B. Alonso, F. Di Renzo, G. Zambotti, M. Baù, M. Ferrari, V. Ferrari, A. Ponzoni, M. Santoro, J. Haines,  
High-Pressure Synthesis and Gas-Sensing Tests of 1-D Polymer/Aluminophosphate Nanocomposites,

*ACS Appl. Mater. Interfaces*, **13**, 23, (2021) 27237–27244. ISBN/ISSN: 1944-8244. web ISBN/ISSN: 1944-8252.

**RI-94** A. Nastro, M. Ferrari, L. Rufer, S. Basrour, V. Ferrari,  
Piezoelectric MEMS Acoustic Transducer with Electrically-Tunable Resonant Frequency,  
*Micromachines*, **13**, 1 (2022) 96. ISBN/ISSN: 2072-666X. **Open Access**

**RI-95** A. Nastro, N. Pienazza, M. Baù, P. Aceti, M. Rouvala, R. Ardito, M. Ferrari, A. Corigliano, V. Ferrari,  
Wearable Ball-Impact Piezoelectric Multi-Converters for Low-Frequency Energy Harvesting from Human Motion,  
*Sensors*, **22**, 3 (2022) 772. ISBN/ISSN: 1424-8220. **Open Access**

**RI-96** M. Rosso, A. Nastro, M. Baù, M. Ferrari, V. Ferrari, A. Corigliano, R. Ardito,  
Piezoelectric Energy Harvesting from Low-Frequency Vibrations based on Magnetic Plucking and Indirect Impacts,  
*Sensors*, **22**, 15 (2022) 5911. ISBN/ISSN: 1424-8220. **Open Access**

**RI-97** P. Aceti, M. Rosso, R. Ardito, N. Pienazza, A. Nastro, M. Baù, M. Ferrari, M. Rouvala, V. Ferrari, Alberto Corigliano,  
Optimization of an Impact-Based Frequency Up-Converted Piezoelectric Vibration Energy Harvester for Wearable Devices,  
*Sensors*, **23**, 3 (2023) 1391. ISBN/ISSN: 1424-8220. **Open Access**

**RI-98** M. Zini, M. Baù, A. Nastro, M. Ferrari, V. Ferrari,  
Flexible Passive Sensor Patch with Contactless Readout for Measurement of Human Body Temperature,  
*Biosensors*, **13**, 6 (2023) 572. ISBN/ISSN: 2079-6374. **Open Access**

**RI-99** G. De Palma, E. Sala, S. Rubino, S. Dalola, M. Ferrari, D. Marioli, P. Apostoli, C. Tomasi, F. Righetti, F. Mattioli, V. Ferrari,  
Objective Evaluation of Active Interactions between the Operator and Display Screen Equipment Using an Innovative Acquisition System,  
*Bioengineering*, **10**, 6 (2023) 686. ISBN/ISSN: 2306-5354. **Open Access**

**RI-100** A. Nastro, M. Baù, M. Ferrari, L. Rufer, S. Basrour, V. Ferrari,  
Cell Alignment in Aqueous Solution employing a Flexural Plate Wave Piezoelectric MEMS Transducer,  
*IEEE Access*, 11, (2023) 130755-130762. Electronic ISSN: 2169-3536.

**RI-101** A. Nastro, M. Baù, M. Ferrari, L. Rufer, S. Basrour, V. Ferrari,  
Piezoelectric MEMS Flexural-Plate-Wave Transducer for Alignment of Microparticles in a Drying Droplet,  
*IEEE Sensors Journal*, 24, 6, (2024) 7564-7572. Electronic ISSN: 1558-1748.

**RI-102** F. Mazzoli, D. Alghisi, V. Ferrari,  
Self-Diagnostic and Self-Compensation Methods for Resistive Displacement Sensors Tailored for In-Field Implementation,  
*Sensors*, 24, 8 (2024) 2594. ISBN/ISSN: 1424-8220. **Open Access**

**RI-103** D. Gelmini, M.A. Haberman, V. Ferrari, E.M. Spinelli, F. Reverter,  
An Isolation Amplifier-based Front-End Circuit for Grounded Capacitive Sensors,  
*IEEE Trans. on Instrum. Meas.*, 73, (2024) 2004210. ISBN/ISSN: 0018-9456, Electronic ISSN: 1557-9662.

**RI-104** A. Nastro, M. Baù, M. Ferrari, F. Cerini, D. Paci, S. Adorno, F. Foncellino, V. Ferrari,  
Inductive Sensor based on Micromachined Coil for Conductive Target Detection,  
*IEEE Sensors Letters*, 8, 8, (2024) 2502604. Electronic ISSN: 2475-1472.

**RI-105** E. Marelli, D. Ruongo, S. Dalola, E. Sala, C. Tomasi, V. Ferrari, M. Ferrari, G. De Palma,  
Objective Assessment of Active Display Screen Fixation Among Office Workers Using an Innovative Nonwearable Acquisition System: A Pilot Study,

*Appl. Sci.*, 14, 23, 11307, (2024) 1-11. ISBN/ISSN: 2076-3417. **Open Access**

**RI-106** L. Rufer, S. Shubham, H. Wang, T. Miller, P. Honzík, V. Ferrari,  
Editorial for the Special Issue on Micromachined Acoustic Transducers for Audio-Frequency Range,

*Micromachines*, 16, 1 (2025) 67. ISBN/ISSN: 2072-666X. **Open Access**

**RI-107** F. Mazzoli, D. Alghisi, V. Ferrari,

A Multivariable Motion Sensor Embedding an Improved Velocity Estimation Algorithm,  
*IEEE Sensors Journal*, 25, 8, (2025) 13840-13849. Electronic ISSN: 1558-1748.

▣ **International Conference Proceedings**

**CI-167** A. Nastro, M. Ferrari, V. Ferrari,

MEMS Inclinometer with Tunable-Sensitivity and Segmented Overlapping Allan Variance Analysis,

*Proceedings of 2020 AEIT International Annual Conference (AEIT)*, Catania, Italy, September 23-25, 2020, 1-6. IEEE Conference Publications. ISBN (Electronic): 978-8-8872-3747-4.

**CI-168** A. Nastro, M. Ferrari, V. Ferrari,

Electrostatic-Capacitive MEMS Stiffness Sensor with Position-Feedback Mechanism,

*Proceedings of IEEE Sensors 2021 Conference*, Sydney, Australia, October 31-November 3, 2021, 1-4. ISBN: 978-1-7281-9501-8, INSPEC Accession Number: 21504740.

**CI-169** V. Zega, A. Nastro, M. Ferrari, R. Ardito, V. Ferrari, A. Corigliano,

An Innovative Auxetic Electrically-Tunable MEMS Mechanical Filter,

*Proceedings of IEEE 35th International Conference on Micro Electro Mechanical Systems Conference (MEMS)*, Tokyo, Japan, January 9-13, 2022, 539-542.

ISBN: 978-1-6654-0911-7, INSPEC Accession Number: 21721069.

**CI-170** A. Nastro, M. Ferrari, C.I. Mura, A. Labombarda, M. Viti, S. Dalle Feste, V. Ferrari,

Noise Reduction by Data Fusion in a Multisensor System of Replicated MEMS Inclinometers,

*Proceedings of 2022 IEEE International Symposium on Inertial Sensors and Systems (INERTIAL)*, Avignon, France, May 8-11, 2022, 1-4.

**CI-171** A. Nastro, M. Bau', M. Zini, M. Ferrari, J.E.Y. Lee, V. Ferrari,

Electronic technique and system for non-contact reading of temperature sensors based on piezoelectric MEMS resonators,

*Proceedings of 2022 IEEE International Symposium on Circuits and Systems (ISCAS)*, Austin, TX, USA, May 27-June 1, 2022, 2409-2413.

**CI-172** A. Nastro, M. Baù, M. Ferrari, V. Ferrari,

Piezoelectric MEMS for Sensors, Actuators and Energy Harvesting,

*Sensors and Microsystems, Proceedings of AISEM 2021 - In memory of Arnaldo D'Amico*, Lecture Notes in Electrical Engineering, Springer International Publishing, Vol. 918, 2023, 264-270. ISBN/print: 978-3-031-08135-4. ISBN/electronic: 978-3-031-08136-1.

**CI-173** F. Mazzoli, D. Alghisi, V. Ferrari,

Real-Time Velocity Estimation Algorithm for a Multivariable Motion Sensor,

*Proceedings of IEEE 27th Conference on Emerging Technologies & Factory Automation (ETFA)*, Stuttgart, Germany, September 6-9, 2022, 1-4. ISBN/ISSN: 978-1-6654-9996-5.

**CI-174** M. Zini, M. Baù, F. Scubla, M. Loda, G. Stefani, A. Nastro, M. Ferrari, V. Ferrari,

Radar Sensor System for Unobtrusive Level Monitoring of Granular Solids Stored in Silos,

*Sensors and Microsystems, Proceedings of AISEM 2022*, Lecture Notes in Electrical Engineering, Springer International Publishing, Vol. 999, 2023, 147-152. ISBN/print: 978-3-031-25705-6. ISBN/electronic: 978-3-031-25706-3.

**CI-175** F. Mazzoli, D. Alghisi, V. Ferrari,

Algorithm for Velocity Estimation in a Multivariable Motion Sensor,

*Sensors and Microsystems, Proceedings of AISEM 2022*, Lecture Notes in Electrical Engineering, Springer International Publishing, Vol. 999, 2023, 160-166. ISBN/print: 978-3-031-25705-6. ISBN/electronic: 978-3-031-25706-3.

**CI-176** A. Nastro, M. Baù, M. Ferrari, L. Rufer, S. Basrour, V. Ferrari,  
Flexural Plate Wave Piezoelectric MEMS Transducer for Cell Alignment in Aqueous Solution,

*Proceedings of SIE 2022*, Lecture Notes in Electrical Engineering, Springer International Publishing, Vol. 1005, 2023, 122-127. ISBN/print: 978-3-031-26065-0. ISBN/electronic: 978-3-031-26066-7.

**CI-177** A. Nastro, M. Baù, M. Ferrari, F. Foncellino, F. F. Villa, F. Cuneo, F. Capra, V. Ferrari,

Design of a Novel Tridimensional Silicon MEMS ThermoElectric Generator,  
*Proceedings of IEEE Sensors 2023 Conference*, Vienna, Austria, October 29-November 1, 2023, 1-4. ISBN: 979-8-3503-0387-2/23.

**CI-178** M. Zini, M. Baù, A. Nastro, M. Ferrari, V. Ferrari,  
Inductive Sensor with Contactless Interrogation for Conductive Target Detection,  
*Proceedings of the XXXV Eurosensors Conference*, Lecce, Italy, 10-13 September, 2023, in *Proceedings*, 97 (1), 95, (2024). EISSN: 2504-3900.

**CI-179** F. Mazzoli, D. Alghisi, V. Ferrari,  
Self-Diagnostic Method for Resistive Displacement Sensors,  
*Proceedings of the XXXV Eurosensors Conference*, Lecce, Italy, 10-13 September, 2023, in *Proceedings*, 97 (1), 164, (2024). EISSN: 2504-3900.

**CI-180** A. Nastro, S. Bertelli, M. Ferrari, L. Rufer, S. Basrour, V. Ferrari,  
Flexural Plate Wave Piezoelectric MEMS Pressure Sensor,  
*Proceedings of the XXXV Eurosensors Conference*, Lecce, Italy, 10-13 September, 2023, in *Proceedings*, 97 (1), 185, (2024). EISSN: 2504-3900.

**CI-181** S. Bertelli, A. Nastro, M. Ferrari, M. Baù, V. Ferrari,  
Simulation and Experimental Validation of a Flexural Plate Wave Piezoelectric MEMS Transducer,  
*Proceedings of 2024 IEEE Sensors Applications Symposium (SAS)*, Napoli, Italy, July 23-25, 2024, 1-7. ISBN/ISSN: 2766-3078.

**CI-182** F. Mazzoli, D. Alghisi, V. Ferrari,  
Comparative Analysis and New Proposal of Velocity Estimation Methods for Multivariable Motion Sensors,  
*Proceedings of IEEE 29th Conference on Emerging Technologies & Factory Automation (ETFA)*, Padova, Italy, September 10-13, 2024, 1-7. ISBN/ISSN: 1946-0759.

▣ **Book Chapters (from 2012 to present)**

**L-10** C. Falconi, G. Mantini, A. D'Amico, V. Ferrari,  
Modeling of piezoelectric nanodevices,  
in *Piezoelectric nanomaterials for biomedical applications - Nanomedicine and Nanotoxicology*, G. Ciofani and A. Mencassi (Eds.), 2012, Springer-Verlag Berlin Heidelberg, 93-133. ISBN/ISSN: 978-3-642-28043-6; e-ISBN: 978-3-642-28044-3;

**L-11** V. Ferrari, M. Prudenziati,  
Printed thick-film capacitive sensors,  
in *Printed films: Materials science and applications in sensors, electronics and photonics* M Prudenziati and J Hormadaly (Eds.), 2012, Woodhead Publishing Limited, Cambridge (UK), Ch. 8, 193-220. ISBN: 978 1 84569 988 8

**L-12** V. Ferrari,  
Printed thick-film piezoelectric and pyroelectric sensors,

in *Printed films: Materials science and applications in sensors, electronics and photonics* M Prudenziati and J Hormadaly (Eds.), 2012, Woodhead Publishing Limited, Cambridge (UK), Ch. 9, 221-258. ISBN: 978 1 84569 988 8

▣ **Editorship**

**E-6** V. Ferrari, A. Corigliano,

*MEMS Energy Harvesting and Low-Power Sensing*, in *SENSORS*, 2022, MDPI AG, ISSN: 1424-8220.

**E-7** V. Ferrari, E. Comini, M. Baù, D. Zappa,

*Microsystem and Nanosystem Researches for Sensors, Actuators and Energy Conversion Devices*, in *Micro*, 2022, MDPI AG, ISSN: 2673-8023.

**E-8** G. Di Francia, C. Di Natale, B. Andò, F. Baldini, G. Betta, D. Compagnone, S. Conoci, E. Comini, V. Ferrari, E. La Salandra, L. Lorenzelli, A.G. Mignani, G. Marrazza, G. Neri, P. Siciliano,

*Sensors and Microsystems, Proceedings of AISEM 2021 - In memory of Arnaldo D'Amico*, Lecture Notes in Electrical Engineering, Springer International Publishing, Vol. 918, 2023, 264-270. ISBN/print: 978-3-031-08135-4. ISBN/electronic: 978-3-031-08136-1.

**E-9** S. Merlo, V. Ferrari,

*Miniaturized Piezoelectric Devices: Design, Fabrication and Applications*, in *Micromachines*, 2023, MDPI AG, ISSN: 2072-666X.

**E-10** V. Ferrari, M. Baù, D. Zappa,

*Microsystem and Nanosystem Research for Sensors, Actuators and Energy Conversion Devices*, Topical Collection in *Micro*, since 2022, MDPI AG, ISSN: 2673-8023.

**E-11** V. Ferrari, M. Xu,

*Feature Papers in Electronic Sensors 2025*, in *SENSORS*, 2025, MDPI AG, ISSN: 1424-8220.

▣ **Patents (from 2012 to present)**

**B-5** E. RIGHI, S. DALOLA, V. FERRARI (2012). Firearm with barrel state verification device. Fabbrica D'Armi Pietro Beretta S.p.A. WO2013/144808.

**B-6** P. PICCO, S. POZZETTI, V. FERRARI, M. DEMORI, M. BAU', S. DALOLA, M. FERRARI, (2014). Press fitting. Raccorderie Metalliche S.p.A. EP2921242 A1.

**B-7** V. FERRARI, M. FERRARI, D. MARIOLI, P. APOSTOLI, S. DALOLA, (2022), Methods, techniques and hardware and software tools for monitoring the activity of users at a video display terminal (VDT), Università degli Studi di Brescia WO2022130236 A1.

**B-8** D. ALGHISI, V. FERRARI, F. MAZZOLI (2023). Sensore di posizione configurato per monitorare la condizione e/o il livello di usura di tale sensore di posizione durante il suo utilizzo, GEFRA S.p.A. and Università degli Studi di Brescia 102023000002319.

△ \_\_\_\_\_ End of document \_\_\_\_\_ △