

Andrea Cataldo

Curriculum Vitae

University of Salento - Dept. of Engineering for Innovation
Complesso Ecotekne Corpo O, via Monteroni, 73100 Lecce (ITALY)

☎ +39-0832-297823

✉ andrea.cataldo@unisalento.it

Academic achievements

- 2017- present Obtained the National Scientific Qualification in the field of Measurements (macro-sector 09/E4)
necessary to apply for Full Professor position in Italy.

Professional Experience

- 2014-now Associate Professor of Electric and Electronic Measurements
at the University of Salento - Dept. of Engineering for Innovation (Lecce, Italy)
- 2005-2014 Assistant Professor of Electric and Electronic Measurements
at the University of Salento - Dept. of Engineering for Innovation (Lecce, Italy)
- 2008-2010 Engineer in charge of the pre-operational verification of the installation of methane pipelines in
some urban areas of the district of Lecce (Lecce, Italy).
- 2002-2005 Industrial Consultant and Project Manager in the field of the design and experimentation of an
innovative integrated system for measuring levels and compositions of liquids contained inside
tanks.

Education

- 2003 Ph.D. in Information Engineering (field of Electric and Electronic Measurements)
University of Salento (Lecce, Italy)
Thesis: '*Measurement for the characterization and simulation of heterostructure MSM photodetectors for telecommunications applications*'. Advisor: Prof. A. Trotta.
- 1998 Master's Degree in Materials Engineering
University of Salento (Lecce, Italy).
Thesis: '*Characterization and simulation of PIN photodiodes for radiography applications*'.
Advisor: Prof. F. Corsi.

Patents

- 2018 **UK patent** (status: pending) - *System and method for detecting and locating dielectric variations* (Application number: PCT/IB2015/051397, Application date: Jan. 30, 2018),
pending, IPO – Intellectual Property Office GB1801496.9
- 2018 **PCT patent** (status: received intention to grant) - *Methodology for the traceability of leather-lie and leather materials in industrial processes* (Application number: PCT/IB2015/051397,
Application date: Feb. 25, 2015).
- 2014 **Italian Patent** (status: granted) - ref. #: 0001406103 '*Apparato e metodo per il rivelamento e la localizzazione di perdite e guasti in condotte interrato*', ENG: *Apparatus and method for detection and localization of leaks and faults in underground pipes*.
- 2011 **EU Patent** (status: received intention to grant) - *Apparatus and method for detection and localization of leaks and faults in underground pipes* (ref. #: EP2538192).

Technology Transfer: industrial agreement and patent licensing

- **Co-founder, partner and member of the board of directors of the spin-off company *MoniTech - Monitoring Technologies***

The idea behind MoniTech originates from the considerable potential, in terms of practical implementation, discovered in the research activities carried out at the Laboratory of Measurement and Instrumentation of the University of Salento, which have intensely focused on applied research activities. MoniTech specializes in providing ad-hoc monitoring systems (for the environment, for qualitative and quantitative controls, etc.) mostly based on microwave diagnostics: these systems guarantee great flexibility, reliability, and measurement accuracy. Thanks to their high adaptability, the systems developed by MoniTech can be easily adapted to pre-existing operating conditions, thus guaranteeing turnkey solutions: specifically tailor-made from the design up to the final implementation.

- MoniTech has licensed the company Sensor Group Limited (QUATRO HOUSE, SCHOOL LANE, LYTHAM, LANCASHIRE, FY8 5NL, England) the exploitation of the European patent *Apparatus and method for detection and localization of leaks and faults in underground pipes* of which A. Cataldo is co-inventor. At the same time as the **License Agreement**, an **Industrial Agreement** for research collaboration was also signed for the further development of the loss search system. The research activities carried out as part of this collaboration have already led to a new patent application in the United Kingdom, entitled "System and method for detecting and locating dielectric variations" (GB1801496.9, see the Patents section). As part of the industrial partnership agreement between the company Sensor Group Limited and MoniTech-spin off of the University of Salento, signed on 24/04/2017, A. Cataldo is a **member of the Partnership Board**, responsible for general management partnership and collaboration, including the approval of specific projects and collaborations and the budgetary strategy under this agreement.

Awards and Recognitions

- 2018 **Premium Award for Best Paper in IET Science, Measurement & Technology** for the paper 'Enhancement of leak detection in pipelines through time-domain reflectometry/ground penetrating radar measurements', by A. Cataldo et al. , IET Science, Measurement & Technology, Volume 11, Issue 6, September 2017, pp. 696 – 702.
- 2017 **Best Poster Award** at the *1st Italian Measurement Forum* organized by the National Association of Electric and Electronic Measurements, Modena (Italy), Sept. 13-16, 2017
- 2017 **Outstanding Reviewer** of IEEE Transactions on Instrumentation & Measurement.
- 2016 Recipient of the **IEEE 2016 Best Application in I&M Award**.
- 2012 Recognition by the IEEE Sensors Council to the paper 'A New Method for Detecting Leaks in Underground Water Pipelines', by A. Cataldo et al., IEEE Sensors Journal, vol. 12, no. 6, 2012, as the 8th most-downloaded paper of May 2012, among all the papers published (until then) in the IEEE Sensors Journal.
- 2009 **Outstanding Reviewer** of IEEE Transactions on Instrumentation & Measurement.

Participation in Research Projects (supported through competitive research funding)

The projects where Andrea Cataldo was Principal Investigator for the University of Salento are indicated with PI. The fourth column indicates the type of funding: European (E), National (N) or Regional (R).

<i>year</i>	<i>title of the research project</i>	<i>PI</i>	
2018-2019	TEMA - TEcnologie Produttive e Manutentive applicate ai Propulsori Aeronautici (Production and Maintenance Technologies for Aeronautical Propulsors)		N
2017-2018	SCOPRI - System for controlling irrigation in agriculture		R
2017-2018	EGGPLANT - Re-use and valorization of agricultural waste for the creation of new process and products	PI	R

2015-2016	FP/ Coordination Action - SMARTAPP (Technology Transfer in Computing Systems), 'Systems and Monitoring Apparata based on Reflectometric Techniques for Agricultural aPPLICATIONS'	PI	E
2015-present	TEMA - Tecnologie produttive e Manutentive applicate ai propulsori Aeronautici (Production and Maintenance Technologies applied to Aeronautical Propulsion)		N
2014	FP/ Coordination Action - TETRACOM (Technology Transfer in Computing Systems), 'An Innovative Diffused Monitoring of Moisture and Health in Building Structures'	PI	E
2014-2015	EDOC@WORK 3.0 - Education and Work on Cloud		N
2013-2015	Rinovatis- Regeneration of osteocartilaginous and neural tissues through innovative Tissue Engineering-based approaches		N
2012-2013	SMILE - SMart Innovation using LEds: the new frontier of sustainable lighting		R
2007-2012	SINTeSIS - Support to the innovation and to novel technologies for the development of the Ionico/Salentina geographic area		N
2010-2011	SPIRIT- Development of an integrated process for the rationalization of irrigation in agriculture		R
2009-2011	Development of an innovative technology for the production of minimally-treated tomatoes-derivatives		R
2007-2008	Investigation of possible applications of RFID in healthcare system: design and realization of high-added value intelligent tags		R
2007-2008	Development of TDR-based sensors for the in-line monitoring of industrial processes in the agrofood industry		R
2004-2005	Study, design and experimentation of an innovative integrated system, named WaveC.A.M., for measuring levels and compositions of liquids contained inside tanks		N
2005	Integrated informative system for optimal planning and implementation of wireless networks		N

Privately-funded Research Projects

- Research commissioned by company Acquedotto Pugliese S.p.A. (the largest European water operator)- Title of the research: 'S.I.M.P.Le. – System for Identifying and Monitoring Pipe Leaks'. Time: Jan 2012 - Nov 2012. - Cost: Euros 260,000.00.
- Research commissioned by company Alenia Aermacchi S.p.A. (leader company in the aerospace industry)- Title of the research: 'Development of an innovative microwave system for measuring the thickness of air gaps between assembled structural components'. Time: Nov. 2012- present. Cost: Euros 40,000.00.

Participation in Committees

2005-present	Member of the Board of Professors for the Ph.D. Programme in Information Engineering, at the University of Salento
2013-present	Member of the Board of Professors for the Ph.D. Programme in Complex Systems, at the University of Salento
2010	Member of the Admission Committee to the Ph.D. Programme in Information Engineering (XXV cycle), at the University of Salento
2009	Member of the Admission Committee to the Ph.D. Programme in Electronic Engineering (XXIV cycle), at the Polytechnique of Bari (Bari, Italy)
2009	Member of the Admission Committee to the Ph.D. Programme in Electric Engineering (XXV cycle), at the Polytechnique of Bari (Bari, Italy)
2010	Expert member of the Examination Committee for the Qualification as Professional Engineers (exam sessions held in Lecce, Italy).

- 2005-present (*recurring*) Member of the Degree Panel in Information Engineering, at the University of Salento.
- 2005-2008 (*recurring*) Member of the Degree Panel in Materials Engineering, at the University of Salento.
- 2011-present Member of the Certification Committee in the field of quality control of wines (as established by regulations EN45011).
- 2011-2012 Advisor in the scientific/teaching refresher course (field: Electrification), within the project 'Upgrading of Shaanxi Weinan Industry School and Northwest University Vocational College (Lot 1)', at the University of Salento.

Memberships in Professional Associations

- IEEE Senior Member # 90734050 (IEEE Instrumentation and Measurement Society Membership)
- Member of the IEEE IMS TC-1 – Nondestructive Evaluation and Industrial Inspection (NDE&II)
- Member of the IEEE TC-10 Waveform Generation, Measurement and Analysis Committee (also member of the Waveform Recorder Standards subcommittee)
- GMEE (Gruppo Misure Elettriche ed Elettroniche) - Italian Association 'Electric and Electronic Group' (since 2002).

Courses taught at the University of Salento

- *Electronic Measurements* (BSc Programme in Information Engineering), Academic years: 2009/2010; from 2012/2013 to today.
- *Measurements for Telecommunications* (M.S. Programme in Telecommunication Engineering), From Academic year 2010/2011 through today.
- *Measurements for Telecommunications* (M.S. Programme in Telecommunication Engineering), From Academic year 2005/2006 through Academic year 2012/2013.
- *Laboratory of Electronic Measurements* (BSc Programme in Information Engineering), Academic years: 2010/2011; 2011/2012.
- *Sensors and Transducers for biomedical applications* (BSc Programme in Automation Engineering) Academic year: 2003/2004.

Additional teaching activity

- *Laboratory Measurements* (as part of the training course within the SOLAR Project 'Advanced Training for Qualified Technician', in collaboration with the University of Salento, Italy), Year: 2009.
- *Electronic Measurements* (within the Postgraduate Programme ICEA 'Interaction between electromagnetic fields and the environment'), Year: 2003.

Tutoring activity

- Advisor and tutor of several students both for BSc degree and MS degree in Information Engineering.
- Advisor of two Ph.D students (Ph.D. Programme in Information Engineering).
- Tutor of several research grant holders.

Other Professional Accomplishments

- Coordinator of a division of the Electric and Electronic Measurement Research Group of the Dept. of Engineering for Innovation of the University of Salento.

Main research areas:

- Non-invasive leak-detection in underground water and wastewater pipes through time domain reflectometry;
- Microwave reflectometry-based measurements for the qualitative and quantitative characterization of materials and for the monitoring of industrial processes;
- Moisture content measurements through innovative high added-value sensors;
- Characterization and modeling of electronic devices and antennas.

- Serves as Reviewer of National Research Projects (PRIN).
- Member of the Editorial Boards for the following Scientific Journals:
 - International Journal of Computer Science and Control;
 - American Journal of Engineering, Technology and Society;
 - American Journal of Circuits, Systems and Signal Processing;
 - International Journal of Computer Science and Control Engineering.
- Registered in the Association of Professional Engineers (Registered in Lecce, Italy)
- Invited speaker at the "2013 Global Leakage Summit", 12-13 March 2013, London (UK).

Serves as Reviewer for referred journals

- IEEE Transactions on Instrumentation and Measurement
- IEEE Sensors Journal
- Measurement
- Measurement Science and Technology
- PIER - Progress in Electromagnetics Research
- International Journal of Thermophysics
- Computer Standards and Interfaces
- Journal of Food Engineering
- Radioengineering

Member of Technical Program Committees (TPC) and International Program Committee (IPC) of International Conferences

- Member of the Technical Program Chair of the 3rd IMEKO International Conference on Metrology for Archaeology and Cultural Heritage - MetroArchaeo 2017, Oct. 23-25, 2017, Lecce (Italy)
- Member of the IPC of the 1st International Conference on Metrology for Archaeology (Benevento, Italy, 22-23 Oct. 2015).
- Member of the TPC of the I²MTC 2014 - International Instrumentation and Measurement Technology Conference (Montevideo, Uruguay, 12-15 May 2014).
- Member of the TPC of the 4th IMEKO T19 Symposium on Environmental Instrumentation and Measurement (Lecce, Italy, 3-4 June 2013).
- Member of the TPC of the I²MTC 2013 - International Instrumentation and Measurement Technology Conference (Minneapolis, MN 6-9 May 2013).
- Member of the TPC of the SSD 2011- 8th International Multi-Conference on Systems, Signals and Devices (Sousse, Tunisia, 22-25 March 2011).
- Member of the TPC of the TEMPMEKO & ISHM 2010 - Joint International Symposium on Temperature, Humidity, Moisture and Thermal Measurements in Industry and Science (Portoroz, Slovenia, 31 May-4 June 2010).
- Member of the TPC of the MeMeA 2011 - International Symposium on Medical Measurements and Applications (Bari, Italy, 30-31 May 2011).

List of publications

Authored books

1. A. Cataldo, E. De Benedetto, G. Cannazza (2016). Advances in reflectometric sensing for industrial applications; Series: Synthesis Lectures on Emerging Engineering Technologies; Morgan & Claypool, DOI: 10.2200/S00691ED1V01Y201512EET002
2. A. Cataldo, E. De Benedetto, G. Cannazza (2011). Broadband Reflectometry for Enhanced Diagnostics and Monitoring Applications. LECTURE NOTES IN ELECTRICAL ENGINEERING, pp. 1-148, Berlin-Heidelberg:Springer , ISBN: 9783642202339, ISSN: 1876-1100, doi: 10.1007/978-3-642-20233-9

Authored chapters in books

1. R. Persico, A. Cataldo, E. De Benedetto, "Time-domain reflectometry: Current uses and new possibilities", chapter in "Innovation in Near-Surface Geophysics", pp. 59- 96, 2019, DOI: 10.1016/B978-0-12-812429-

1.00003-9

2. A. Paiano, G. Lagioia, A. Cataldo, E. De Benedetto, *Sustainability of the Use of Mobile Phones*. In Z. Yan (Ed.), *Encyclopedia of Mobile Phone Behavior (Volumes 1, 2, & 3)*, pp. 338-353. Hershey, PA: IGI Global, DOI: 10.4018/978-1-4666-8239-9.ch029.
3. A. Cataldo, E. De Benedetto, G. Cannazza, Microwave reflectometry for sensing applications in the agrofood industry, Chapter 15 in *Novel advances in microsystems technologies and their applications*, Edited by L. A. Francis and K. Iniewski. CRC Press Taylor & Francis Group, Boca Raton, Florida, USA. pp. 355-373, ISBN-10: 1466560665, Print ISBN-13: 978-1-4665-6066-6, eBook ISBN: 978-1-4665-6067-3, 2013.
4. A. Cataldo, E. De Benedetto, G. Cannazza, Microwave reflectometry for sensing applications in the agrofood industry. Chapter 30 in *Smart sensors for industrial applications*. CRC Press Taylor & Francis, Boca Raton, Florida, USA. pp. 501-516. ISBN-10: 1466568100 ISBN-13: 978-1466568105. May 2013.

Papers published in International Peer-reviewed Scientific Journals

1. E. Piuze, E. Pittella, S. Pisa, A. Cataldo, E. De Benedetto, G. Cannazza, 'An improved noninvasive resonance method for water content characterization of Cultural Heritage stone materials', **Measurement**, vol. 125, pp. 257-261, Sept. 2018, ISSN: 0263-2241, DOI:10.1016/j.measurement.2018.04.070
2. A. Cataldo, E. De Benedetto, G. Cannazza, S. D'Amico, L. Farrugia, G. Mifsud, E. Dimech, C. V. Sammut, R. Persico, G. Leucci, L. De Giorgi, 'Dielectric permittivity diagnostics as a tool for Cultural Heritage preservation: Application on degradable globigerina limestone', **Measurement**, vol. 123, pp. 270-274, ISSN: 0263-2241, DOI:10.1016/j.measurement.2018.03.078
3. A. Cataldo, E. De Benedetto, G. Cannazza, E. Piuze, E. Pittella, 'TDR-based Measurements of Water in Construction Materials for In-the-field Use and Calibration', **IEEE Transactions on Instrumentation and Measurement**, ISSN: 0018-9456, DOI: 10.1109/TIM.2017.2770778, vol. 67, no. 5, pp. 1230-1237.
4. E. Piuze, E. Pittella, S. Pisa, A. Cataldo, E. De Benedetto, G. Cannazza, 'Microwave reflectometric methodologies for water content estimation in stone-made Cultural Heritage materials', **Measurement**, vol. 118, pp. 275-281, ISSN: 0263-2241
5. E. Piuze, G. Cannazza, A. Cataldo, E. De Benedetto, L. De Giorgi, F. Frezza, G. Leucci, S. Pisa, E. Pittella, S. Prontera, F. Timpani, 'A comparative assessment of microwave-based methods for moisture content characterization in stone materials', **Measurement**, ISSN: 0263-2241, Vol. 114, January 2018, pp. 493-500, DOI: 10.1016/j.measurement.2016.04.046
6. A. Cataldo, E. De Benedetto, C. Hubner, D. Trebbels, 'TDR Application for Moisture Content Estimation in Agri-food Materials', **IEEE Instrumentation & Measurement Magazine**, ISSN: 1094-6969, vol. 20, no. 3, June 2017, pp. 26-31, doi: 10.1109/MIM.2017.7951689
7. A. Cataldo, E. De Benedetto, G. Cannazza, G. Leucci, L. De Giorgi, C. Demitri, 'Enhancement of leak detection in pipelines through TDR/GPR measurements', **IET Science, Measurement & Technology**, Print ISSN: 1751-8822, ONLINE ISSN: 1751-8830, vol. 11, no. 6, September 2017, pp. 696-702, doi: 10.1049/iet-smt.2016.0310
8. A. Cataldo, E. De Benedetto, G. Cannazza, A. Masciullo, N. Giaquinto, G. M. D'Aucelli, N. Costantino, A. De Leo, M. Miraglia, 'Recent advances in the TDR-based leak detection system for pipeline inspection', **Measurement**, ISSN: 0263-2241, vol. 98, pp. 347-354, 2017, DOI: 10.1016/j.measurement.2016.09.017
9. A. Cataldo, E. De Benedetto, G. Cannazza, G. Monti, E. Piuze, 'TDR-based monitoring of rising damp through the embedding of wire-like sensing elements in building structures', **Measurement**, ISSN: 0263-2241, vol. 98, pp. 355-360, 2017, DOI: 10.1016/j.measurement.2016.10.044
10. A. Cataldo, E. De Benedetto, G. Cannazza, C. Hubner, D. Trebbels, 'Performance comparison of TDR-based systems for permanent and diffused detection of water content and leaks', **Measurement Science and Technology**, ISSN: 0263-2241, vol. 28, n. 1, 2017, DOI: <http://dx.doi.org/10.1088/1361-6501/aa4e9b>
11. A. Cataldo, E. De Benedetto, G. Cannazza, G. Monti, C. Demitri, 'Accuracy improvement in the TDR-based localization of water leaks', **Results in Physics** (Elsevier), ISSN: 2211-3797, Vol. 6, 2016, pp. 594-598, DOI: 10.1016/j.rinp.2016.08.012
12. B. Martini, S. Dimida, E. De Benedetto, M. Madaghiale, C. Demitri, 'Study on the degradation of chitosan slurries', **Results in Physics** (Elsevier), ISSN: 2211-3797, Vol. 6, 2016, pp. 728-729, DOI: 10.1016/j.rinp.2016.10.012

13. A. Cataldo, A. Grieco, A. Del Prete, G. Cannazza, E. De Benedetto, 'Innovative method for traceability of hides throughout the leather manufacturing process', **International Journal of Advanced Manufacturing Technology**, Vol. 86, n. 9, pp. 3563–3570, Oct. 2016, ISSN: 0268-3768 (Print) 1433-3015 (Online), DOI: 10.1007/s00170-016-8489-4
14. N. Giaquinto, A. Cataldo, G. M. D'Aucelli, E. De Benedetto, G. Cannazza, 'Water detection using bi-wires as sensing elements: Comparison between capacitance-based and time-of-flight-based techniques', **IEEE Sensors Journal**, vol. 16, n. 11, 2016, pp. 4309-4317, DOI: 10.1109/JSEN.2016.2540299
15. N. Giaquinto, G. M. D'Aucelli, E. De Benedetto, G. Cannazza, A. Cataldo, E. PiuZZi, A. Masciullo, 'Criteria for automated estimation of time of flight in TDR Analysis', **IEEE Transactions on Instrumentation and Measurement**, vol. 65, no. 5, pp. 1215-1224, May 2016, DOI: 10.1109/TIM.2015.2495721
16. E. PiuZZi, S. Chicarella, A. Cataldo, E. De Benedetto, G. Cannazza, 'Design, realization, and experimental characterization of an admittance cell for low-frequency dielectric permittivity measurements on liquids', **IEEE Transactions on Instrumentation and Measurement**, vol.65, no. 1, pp. 104-111, Jan. 2016, DOI: 10.1109/TIM.2015.2477162
17. E. PiuZZi, G. Cannazza, A. Cataldo, S. Chicarella, E. De Benedetto, F. Frezza, S. Pisa, S. Prontera, F. Timpani, Measurement System for Evaluating Dielectric Permittivity of Granular Materials in the 1.7-2.6-GHz Band, **IEEE Transactions on Instrumentation and Measurement**, vol. 65, no. 2, pp. 104-111, DOI: 10.1109/TIM.2015.2495720
18. A. Cataldo, E. De Benedetto, G. Cannazza, A. Masciullo, E. PiuZZi, N. Giaquinto, 'Embedded TDR wire-like sensing elements for monitoring applications', **Measurement**, vol. 68, May 2015, pp. 236-245, DOI: 10.1016/j.measurement.2015.02.050, ISSN: 0263-2241.
19. R. Persico, G. Leucci, L. Matera, L. De Giorgi, F. Soldoveri, A. Cataldo, G. Cannazza, E. De Benedetto, 'Effect of the height of the observation line on the the diffraction curve in GPR prospecting', **Near Surface Geophysics**, vol. 13, no. 3, June 2015, DOI: 10.3997/1873-0604.2014042, ISSN: 1569-4445.
20. A. Cataldo, E. De Benedetto, G. Cannazza, 'Hydration monitoring and moisture control of cement-based samples through embedded wire-like sensing elements', **IEEE Sensors Journal**, vol. 15, no. 2, Feb. 2015, DOI: 10.1109/JSEN.2014.2360712, ISSN: 1530-437X.
21. A. Cataldo, E. PiuZZi, E. De Benedetto, G. Cannazza, 'Experimental Characterization and Performance Evaluation of Flexible Two-wire Probes for TDR Monitoring of Liquid Level', **IEEE Transactions on Instrumentation and Measurement**, vol. 63, no. 12, pp. 2779-2788, DOI: 10.1109/TIM.2014.2318393
22. G. Cannazza, A. Cataldo, E. De Benedetto, C. Demitri, M. Madaghiele, A. Sannino, 'Experimental assessment of the use of a novel superabsorbent polymer (SAP) for the optimization of water consumption in agricultural irrigation process", **Water**, vol. 6, no. 7, 2014, pp. 2056-2069, DOI: 10.3390/w6072056
23. A. Cataldo, R. Persico, G. Leucci, E. De Benedetto, G. Cannazza, L. Matera, L. De Giorgi, 'Time domain reflectometry, ground penetrating radar and electrical resistivity tomography: a comparative analysis of alternative approaches for leak detection in underground pipes', **Nondestructive Testing and Evaluation International**, vol. 62, pp. 14-28, March 2014, DOI: 10.1016/j.ndteint.2013.10.007
24. A. Cataldo, E. De Benedetto, G. Cannazza, N. Giaquinto, M. Savino, F. Adamo, 'Leak detection through microwave reflectometry: From laboratory to practical implementation', **Measurement**, Vol. 47, pp. 963-970, Jan. 2014, doi: 10.1016/j.measurement.2013.09.010
25. A. Cataldo, G. Cannazza, E. De Benedetto, M. Miraglia, D. Ancora, N. Giaquinto, "An electromagnetic-based method for pinpointing leaks in buried pipes: a practical validation", **Water Science & Technology: Water Supply**, Vol. 13, No. 4, pp. 966–976, August 2013, DOI:10.2166/ws.2013.085.
26. A. Paiano, G. Lagioia, A. Cataldo, "A critical analysis of the sustainability of mobile phone use", **Resources, Conservation & Recycling**, Vol. 73, pp. 162-171, DOI: 10.1016/j.resconrec.2013.02.008, April 2013.
27. E. PiuZZi, C. Merla, G. Cannazza, A. Zambotti, F. Apollonio, A. Cataldo, P. D'Atanasio, E. De Benedetto, M. Liberti, "A comparative analysis between customized and commercial systems for complex permittivity measurements on liquid samples at microwave frequencies", **IEEE Transactions on Instrumentation and Measurement**, Vol. 62, No. 5, pp. 1034-1046, May 2013, DOI: 10.1109/TIM.2012.2236791.
28. A. Cataldo, G. Cannazza, E. De Benedetto, N. Giaquinto, "Experimental validation of a TDR-based system for measuring leak distances in buried metal pipes", **PIER-Progress in Electromagnetics Research**, Vol. 132, pp. 71-90, September 2012, <http://www.jpier.org/pier/pier.php?paper=12081402>.

29. A. Cataldo, G. Cannazza, E. De Benedetto, N. Giaquinto, "A TDR-based system for the localization of leaks in newly installed, underground pipes made of any material", **Measurement Science and Technology**, Vol. 23, No. 10, 9 pp., October 2012, DOI: 10.1088/0957-0233/23/10/105010.
30. A. Cataldo, G. Cannazza, N. Giaquinto, A. Trotta, G. Andria, "Microwave TDR for real-time control of intravenous drip infusions", **IEEE Transactions on Instrumentation and Measurement**, Vol. 61, No. 7, pp. 1866-1873, July 2012, DOI: 10.1109/TIM.2012.2192346.
31. A. Cataldo, E. PiuZZi, G. Cannazza, E. De Benedetto, "Classification and adulteration control of vegetable oils based on microwave reflectometry analysis", **Journal of Food Engineering**, Vol. 112, No. 4, pp. 338-345, October 2012, DOI: 10.1016/j.jfoodeng.2012.04.012.
32. F. Attivissimo, A. Cataldo, N. Giaquinto, M. Savino, "Assessment of the uncertainty associated to systematic errors in digital instruments: an experimental study on offset errors", **Measurement Science and Technology**, Vol. 23, No. 3, 10 pp., March 2012, DOI: 10.1088/0957-0233/23/3/035004.
33. A. Cataldo, G. Cannazza, E. De Benedetto, N. Giaquinto, "A new method for detecting leaks in underground water pipelines", **IEEE Sensors Journal**, Vol. 12, No. 6, pp. 1660-1667, June 2012, DOI: 10.1109/JSEN.2011.2176484.
34. F. Attivissimo, A. Cataldo, L. Fabbiano, N. Giaquinto, "Systemtic errors and measurement uncertainty: an experimental approach", **Measurement**, Vol. 44, No. 9, pp. 1781- 1789, November 2011, DOI:10.1016/j.measurement.2011.07.011.
35. A. Cataldo, G. Cannazza, E. De Benedetto, C. Severini, A. Derossi, "An alternative method for the industrial monitoring of osmotic solution during dehydration of fruit and vegetables: a test-case for tomatoes", **Journal of Food Engineering**, Vol. 105, No.1, pp. 186-192, DOI: 10.1016/j.jfoodeng.2011.02.026, July 2011.
36. A. Cataldo, E. De Benedetto, "Broadband reflectometry for diagnostics and monitoring applications", **IEEE Sensors Journal**, Vol. 11; No. 2, pp. 451-459, February 2011, DOI: 10.1109/JSEN.2010.2060322.
37. A. Cataldo, E. PiuZZi, G. Cannazza, E. De Benedetto, L. Tarricone, "Quality and anti-adulteration control of vegetable oils through microwave dielectric spectroscopy Measurement", **Measurement**, Vol. 43, No. 8, pp. 1031-1039, October 2010, DOI: 10.1016/j.measurement.2010.02.008.
38. E. PiuZZi, A. Cataldo, G. Cannazza, E. De Benedetto, "An improved reflectometric method for soil moisture measurement exploiting an innovative triple short calibration (TSC)", **IEEE Transactions on Instrumentation and Measurement**, Vol.59, No.10, pp.2747- 2754, DOI: 10.1109/TIM.2010.2045445, October 2010.
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