Giorgio Cassiani

Curriculum Vitae

Personal details

Place of birth: Trieste, Italy
Marital status: married, two children
Nationality: Italian

Business address

Dipartimento di Geoscienze
Università degli Studi di Padova
Via Gradenigo 6
I-35137 Padova, ITALY
tel: +39 049 8272073
fax: +39 049 8272070
e-mail: giorgio.cassiani@unipd.it

Current position

Full Professor in Applied Geophysics

Department of Geosciences
University of Padua, Padua, Italy

Responsible for teaching and research in applied geophysics, with focus on environmental, hydrological and engineering geology applications.

Education

- **Ph.D. in Civil and Environmental Engineering,** 1997, **Duke University, U.S.A.**
  Dissertation: "Aquifer Characterization and Well Tests": analytical and semi-analytical models for well tests and application in heterogeneous aquifers.

- **Ph.D. in Applied Geophysics,** 1996, **University of Trieste, Italy**.
  Dissertation: "Integration of geophysical data in environmental engineering". Geophysical data used as auxiliary information for the characterization of heterogeneous aquifers for

environmental problems.

- **Master of Science in Civil and Environmental Engineering,** 1995, **Duke University, USA**.
  Thesis: "Groundwater Pollution Remediation and Control - a Stochastic Framework for Utilization of Available Data". Geostatistical integration of data of different nature, hydrogeological and geophysical, for an accurate hydraulic characterization of heterogeneous aquifers.

- **Diploma in Mining Engineering,** 1991, **University of Trieste, Italy**. Summa cum Laude.
  Thesis: "Vibrations in industrial environment: safety and interventions". Acquisition and processing of vibrometric data. And finite element modeling of the source-soil-structure system.

Employment

2006-2015 **Associate Professor in Applied Geophysics**
Department of Geosciences
University of Padua, Padua, Italy

Responsible for teaching and research in applied geophysics within the courses of study in Earth Science and Environmental Science, with focus on environmental, hydrogeological and engineering geology applications. In this period he has been principal or co-principal investigator in 18 funded grants and consultancy contracts, including 4 EU FP7 Collaborative Projects, all of them as a work package leader.

2001-2006 **Researcher in Applied Geophysics**
Department of Earth Sciences and Geotechnology
University of Milan – Bicocca, Milan, Italy

Responsible for teaching and research in applied geophysics within the course of study in Earth Science, with focus on environmental, hydrogeological and engineering geology applications.

During this period, he has been principal or co-principal investigator in 14 funded grants and contracts.

1999-2001 **Lecturer (B) in Contaminant Hydrogeology**,
Department of Environmental Science, Lancaster University, Lancaster, UK.

Permanent position involving teaching and research in hydrogeology, with focus on contamination issues in soil and groundwater. Co-director of the Environmental Management degree course.

In the 1999-2001 period he has been coordinator of 3 research projects funded at the national (UK) level (NERC)

1997-1999 **Environmental Specialist**, Geodynamics and Environment Unit (GEDA), ENI S.p.A., Agip Division, Milan, Italy

Permanent position involving internal consulting on environmental issues for the Italian major oil company: environmental restoration, hydrogeology, geotechnics, and environmental management systems.

1996-1997 **Responsible for Research and Development**, A.S.P., Pistoia, Italy.

Permanent position as assistant to the head of technical services for development and management of projects in the areas of (i) production and distribution of drinking water; (ii) collection and treatment of wastewater; (iii) collection and treatment of solid waste; (iv) planning of water resources; and (v) distribution of natural gas.

1993-1996 **Research Assistant**, Department of Civil and Environmental Engineering, Duke University, USA.

Assistant to the principal investigator of the "Duke Forest Gate 11 site" project. Site characterization via hydrogeological and geophysical methods, design and optimization of restoration plan. International consulting funded by the World Health Organization.

1992-1993 **Research Associate** at Osservatorio Geofisico Sperimentale (OGS), Trieste, Italy.

Development of seismic interpretation software within the EC project "Joule", sub-project: "Artificial Intelligence Techniques for Seismic Data Interpretation".

1991-1992 **Research Associate** at the Department of Mines and Applied Geophysics, University of Trieste, Trieste, Italy.

Development of water well database, seismic data interpretation and geothermal modeling for the regional government.

Areas of scientific interest

- Geophysical methods for environmental applications, with particular regard to the characterization of hydrological systems and contaminated sites from the geological, hydrological and contamination viewpoints. Methods of choice are Electrical Resistivity Tomography (ERT) and Ground Penetrating Radar (GPR), especially in borehole and cross-borehole configuration. Novel Spectral Induced Polarization (SIP) and micro-gravimetric time-lapse methods are currently under development.

- Geophysical methods for the characterization of mountain slope sites, both from the geotechnical and hydrological viewpoints, with special focus on landslide prediction. Methods of choice are seismic methods – especially Surface Wave methods (MASW, MOPA) - ERT and GPR.

- Seismological micro-scale zoning and other soil dynamics uses of exploration geophysics, with particular reference to surface wave methods (MASW, MOPA).

- Integration of hydrological modeling with evidence from geophysical methods and from classical hydrological measurements, both in the vadose zone and in the saturated zone, with the aim of calibrating the hydraulic and hydrological parameters of relevant geological formations.

- Integration of invasive and non-invasive techniques for site characterization, with particular reference to geostatistical techniques.

- Geomechanical issues related to the control of subsidence caused by the extraction of fluids from the subsurface, with particular regard to petrophysical and modeling aspects, including the geomechanical effects on 4D seismics.

Teaching activity

since 2020

Coordinator of the Master of Sciences in *Geophysics for Natural Risks and Resources*, University of Padua.

Responsible of the mandatory course *Applied Geophysics* (9 credits).

since 2019

Professor in Applied Geophysics, responsible for the following courses:
Applied Geophysics (6 credits) for the Master's course in Technical Geology.
Geophysics for Engineering (6 credits) for the Master's course in Civil Engineering.

2017-2018

Contract Professor in Applied Geophysics, University of Trieste, Italy.

- Hydrogeology and exploitation of underground fluids (9 credits) for the Master's course in Civil and Environmental Engineering.

2012-2019

Professor in Applied Geophysics, responsible for the following courses

- Environmental Applied Geophysics (6 credits) for the Master's course in Technical Geology.
- Applied Geophysics (8 credits) for the Master's course in Environmental Science.

Advisor to 10 Master's students and 3 Bachelor students. Supervisor to 5 PhD Theses.

2008-2011

Associate Professor in Applied Geophysics, responsible for the following courses

- Applied Geophysics II (5 credits) for the Master course in Technical Geology.
- Environmental Geophysics (4 credits) for the Master course in Technical Geology.
- Applied Geophysics (8 credits) for the Master course in Environmental Science.
- Environmental Geophysics (6 credits) for the Master course in Environmental Engineering.

Advisor to 4 Master's level theses and 8 Bachelor's level theses. Advisor of 3 PhD dissertations.

2006-2008

Associate Professor in Applied Geophysics responsible for the following courses for the degree in Technical Geology, Dipartimento di Geologia Paleontologia e Geofisica, Università di Padova:

- Applied Geophysics II (4 credits)
- Laboratory of Applied Geophysics I (3 credits)
- Laboratory of Applied Geophysics II (3 credits)

Contract Professor (2006-2007) at the University of Milano Bicocca, Milan, for the course of Environmental Geophysics (5 credits).

2001-2006

Responsible for lecturing the entire set of courses offered in Applied Geophysics within the degree course in Earth Science and Geotechnology, **Università di Milano Bicocca**, both at the first degree and MSc level. The courses were:

- ***Geophysical Prospecting***: 1 module – optional for III year bachelor students and mandatory for I year MSc students.
- ***Environmental Geophysics***: 1 module (since 2004) – optional for I and II year MSc students).
- ***Applied Seismics***: 1 module (since 2004) – optional for II year MSc students.

The feed-back forms compiled by students indicate a 100% satisfaction rate (data: 2003). Note: 1 module = 40 hours

Thesis advisor to 3 Laurea students (5-year course of study), 12 Master's level students and 7 bachelor students. Co-advisor to 5 Laurea students, two of which from other institutions.

1999-2001

Lecturer within the bachelor courses of study in Environmental Science and Environmental Management, and within the Master of Science course in Environmental Science, **Lancaster University**.

- ***ENV 221 – Hydrogeology***: 1 module – mandatory for II year bachelor students.
- ***ENV 351 - Project Appraisal for Environmental Management*** - optional for III year bachelor students.
- ***ENV 434 - Contaminated Land and Remediation*****:** mandatory for MSc students.

Note: 1 module = 30 hours

Dissertation advisor to 8 Bachelor students. Advisor to 1 Ph.D. student.

Grants and contracts

1992-93 **Artificial Intelligence Techniques for Seismic Data Interpretation**, O.G.S. Trieste, funded by the European Community within the project "Joule". Principal Investigator: Claudio Chiaruttini.

1994-95 **Duke Forest Gate 11 site: site investigation and remediation planning**, Duke University, USA, funded by Duke Medical Center, Principal Investigator: Miguel A. Medina.

1996 **Groundwater Contamination by Organic Carcinogens: Health Risk Assessment and Remedial Measures**, Duke University, USA, funded by the World Health Organization: Principal Investigator: Miguel A. Medina.

1997-99 **Effects of non-linearities in the elasto-plastic soil behavior, spatial variabilities and property uncertainties on subsidence modeling, and interpretation of in-situ compressibility measurements**, Duke University, USA ed ISMES, Bergamo, Italy, funded by ENI-Agip Principal Investigators: Tomasz Hueckel and Zbigniew J. Kabala.

2001-2002 **Advanced Space and Time Random Field Analysis of Natural and Enhanced Bioattenuation in Contaminated Soil and Groundwater**, Lancaster University, UK, funded by Natural Environment Research Council (NERC) UK, GBP 25,000. Principal Investigators: **Giorgio Cassiani**, Peter Diggle.

2001-2003 **In-situ tests for biodegradation of petroleum hydrocarbons in groundwater**, Lancaster University, UK, funded by Natural Environment Research Council (NERC) UK, GBP 24,000. Principal Investigators: **Giorgio Cassiani**, Kirk T. Semple.

2002-2004 **Hydrological characterisation of partially saturated soils with the support of spectral induced polarisation measurements**, Lancaster University, UK, in collaboration with Rutgers Univesity (Lee Slater), NJ, USA, funded by Natural Environment Research Council (NERC) UK, GBP 97,300. Principal Investigator: Andrew M. Binley.

2002	**"Benchmarking subsidence" for the identification of advanced research areas in the fields of subsidence forecasting, monitoring and prevention**, Università di Milano Bicocca, funded by ENI-Agip, Milan, Italy, € 15,000. Principal Investigator: **Giorgio Cassiani**.
2003	**Uniaxial compressibility tests with aging on deep sand speciments**, Università di Milano Bicocca, funded by ENI-Divisione E&P, Milan, Italy, € 25,000. Principal Investigators: **Giorgio Cassiani** e Giovanni B. Crosta.
2003	**Characterization of a landslide in Bormio, Italy, using geological and geophysical techniques**, funded by Comune di Bormio, Italy. Principal Investigator: Giovanni B. Crosta.
2003	**Use of Electrical Resistivity Tomography to monitor the migration of a saline tracer in order to determine the hydraulic connection between two shallow aquifers**, Università di Milano Bicocca, funded by Tribunale di Ferrara, Italy, € 21,600. Principal Investigator: **Giorgio Cassiani**.
2004-2006	**A multidisciplinary approach for the risk evaluation of large gravitational landslides**, Università di Milano Bicocca, Politecnico di Milano and Università di Trieste, funded by the Italian Ministry for Research (programme MIUR-FIRB). Principal Investigator: Giovanni B. Crosta.
2004	**Environmental effects of a proposed deepening of a large sand quarry, and evaluation of restoration alternatives**, Università di Milano-Bicocca, funded by Comune di Cassano d'Adda, Italy, € 13,300. Principal Investigators: **Giorgio Cassiani** e Giovanni B. Crosta.
2004	**Non invasive assessment of the state of the impermeable liner at the contaminated site**, funded by Bresciani Costruzioni, Lodi, Italy, € 8,000. Principal Investigator: **Giorgio Cassiani**.
2004-2006	**Spectral induced polarization for the identification of organic contaminants in the subsoil**, Università di Milano Bicocca and Università di Torino, funded by the Italian Ministry for Research (programme MIUR-FIRB) € 100,000. Principal investigator and National Coordinator: **Giorgio Cassiani**.
2004-2006	**Study of flow and compaction in stress-sensitive reservoirs**, Università di Milano Bicocca, funded by ENI-Divisione E&P, Milan, Italy € 96,000. Principal investigator: **Giorgio Cassiani**.
2004-2007	**Evaluation of unconfined aquifer vulnerability via non-invasive cross-hole geophysical methods**, funded by Consorzio Industriale Gorgonzola/Pessano con Bornago, Milan, Italy, € 68,000. Principal investigator: **Giorgio Cassiani**.
2005	**GPR and hydraulic measurements on a landfill in Marghera (Venice)**, funded by ENSR Italia s.r.l., € 15,500, Principal investigator: **Giorgio Cassiani**.
2005	**Cross-borehole ERT monitoring of in-situ remediation activity at a former chemical plant in Trento**, funded by Provincia Autonoma di Trento, € 7,000, Principal investigator: **Giorgio Cassiani**
2005-2008	**Reconstruction of archaeological landscapes in mediterranean coastal environment via innovated non-invasive technologies**, Università di Cagliari, Politecnico di Torino, Università di Palermo, CONISMA (consorzio nazionale inter-universitario delle scienze del mare), funded by the Italian Ministry for Research (programme MIUR-FIRB) € 650,000. Principal investigator: Gaetano Ranieri (University of Cagliari).

2006-2007	**Study, definition and analysis of constitutive models linking the DC and induced polarization electrical response to the physical and chemical microstructure of multiphase porous media**, Università di Milano Bicocca and Università di Trieste funded by the Italian Ministry for Research (programme MIUR-COFIN) € 30,000. Principal investigator: **Giorgio Cassiani**.
2008-2009	**Integration of surface wave inversion and P wave tomography for the computation of static corrections in reflection seismics**, University of Padova and O.G.S. Trieste (A.Vesnaver, G. Rossi and G. Boehm), Italy. Funding from the University of Padova € 37,334. Principal investigator: **Giorgio Cassiani**.
2008-2011	**EU Framework Programme 7 Collaborative Project "ModelPROBE - Model driven Soil Probing, Site Assessment and Evaluation"** for Theme 6.3 Environmental Technologies, Call: ENV 2007, 3.1.2.2: Development of technologies and tools for soil contamination assessment and site characterisation, towards sustainable remediation. Co-Coordinator: **Giorgio Cassiani** (Coordinator Prof. Matthias Kaestner, UFZ Leipzig, Germany). Total funding from the European Commission € 3,397,609, of which € 290,981 for the Department of Geoscience, University of Padova (P.I. **Giorgio Cassiani**)
2008-2011	**EU Framework Programme 7 Collaborative Project "iSOIL - Interactions between *soil* related sciences – Linking geophysics, soil science and digital soil mapping"** for Theme 6.3 Environmental Technologies, Call ENV.2007.3.1.2.1. Development and improvement of technologies for data collection in (digital) soil mapping, coordinator Dr. Peter Dietrich, UFZ Leipzig, Germany. Total funding from the European Commission € 3,420,623, of which € 210,183 for the Department of Geoscience, University of Padova (P.I. **Giorgio Cassiani**)
2008-2009	**Advanced Analysis of Radioactive Marker Log Measurements for In Situ Compaction Evaluation**, Università di Padova, funded by ENI-Divisione E&P, Milan, Italy € 69,820. Principal investigator: **Giorgio Cassiani**.
2008-2009	**Non invasive hydrogeophysical techniques for the hydrological characterization of slopes and mountain catchments**, University of Padova, Funding from the University of Padova € 57,000. Principal investigator: **Giorgio Cassiani**.
2008-2011	**Hydrogeophysical methods for the characterization of hydrological systems.** University of Padova, funded by Fondazione Cariparo, Padova, for a 3-year PhD full grant, Principal Investigator: **Giorgio Cassiani.**
2008-2011	**Transport phenomena in hydrological catchments: hydrological and geophysical experiments and modelling,** University of Padova, in collaboration with the DMMMSA Department (Mario Putti), the IMAGE Department(Marco Marani) and OGS Trieste (Francesco Palmieri), funded by Fondazione Cariparo, Padova, € 360,000; Principal Investigator: **Giorgio Cassiani.**
2008-2010	**Experimental measurement of the soil-vegetation-atmosphere interaction processes and numerical modeling of their response to climate change**, Università of Turin, CNR, University of Padova e University of Palermo, funded by MIUR-PRIN, € 31,429 to the University of Padova, local coordinator: **Giorgio Cassiani**.
2009-2010	**Quality analysis of monitoring well marker data and revision of compressibility coefficient estimates**, University of Padova, in collaboration with DMMMSA University of Padova (G. Gambolati) and Duke University (Tomasz Hueckel) funded by Eni S.p.A.-Divisione E&P, Milano. € 109,630 for the Department of Geoscience, Università di Padova. Principal Investigator: **Giorgio Cassiani**.

2010-2013	**EU Framework Programme 7 Collaborative Project "CLIMB:** Climate Induced Changes on the Hydrology of Mediterranean Basins: Reducing Uncertainty and Quantifying Risk through an Integrated Monitoring and Modeling System" for Theme 6.3 Environmental Technologies, Call ENV.2009.1.1.5.2. Hydro-geophysical techniques for catchment characterization aimed at the prediction of hydrological effects of climate changes in the Mediterranean area. Coordinator Prof. Ralf Ludwig, LMU Muenich, Germany. Total funding from the European Commission € 3,149,641, of which € 176,775 for the Department of Geoscience, University of Padova (P.I. **Giorgio Cassiani**), in collaboration with the DMMMSA Department (Mario Putti), the IMAGE Department(Marco Marani).
2009	**Geo-electrical prospection in the Settolo well field (Treviso)**, Università di Padova, funded Alto Trevigiano Servizi S.r.l., € 15000. Principal Investigator: Rita Deiana.
2009	**Geophysical data acquisition on the contaminated site along the coast between Punta Sottile and Punta Ronco, Muggia (Trieste)**, Università di Padova, funded by CIGRA (Centro Interdipartimentale per la Gestione e il Recupero Ambientale, Università degli Studi di Trieste, € 14500. Principal Investigator: **Giorgio Cassiani**.
2009-2012	**Geological and hydrological processes: monitoring, modelling and impact in the North-Eastern Italy**, strategic project funded by the University of Padova for € 1,500,000. Principal Investigator: Rinaldo Genevois.
2010	**Geophysical investigations of the landfill in Corigliano d'Otranto** (Lecce, Puglia), funding from the IRSA-CNR, Bari, € 10000, Principal Investigator: Rita Deiana.
2010-2011	**Geophysical investigations of the Scala Erre landfill in Sassari (Sardinia)**, funding from the Sassari City Council, € 27000, Principal Investigator: **Giorgio Cassiani**.
2013-2016	**Innovative methods for water resources management under hydro-climatic uncertainty scenarios,** University of Trento, University of Padova, University of Naples, University of Modena-Reggio, Polytechnic of Milan, University of Roma "Roma Tre", CNR-ISAC Turin, funded by MIUR-PRIN for € 735000 - €106810 at the University of Padova, local coordinator: **Giorgio Cassiani**.
2013-2018	**EU Framework Programme 7 Collaborative Project GLOBAQUA** "Managing the effects of multiple stressors on aquatic ecosystems under water scarcity". Work programme topics addressed: ENV.2013.6.2-1 Water resource management under complex, multi stressor conditions. Coordinator Prof. Damià Barceló, Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC), Spain. Total funding from the European Commission € 7,590,588 of which € 195,281 for the Department of Geoscience, University of Padova (P.I. **Giorgio Cassiani**).
2015-2017	**Hydro-geophysical monitoring and modelling for the Earth's Critical Zone**, funded by the University of Padua, € 33,000. Principal investigator: **Giorgio Cassiani**.
2016-2019	**WASA: WAter Saving in Agriculture: technological developments for the sustainable management of limited water resources in the Mediterranean area**. Project funded in the **EU FP7 ERANET-MED** scheme, consortium composed of 8 partners from 6 countries (Italy, Portugal, Morocco, Tunisia, Egypt and Turkey. Project Coordinator: **Giorgio Cassiani**. Total funding € 450,000 (€40,000 to the University of Padua).

2017-2019	**GEOCONS**: **Geophysical methods for the characterization of contaminated sites**. Project funded by Italy-Israel Scientific and Technological Cooperation Programme (Scientific Track 2017). Cooperation between University of Padua and Technion, Haifa. Project Coordinator: Matteo Camporese. Total funding € 200,000 (€100,000 to the University of Padua).
2018-2019	**Non-invasive investigations for remediation planning at the In.F.A. SpA contaminated site, Aviano (PN), Italy**, funded by IN.F.A. SpA, € 95.000. PI: **Giorgio Cassiani**.
2018-2023	**Enhanced Mitigation of Nitrate in shallow Groundwater project**, funded through the Institute of Environmental Science and Research Limited, New Zealand, P.I. Dr. Murray Close, collaborators Andrew Binley (Lancaster University) and **Giorgio Cassiani** (University of Padua). Funding to the University of Padua: 60,000 NZ$.
2019-2020	**Non-invasive investigations for the evaluation of a landfill confinement at Eni Rewind SpA sites in Porto Marghera, Venice**, funded by Golder Associates Srl, € 23,000. PI: **Giorgio Cassiani**.
2019-2021	**ECZ-Dry**: **New technologies to monitor the Earth Critical Zone in water-limited ecosystems**. Project funded by Italy-Israel Scientific and Technological Cooperation Programme (Scientific Track 2018). Cooperation between University of Padua and the Hebrew University of Jerusalem. Project Coordinator: Giorgio Cassiani. Total funding to the University of Padua: € 99,980.
2020-2023	**Geophysical Roots Observation for Water savING in arboriculture, viticulture and agronomy (GROWING)**, funded by Marie Skłodowska-Curie Individual Fellowships H2020 programme, Topic: MSCA-IF-2018 Type of action: MSCA-IF-GF (Global Fellowships), call H2020-MSCA-IF-2018. **Beneficiary: Benjamin Mary**. **Supervisor: Giorgio Cassiani**. Partner: Lawrence Berkeley National Laboratory, Geoscience Division, USA (Dr. Yuxin Wu). Total funding € 251002,56.
2019-2021	**WATer mixing in the critical ZONe: observations and predictions under environmental changes – WATZON**, University of Padua, University of Turin, University of Naples Federico II, EURAC Bozen, Free University of Bozen, funded by MIUR-PRIN (**2017SL7ABC**), total funding € 581,580, P.I.: Marco Borga, University of Padua.
2020	**Non invasive investigations at the Burgesi Landfill site**, funded through CNR IRSA, Bari, € 10,000. PI: **Giorgio Cassiani**.
2020-2021	**Non invasive monitoring of degradation processes in stored grains**, funded by Metalmont Srl through UNISMART, **€ 10,000. PI: Giorgio Cassiani.**
2022-2025	**RETURN (Multi-Risk sciEnce for resilienT commUnities undeR a changiNg climate)**, funded as part of the Italian National Recovery and Resilience Plan (PNRR) funded by the EU. Role: participant in the Spoke 2 – VS2 – Ground Instabilities, responsible of Task T 2.5.2 - Complements for multiple hazard scenarios from other vertical Spokes. Specific funding approximately € 150000.

2023-2025	**PRIN 2022 project Predictive Dynamics Of Microbiological Contamination Of Groundwater in the Earth Critical Zone And Impact On Human Health (Dy.Mi.Cr.On Project)**, Research Unit Leader (UNIPD) and leader of WP6. Total funding for UNIPD: € 38,240.
2024	**Non-invasive investigations on the Fornovo di Taro contaminated site**, funded by IDROGEA S.r.l. for Eni Rewind S.p.A., € 12,000. PI: Giorgio Cassiani.
2024	**Non-invasive investigations on the Malagrotta landfill,** funded by the Commissario Straordinario per la bonifica della discarica di Malagrotta via CERI, Università di Roma Sapienza, € 15,000. PI: Giorgio Cassiani.
2024	**Development of a non-invasive system for the identification of degradation processes in grain storage facilities**, funded by Metalmont S.r.l., € 20,000. PI: Giorgio Cassiani.
2025	**Landfill investigation using ERT and MALM**, funded by Ambiente & Sviluppo S.C.a.r.l., € 20,000. PI: Giorgio Cassiani.
2026	**Monitoring of test sites at the Malagrotta landfill**, funded by Mola Rupta S.C.a.r.l., € 28,500, PI: Giorgio Cassiani.
2026	**Preparation of the Guideline "The role of geophysical investigations for contaminated sites. Methodologies, applications, practical examples and caveats"**, funded by Eni Rewind S.p.A., € 31,400, PI: Giorgio Cassiani.

Other activities

SERVICE TO THE PROFESSION

- **President of the Committee for the Italian National Scientific Habilitation** 2021-2023, Geophysics Sector (04/A4).

- **Member of selection committees** for Professors and Researcher at a number of Italian Universities (Padova, Udine, Bari, Pisa, Palermo, Catania, Messina, Napoli, Firenze, Roma, Cosenza), and research institutes (OGS, CNR), 2016-2024.

- **Coordinator of North-Eastern Pole of the Italian Geothermic Union (Unione Geotermica Italiana)** (UGI-Ente del Terzo Settore) since 2022.

- **Member of the Board of Directors of OGS** – National Institute of Oceanography and Experimental Geophysics – 2015-2019.

- **Member of the Committee for the Italian National Scientific Habilitation** 2016-2018, Geophysics Sector (04/A4), parallel Committee.

- **President of the selection committee for 49 positions of First Technologist, CNR, 2024,** sector technologies for the Earth System and the Environment.

- **Associated member of CNR-IMAA (Istituto di Metodologie per l'Analisi Ambientale)**, 2015-2017, Tito Scalo, Potenza, Italy.

- **Associated member of CNR-IRSA (Istituto di Ricerca Sulle Acque)**, 2018-2020, Bari, Italy.

- **Associated member of OGS** (Istituto Nazionale di Oceanografia e Geofisica Sperimentale), since 2023.

- **Member of the Hard Science Team** of the TESI (Trieste Encounters on Science and Innovation) PRE-ESOF and *ESOF (EuroScience Open Forum) Organizing committee*, 2018-2020.

- **Member of the American Geophysical Union (AGU) Hydrogeophysics Technical Committee** (http://www.hydrogeophysics.org), 2005-2013.

- **Member of the Editorial Board of Scientific Reports**, Nature Portfolio, since 2023.

- **Associate Editor** of **Near Surface Geophysics** (European Association of Geoscientists and Engineers).

- **Associate Editor of the journal Bollettino di Geofisica Teorica e Applicata** (OGS, Trieste, Italy).

- **Associate Editor** of the journal **SERRA** (Stochastic Environmental Research & Risk Assessment), Springer-Verlag (from 2001 to 2011).

- **Associate Editor** of the journal **Remote Sensing** (MDPI) since 2020.

- **Review Editor**, 'Critical Zone' Section, of journal ***Frontiers in Water***.
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- **Member of the scientific committee** of the journal "**Acque Sotterranee"**, Italy.

- **Member of the organizing committee,** NATO-Advanced Research Workshop "Soils and groundwater contamination: Improved risk assessment based on integrated hydrogeological and geophysical methods", St Petersburgh, Russia, 25-31 July 2004.

- **Member of the Scientific Committee**, 21st European Meeting of Environmental and Engineering Geophysics Near Surface Geoscience 2015, Turin.

- **Co-convener** of session "Freshwater-seawater dynamics in coastal zones: advancing science and technology for a sustainable management", ESOF2020, Trieste, 2 September 2020.

- **Co-convener** of the Hydrogeophysics session (with David Hyndman and Andreas Kemna) – American Geophysical Union AGU Fall Meeting – San Francisco, December 2005.

- **Co-convener** of the Hydrogeophysics session (with Alberto Bellin and Klaus Holliger) – American Geophysical Union AGU Fall Meeting – San Francisco, December 2007.

- **Co-convener** of session "Hydrogeophysics: From non-invasive site characterization to improved process understanding" (with J.A. Huisman P. Dietrich ed H. K. French) – European Geoscience Union (EGU) General Assembly 2012, Vienna 22-27 April 2012.

- **Co-convener** of session SSS9.9 "Instrumented Catchments and Demonstration Areas: the scientific and social impact of research throught experiments and modelling about water and soil"– European Geoscience Union (EGU) General Assembly 2015, Vienna 12-17 April 2015.

- **Co-convener**, Geophysics for the Critical Zone, Workshop at the 21st European Meeting of Environmental and Engineering Geophysics Near Surface Geoscience 2015, Turin.

- **Convener** of session: Hydrogeophysics, remote sensing, and radar technologies: innovative tools and recent development, *42nd International IAH Congress "Aqua2015"*, Rome, September 13-18, 2015.

- **Co-convener** of special session "Advanced ground-based technologies for assessing vadose zone properties and processes", *IEEE International Workshop on Metrology for Agriculture and Forestry* (MetroAgriFor), Naples, 24-26 October 2019.

- **Co-convener** of session Hydrogeophysics: a tool for hydrology, ecology, agronomy and beyond, European Geoscience Union (EGU) General Assembly 2021, virtual, 28 April 2021.

- **Chair** of the Civil Engineering session of the EAGE Near Surface 2008 Conference in Kraków, Poland, September 15-17, 2008.

- **Co-organizer** of the Special session 9 (SpS 9) at the CONSOIL 2008 conference, Milan, June 3-6 2008: "From low to non-invasive site assessment and characterization: Model Driven Soil Probing, Site Assessment and Evaluation (EU project ModelPROBE)" M. Kästner (UFZ, Germany), G. Cassiani (University of Padua, Italy), M. Petrangeli Papini (University of Rome, Italy).

- **Member of the scientific organizing committee**, EAGE/SEG Research Workshop 2011, Towards a Full Integration from Geosciences to Reservoir Simulation, 1-2 September 2011, Trieste, Italy.

- **Committee member**, 3rd SEG/EAGE Workshop on Geophysical Aspects of Smart Cities, 3–5 December 2024, Hanyang University, Seoul, South Korea.

- **External examiner** for PhD defenses: Michela Giustiniani (Università di Trieste, 2005), Giulio Vignoli (Università di Ferrara, 2006), Umberta Tinivella (Università di Trieste, 2006), Alessandro Brovelli (Università di Milano Bicocca, 2006), Majken Looms (University of Copenhagen, 2007), Marta Castagna (Università di Trento, 2008), Michael Van Schoor (Lancaster University, 2009), Ilaria Coscia (ETH Zurich, 2011), Lajam Mejus (Lancaster University, 2015), Valeria Cascone (Sapienza Università di Roma, 2018).

- **Scientific reviewer** for:

- Science
- Scientific Reports
- Geophysics
- Journal of Applied Geophysics
- Geophysical Research Letters
- Mathematical Geology
- Water Resources Research
- Advances in Water Resources
- Journal of Hydrology
- Hydrological Processes
- Surveys in Geophysics
- Bulletin of Volcanology
- Engineering Geology
- Near Surface Geophysics
- Vadose Zone Journal
- Journal of Geophysical Research
- Journal of Environmental and Engineering Geophysics
- Hydrological Processes
- Computers and Geoscience
- Environmental Science and Technology
- Hydrogeology Journal
- Rendiconti Lincei
- Fresenius Environmental Bulletin
- Hydrology and Earth System Sciences (HESS)
- Geophysical Journal International
- Geoderma
- EAGE Near Surface Meetings 2007, 2008, 2009, 2010, 2011

- **Peer review for research project** for:
  - NSF (National Science Foundation – USA)
  - DFG (German Science Foundation)
  - NERC (Natural Environment Research Council), UK
  - ISF (Israel Science Foundation)
  - FNR (Fonds National de la Recherche, Luxembourg)
  - FNRS (Fonds National de la Recherche Scientifique, Belgium)
  - MIUR (Italian Ministry of Education)
  - NCSTE - National Center of Science and Technology Evaluation – Kazakhstan
  - LCS - The Latvian Council of Science
  - FNR - Luxembourg, Fonds National de la Recherche
  - FWF - Austrian Science Fund
  - SNSF (Swiss National Science Foundation)

- **Member of scientific societies**
  - American Geophysical Union (since 1996)
  - European Geoscience Union (since 1999)
  - European Association of Geoscientists and Engineers (since 2005)

CONSULTING ACTIVITIES

- **Secretary** of the International Scientific Committee on Land Subsidence, composed by Prof. Enzo Boschi (INGV, IT), Prof. Khalid Aziz (Stanford University, USA), Prof. Jean Prevost (Princeton University, USA), Prof. Tomasz Hueckel (Duke University, USA), Prof. Frans Barens (Geodelft, NL) and Dr. Berend Scheffers (NITG-TNO, NL), promoted and funded by ENI-Divisione E&P, 2002-2006.

- **Court expert** for Environmental matters in administrative, civil and criminal courts (2018-2025).

PUBLIC OUTREACH

- **Lecturer** at the short Training Course on "Groundwater Management in the Framework of Integrated Water Resources Management IWRM" organized by UNESCO at the The Regional Center for Training and Water Studies (RCTWS) in Cairo, Egypt, May 2006.

- **Lecturer** at the FIVA PhD course on Hydrogeophysics, 15-17 June 2006, University of Copenhagen, Denmark.

- **Lecturer** at the FIVA PhD course on Hydrogeophysics, 9-12 August 2010, University of Copenhagen, Denmark.

- **Lecturer** at the Seismic Microzonation course (II edition), University of Pavia, Italy, May 29-30 2007.

- **Lecturer** at the Master de l'Agua, Institut de Recerca de l'Agua, Universitat de Barcelona, June 2008, Sept 2009, June 2011 and June 2012.

- **Lecturer** at the course "Advanced methods of characterization and remediation of contaminated sites", Provincia di Milano and Università La Sapienza di Roma, May 2009.

- **Lecturer** at the Master "Characterization and Technologies for the Remediation of Contaminated Sites", Università La Sapienza di Roma, 2011, 2012, 2013, 2014.

- **Lecturer** at the Master "Characterization and Sustainable use of the Territory (CUS-RT)", Università di Trieste, Polo di Gorizia (2010 and 2011).

- **Lecturer** at the Rose School - Centre for Post-Graduate Training and Research in Earthquake Engineering and Engineering Seismology – Pavia, Italy - Course of Applied Geophysics.

- **Lecturer** at the Course on "Characterization of contaminated sites via geophysical and direct push methods", Ordine degli Ingegneri di Padova, July 2011.

- **Lecturer** at the workshop "Le indagini geofisiche – le line guida dell'Associazione delle Società di Geofisica (ASG)", Centro di GeoTecnologie, San Giovanni Valdarno, May 18, 2012.

- **Lecturer** at the course titled "The remediation of contaminated sites in Lombardy", December 10-12, 2012, FAST, Milan.

- **Lecturer** at the course titled "Waste in contaminated site remediation", May 7-8, 2014, FAST, Milan.

- **Lecturer** at the INTERCORE (INnovative TEchnologies foR COntaminated soil and land REmediation) workshop: Tecnologie dirette ed indirette per la caratterizzazione ed il monitoraggio di siti contaminati – Determinazione dei parametri sito specifici propedeutici all'analisi di rischio, June 5-6, 2014, Policoro (Matera – Italy).

Invited seminars at:

- Master Environmental Management (MEDEA), Scuola Eni Enrico Mattei, ENI, Milan (1998);
- University of Trento (1998)
- University of Trieste (1998, 1999, 2002, 2004);
- International School of Applied Geophysics, 12th Course, Application of Geophysical Methods to Hydrogeological Problems, Centro Ettore Majorana, Erice: 12 - 18 April 2003;
- Post-graduate course on environment restoration and control: Contaminated site remediation, University of Trento and Autonomous Province of Trento, 9° and 10° editions (2001-2003);
- CRS4 Cagliari (2001);
- University of Ferrara, (2003)
- Jülich Forschungzentrum GmbH, Germany (2004);
- International School of Applied Geophysics, 13th Course, Application of Geophysical Methods to Hydrogeological Problems, Centro Ettore Majorana, Erice: Sep 29 – Oct 3, 2006;
- Institut des sciences et technologies de l'environnement, Station No. 2, Ecole Polytechnique Fédérale de Lausanne (EPFL) (2007),
- Departamento de Geoquímica, Petrología y Prospección Geológica, Facultad de Geología, Universidad de Barcelona (2008).

Invited talks at international conferences

1. **Cassiani G.**, 2026, Static and dynamic aspects of non-invasive characterization and monitoring agricultural soils: assimilation with traditional probes and scale issues, invited talk, AGROGEO, Advances in Agrogeophysics: Techniques and Applications in Agriculture, 4th Agrogeophysic Seminar - Lisbon 5-6 February 2026.

2. **Cassiani G.**, L. Peruzzo, M. Pavoni, A. Carrera, A. Ghirotto, V. Cioffi, I. Barone, M. Censini, J. Boaga, 2025, Methods and approaches for the assessment and understanding of infiltration processes at different scales, invited talk, AGU Fall Meeting, New Orleans, 15-19 December 2025.

3. Barone I., O. Nesterova, J. T. F. Ting, M. Pavoni, J. Boaga, **G. Cassiani**, A. Brovelli, V. R. Tribaldos, A. Galtarossa, L. Schenato, L. Palmieri, L. Peruzzo, H. Karbala Ali, R. Deiana, 2024, Shallow subsoil characterization using seismic nodes and DAS in urban environments, 3rd SEG/EAGE Workshop on Geophysical Aspects of Smart Cities, 3–5 December 2024, Hanyang University, Seoul, South Korea.

4. Morari F., **G. Cassiani**, C. Corbari, 2024, Advancements in Proximal Sensing Technologies and Data Integration for Precision Agriculture: From 3D Conductivity Mapping to Dynamic Prescription Maps, *invited talk*, 2024 ASA, CSSA, SSSA International Annual Meeting, November 10-13, San Antonio, Texas.

5. **Cassiani G.**, L. Peruzzo, M. Censini, B. Mary, V. Iván, 2024, Non-invasive monitoring of plant root activities in the framework of the Earth's Critical Zone and soil-plant-atmosphere interactions, *invited talk*, EGU General Assembly 2024, Session: ITS3.14/BG8.36 – Biogeophysics: Environmental Monitoring for the Circular Economy, Net Zero, and Contaminants of Concern, Vienna, 14-19 April 2024.

6. **Cassiani G.**, I. Barone, M. Pavoni, J. Boaga, R. Deiana, 2023, Characterization and monitoring at a site of interest for archaeological and cultural heritage using seismic, electrical and electromagnetic methods, from surface and cross-hole, *invited talk*, The International Meeting for Applied Geoscience & Energy (SEG/AAPG IMAGE'23), Special Session on Long Term Geophysical Monitoring of Near Surface Processes, 27 Aug–1 Sept 2023, Houston, Texas.

7. **Cassiani G.**, J. Boaga, I. Barone, L. Peruzzo, B. Mary, V. Iván, 2023, The "true" meaning of Hydrogeophysics: integration of geophysical data with hydrological modeling, INTRUSION 2023, 3-5 July 2023, Bari, Italy.

8. **Cassiani G.**, B. Mary, J. Boaga, I. Barone, V. Ivan, 2021, Geophysical imaging of the root zone: methods, implications and outlook, *Keynote Speech*, Special Session on advanced geophysical imaging of plant-soil interactions, EAGE Near Surface Geoscience Conference & Exhibition 2021, Bordeaux, France, August 29- September 2, 2021.

9. **Cassiani G.**, 2021, The Role of a Priori Knowledge in Geophysical Inversion: the Link to the Physical Processes, to Be Imaged, in MS0 Advances in Regularization for Inverse Problems in Geoscience - Part I of II, SIAM Conference on Mathematical & Computational Issues in the Geosciences (GS21), *invited presentation*, June 21-24, 2021 (Virtual Conference).

10. Binley A., L. Burbery, **G. Cassiani**, R. Mellis. M. Finnemore, T. Sarris, 2020, Denitrifying permeable reactive barriers for groundwater remediation: Barrier design and assessment using resistivity imaging and solute transport modelling, *invited presentation*, AGU Fall Meeting, 7-11 December 2020.

11. **Cassiani G.**, 2020, Freshwater-seawater dynamics in coastal zones: advancing science and technology for a sustainable management: geophysical methods, ESOF2020, Trieste, 2 September 2020.

12. **Cassiani G.**, 2019, Near surface geophysics for environmental applications: monitoring, modeling and beyond, *Keynote speech*, SEG-EAGE Geophysical Aspects of Smart Cities Workshop, Singapore, December 10-12, 2019.

13. **Cassiani G.**, J. Boaga, D. Vanella, S. Consoli, L. Peruzzo, Y. Wu, SS. Hubbard, M. Schmutz, B. Mary, 2018, The role of small-scale non-invasive monitoring of root systems

in the improvement of water use strategies for agriculture, *keynote speech*, Managing Water Scarcity in River Basins, Innovation and Sustainable Development, 4-6 October 2018, Agadir, Morocco.

14. Mary B., L. Peruzzo, J. Boaga, M. Schmutz, Y. Wu, S.S. Hubbard, **G. Cassiani**, 2018, The use of hydro-geophysical monitoring for the identification of root-water-uptake patterns: ERT and MALM experiments in a vineyard, invited talk, EGU General Assembly 2018, Session 'Hydrogeophysics for the critical zone, Vienna, 8-13 April 2018.

15. **Cassiani G.,** J. Boaga, L. Busato, M.T. Perri, 2017, Characterization and monitoring of the riparian and hyporheic zones, *invited talk*, GELMON 2017, Fourth International Workshop on Geoelectrical Monitoring, Vienna, November 22-24, 2017.

16. **Cassiani G.**, 2017, Challenges of data integration in near surface geophysics applications, *invited talk*, SEG 4th International Conference on Engineering Geophysics (ICEG), Al Ain, UAE, October 10, 2017.

17. **Cassiani G.**, 2017, Hydrocarbon contamination geophysical signatures: field examples, *invited talk*, *EAGE Near Surface Geoscience 2017*, workshop on Geophysics for mapping and monitoring of contaminated ground and buried waste, September 3, 2017, Malmoe, Sweden.

18. **Cassiani G.**, M. Putti, J. Boaga, L. Busato, D. Vanella, S. Consoli, 2016, Non-invasive monitoring and modelling of the root active zones: progresses, caveats and outlook, *invited talk, AGU Fall Meeting*, San Francisco, 12-16 December 2016.

19. **Cassiani G.**, 2015, Geophysical techniques for hydrological and hydrogeological characterization, *keynote speech*, session Hydrogeophysics, remote sensing, and radar technologies: innovative tools and recent development, *42nd International IAH Congress "Aqua2015"*, Rome, September 13-18, 2015.

20. **Cassiani G.**, 2015, Hydro-geophysical monitoring of roots and hyphoreic zone, *invited talk*, Workshop "Geophysics for the Characterization of the Critical Zone", EAGE Near Surface Geoscience 2015, September 6-10, 2015, Turin, Italy.

21. **Cassiani G.**, 2014, Hydro-geophysical exploration for environmental applications: monitoring, modeling and beyond, Lectio Magistralis, *invited*, GNGTS – 33° Congresso Nazionale, Bologna, 25-27 novembre 2014.

22. **Cassiani G.**, A. Binley, A. Kemna, M. Wehrer, A. Flores Orozco, R. Deiana, J. Boaga, M. Rossi, P. Dietrich, U. Werban, L. Zschornack, A. Godio, A. JafarGamdomi, G.P. Deidda, 2013, Non-invasive characterization of the Trecate (Italy) crude-oil contaminated site: links between contamination and geophysical signals, *invited talk, AGU Fall Meeting*, San Francisco, 9-13 December 2013.

23. Camporese M., A. Binley, **G. Cassiani**, R. Deiana and P. Salandin, 2013, Coupled vs. uncoupled hydrogeophysical inversion via ensemble Kalman filter assimilation of ERT-monitored tracer test data, *invited talk, AGU Fall Meeting*, San Francisco, 9-13 December

2013.

24. **G. Cassiani**, J. Boaga, M. Rossi, A. D'Alpaos, G. Fadda, M. Putti, M. Marani, 2013, Time-lapse ERT for the monitoring of soil-plant interactions in the root zone, *invited talk, AGU Fall Meeting*, San Francisco, 9-13 December 2013.

25. **Cassiani G.**, A. Brovelli, G. Vignoli, B. Plischke, U. Tinivella, 2012, Geo-mechanics contribution to time-lapse seismics: an integrated approach using full-waveform simulations, *invited talk*, 74th EAGE Conference and Exhibition, Copenhangen, WP8: Fully Integrated Geomechanical Workflow: A Myth or a Fact?, 4 June 2012.

26. **Cassiani G.**, N. Ursino, R. Deiana, G. Vignoli, J. Boaga, M. Rossi, M.T. Perri, M. Blaschek, R. Duttmann, S. Meyer, R. Ludwig, A. Soddu, P. Dietrich and U. Werban, 2012, Geophysical mapping of soil static characteristics and monitoring of soil dynamic states: an example on agricultural land, *invited talk*, EGU General Assembly 2012, Session SSS5.15 Vienna, 22-27 April 2012.

27. **Cassiani G.**, R. Deiana, M. Camporese, P. Salandin, G. Vignoli, M. Rossi and M.T. Perri, 2011, Hydro-Geophysical techniques for groundwater characterization: the link between measurements and modeling, *invited talk*, Geological Society of America, Annual Meeting in Minneapolis (9–12 October 2011).

28. **Cassiani G.**, R. Deiana, J. Boaga, G. Vignoli, M. Rossi, M.T. Perri, V. Bruno, 2011, Introduction to the concept of hydrogeophysics and case studies, *invited talk*, GEOITALIA 2011, Torino, Italy, September 19-24, 2011, Worskhop W11: Airborne EM for groundwater mapping.

29. **Cassiani G.**, A. Brovelli, R. Deiana, G. Vignoli, F. Morari, E. Scudiero, P. Teatini, M. Carizzoni, P. Dietrich and U. Werban, 2011, Static and dynamic aspects of non-invasive monitoring of soil characteristics and conditions: implications for precision agriculture, *invited talk*, AGRI-SENSING 2011: International Symposium on Sensing in Agriculture in Memory of Dahlia Greidinger, February 21-24, 2011, at the Technion – Israel Institute of Technology in Haifa, Israel.

30. **Cassiani G.**, A. Binley, A. Brovelli, R. Deiana, P. Dietrich, A. Flores, A. Kemna, E. Rizzo and U. Werban, 2010, Static and dynamic aspects of near surface characterization through physics-based integration of GPR, ERT, SIP and SP data in the time-lapse mode, *invited talk*, Workshop: Multidisciplinary, Integrated Approaches in Near-surface Geophysics– Novel Developments, Benefits and the Road Ahead,72nd EAGE Conference & Exhibition incorporating SPE EUROPEC 2010, Barcelona, Spain, 14 - 17 June 2010.

31. **Cassiani G.**, R. Deiana, J. Boaga, G. Vignoli, M. Rossi, M. Marani, M. Putti, M. Altissimo, A. Bellin, O. Cainelli, 2010, Hydro-geophysics for hillslope hydrology, *invited*, EGU General Assembly 2010, Vienna, 2-7 May 2010.

32. **Cassiani, G., 2009**, Hydro-geophysics: the non invasive characterization of the shallow subsurface, *invited talk, NovCare 2009* International Conference (Novel Methods for Subsurface Characterization and Monitoring: From Theory to Practice), May 13-16, 2009, Leipzig, Germany.

33. Deiana R., **G. Cassiani**, A. Bellin, O. Cainelli, M.Rossi, P. Frattini, 2008, An example of hydrogeophysical characterization of hillslope hydrology, *invited talk, AGU Fall Meeting*, San Francisco, 15-19 December 2008.

34. Kemna A., **G. Cassiani**, T. Winchen, J.A. Huisman, and J. Vanderborght, 2008, On the characterization of soil structure and state from spectral IP responses", *invited talk*, *EEGS NSGS Workshop on Induced Polarization*: Research and Recent Advances in Near Surface Applications, 14 Nov 2008 SEG Annual Meeting, Las Vegas, Nevada, USA

35. **Cassiani G.**, R. Deiana and A. Kemna, 2007, Mass balance and anisotropy issues in the geophysical monitoring of controlled water injection experiments in the vadose zone, *invited*, EGU General Assembly 2007, Vienna, 15-20 April 2007.

36. **Cassiani G.**, R. Deiana and A. Kemna, 2006, Non invasive monitoring of water flow in the vadose zone: the issue of mass balance in controlled tracer injection experiments, invited talk, *AGU Fall Meeting*, San Francisco, 11-15 December 2006.

LICENCES

Professional Engineer, Italy, since 1991.

HONORS AND AWARDS

- **Golden Medal "Armando Norinelli"** as "Best work in applied geophysics", University of Padua and National Research Council-GNGTS, Italy, 1991.

- **Graduation Award "Antonio Chelleris"**, University of Trieste, Italy, 1992.

- **Certificate in Hydrology**, Center for Hydrological Studies, Duke University, 1997.

- **EAGE Mintrop Award** (as co-author) for 2007 best paper in Near Surface Geophysics for Deiana R., G. Cassiani, A. Kemna, A. Villa, V. Bruno and A.Bagliani, 2007, An experiment of non invasive characterization of the vadose zone via water injection and cross-hole time-lapse geophysical monitoring, *Near Surface Geophysics*, Vol 5, 3 June 2007, 183-194.

- **AGLC Award "Licio Cernobori" 2014** (as co-author) for the best paper presented by a young researcher at the 33rd GNGTS congress, for the paper L-shaped array refraction microtremors (LEMI) by J. Boaga, C. Strobbia e G. Cassiani

- **Geomechanics for Energy and the Environment (Elsevier), Certificate for Excellence in Reviewing**, 2018.

PATENTS

- Boaga J. and **G. Cassiani**, 2013, patent "Single channel multi-directional geophone for the acquisition of vertical and horizontal soil motion", University of Padua.

- Boaga J., G. Censini and **G. Cassiani**, 2018, patent proposal "Boreholes for micro-scale 3D ERT applied to plant physiology, University of Padua.

Publications

Bibliometric indeces

ISI WoS: H Index = 40; Scopus: H Index = 42; Google Scholar: H Index = 52

ORCID: 0000-0002-9060-5606

Papers in international refereed journals, proceedings and books

1. Nesterova O., I. Barone, **G. Cassiani**, A. Brovelli, V. Rodríguez Tribaldos, A. Galtarossa, L. Schenato, L. Peruzzo, J. Boaga, M. Pavoni, A. Chalari, R. Deiana, 2026, Combined DAS and seismic nodes acquisition for near-surface characterization around the Scrovegni Chapel in Padua, Italy, in press, *Geophysics*.

2. Deiana R., G. Semeraro, **G. Cassiani**, I. Barone, J. Boaga, 2026, Geophysical Characterization of Archaeological Sites in Active Seismic Zones: The Case of the "Basilica Bath" at Hierapolis (Turkey), *Applied Sciences*, 16, 2795, doi: 10.3390/app16062795.

3. Iván V., B. Mary, N. Schwartz, L. Peruzzo, M. Ghinassi, **G. Cassiani**, 2026, Distinguishing water salinity, water saturation and clay content using Spectral Induced Polarization: a tool for monitoring arid soil conditions, *Geophysical Journal International*, 245, 1–14 doi: 10.1093/gji/ggag038.

4. Ciampi P. **G. Cassiani**, G. Felli, N. Tarantino, G. Savarese, G. Vadalà, M. Petrangeli Papini, 2026, Landfill Contamination and Slope Instability Mapping through Multi-Source Data Fusion: Advancing Multi-Hazard Detection via 3D Modeling, Geophysical Investigations, and Open GIS Data, *Waste Management*, 209, 115216, doi: 10.1016/j.wasman.2025.115216.

5. Di Prima S., G. Fernandes, M. Burguet, M. Paz Salazar, E. Marras, I. Murgia, K. Kaffas, L. Peruzzo, R.D. Stewart, M.R. Abou Najm, A. Comegna1, L. Lassabatere, **G. Cassiani**, D. Penna, C. Massari, F. Giadrossich, 2026, Trees control hillslope subsurface flow: Insights from stemflow and throughfall experiments, geophysical surveys, and numerical modeling, *Journal of Hydrology*, 665, 134723, doi: 10.1016/j.jhydrol.2025.134723.

6. Pini S., **G. Cassiani**, L. Peruzzo, L. Piemontese, A. Dani. Y. Giambastiani, F. Preti, 2026, Sediment water storage investigation of check dams using Electrical Resistivity Tomography, *Journal of Hydrology*, 665, 134647, doi: 10.1016/j.jhydrol.2025.134647.

7. Fabbian N., **G. Cassiani**, B. Mary, L. Schenato, L. Brezzi, S. Cola, 2025, Characterization of Subsurface Heterogeneities in River Embankments Using Minimally Invasive Techniques and Saline Pressure Tests, *Canadian Geotechnical Journal* 62: 1-20, doi: 10.1139/cgj-2025-0198.

8. Peruzzo L., U. Werban, M. Pohle, M. Pavoni, B. Mary, **G. Cassiani**, S. Consoli, D. Vanella, 2025, High-resolution frequency-domain electromagnetic mapping for the hydrological modeling of an orange orchard, *SOIL*, 11, 811–831, 2025, doi: 10.5194/soil-11-811-2025.

9. Barone I., A. Brovelli, V. Rigoni, **G. Cassiani**, 2025, The use of passive seismic noise to constrain seismic velocities in mountainous geothermal systems, *Geothermics*, 132, 103400, doi: 10.1016/j.geothermics.2025.103400.

10. Giannini L.M, S. Younsi, B. Burchini, R. Deiana, **G. Cassiani**, P. Ciampi, 2025, Integrating Geophysical Methods, InSAR, and Field Observations to Address Geological Hazards and Buried Archaeological Features in Urban Landscapes, *Journal of Applied Geophysics*, 238, 105726, doi: 10.1016/j.jappgeo.2025.105726.

11. Zuecco G., C. Marchina, M. Censini, D. Todini-Zicavo, **G. Cassiani**, M. Borga, 2025, A simple experiment to trace stemflow infiltration: Advantages and challenges of using stable isotopes of hydrogen and oxygen and electrical resistivity tomography, *Vadose Zone Journal*, 24:e20397, doi: 10.1002/vzj2.20397.

12. Verani M., O. De Giglio, M.C. Caputo, **G. Cassiani**, M. Milani, A. Carducci, I. Federigi, A.Pagani, A. Angori, F. Triggiano, A.F. Savino, D. Colella, F. Bagordo, M.A. De Donno, T. Grassi, S. Brigida, L. De Carlo, A.C. Turturro, M.C. Ekiz, V. Prigiobbe, A. Ghirotto, A. D'Emilio, S. Consoli, S. Barresi, F. Bivona, M.T. Montagna, 2025, Study protocol of predictive dynamics of microbiological contamination of groundwater in the earth critical zone and impact on human health(DY.MI.CR.ON Project), *Water*, 17(3), 294, doi: 10.3390/w17030294.

13. Fagherazzi S., G. Nordio, J. Boaga, **G. Cassiani**, H.A. Michael, D. Pratt, T.C. Messerschmidt, M. L. Kirwan, S. Stotts, 2025, The ecohydrology of coastal ghost forests, *Ecohydrology*, 18:e70020, doi: 10.1002/eco.70020.

14. Aulenta F., M. Tucci, C.Cruz Viggi, S. Milia, S. Hosseini, G. Farru, R. Sethi, C. Bianco, T. Tosco, M. Ioannidis, G. Zanaroli, R. Ruffo, C. Santoro, U. Marzocchi, **G. Cassiani**, L. Peruzzo, 2025, Groundwater electro-bioremediation via diffuse electro-conductive zones: A critical review, *Environmental Science and Ecotechnology*, 23, 100516, doi: 10.1016/j.ese.2024.100516.

15. Barone I., A. Brovelli, G. Tango, S. Del Gaudio, **G. Cassiani**, 2025, Combined application of FTAN and cross-spectra analysis to ambient noise recorded by a microseismic monitoring network, *Energy Geoscience*, 6(1), 100355, doi: 10.1016/j.engeos.2024.100355.

16. Peruzzo L., C. Chou, S.S. Hubbard, E. Brodie, S. Uhlemann, B. Dafflon, S. Wielandt, B. Mary, **G. Cassiani**, A. Morales, Y. Wu, 2024, Outdoor mesoscale fabricated ecosystems: Rationale, design, and application to evapotranspiration, *Science of The Total Environment*, 957, 177565, doi: 10.1016/j.scitotenv.2024.177565.

17. Carrera A., L. Peruzzo, M. Longo, **G. Cassiani**, F. Morari, 2024, Uncovering soil compaction: performance of electrical and electromagnetic geophysical methods, *SOIL*, 10, 843–857, 2024, doi: 10.5194/soil-10-843-2024.

18. Fuggi A., S. Re, G. Tango, S. Del Gaudio, A. Brovelli, **G. Cassiani**, 2024, Assessment of earthquake location uncertainties for the design of local seismic networks, *Earthquake Science*, 37(5), 415-433, doi: 10.1016/j.eqs.2024.06.006.

19. Brighenti S., N. Obojes, G. Bertoldi, G, Zuecco, M. Censini, **G. Cassiani**, D. Penna, F. Comiti, 2024, Snowmelt and subsurface heterogeneity control tree water sources in a subalpine forest, *Ecohydrology*, 17(7), e2695, doi: 10.1002/eco.2695.

20. Sgarabotto A., E. Bellizia, A. Finotello, A. D'Alpaos, S. Lanzoni, J. Boaga, **G. Cassiani**, M. Ghinassi, 2024, Reconstructing sediment distributions in meandering river deposits through a simplified numerical modeling approach with applications to the Holocene deposits of the Venetian Plain (Italy), in press, *The Geological Society, London, Special Publications*, 540, doi: 10.1144/SP540-2022-220.

21. Ciampi P., L.M. Giannini, **G. Cassiani**, C. Esposito, M. Petrangeli Papini, 2024, Geo-constrained clustering of resistivity data revealing the heterogeneous lithological architectures and the distinctive geoelectrical signature of shallow deposits, *Engineering Geology*, 337, 107589, doi: 10.1016/j.enggeo.2024.107589.

22. Carrera A., I. Barone, M. Pavoni, J. Boaga, N. Dal Ferro, **G. Cassiani**, F. Morari, 2024, Assessment of different agricultural soil compaction levels using shallow seismic geophysical methods, *Geoderma*, 447, 116914, doi: 10.1016/j.geoderma.2024.116914.

23. Ciampi P., **G. Cassiani**, G.P. Deidda, C. Esposito, P. Rizzetto, A. Pizzi, M. Petrangeli Papini, 2024, Understanding the Dynamics of Enhanced Light Non-Aqueous Phase Liquids (LNAPL) Remediation at a Polluted Site: Insights from Hydrogeophysical Findings and Chemical Evidence, *Science of the Total Environment*, 932, 172934, doi: 10.1016/j.scitotenv.2024.172934.

24. Barone I., V. Cascone, A. Brovelli, G. Tango, S. Del Gaudio, **G. Cassiani**, 2024, Shear-wave velocity structure derived from seismic ambient noise recorded by a small reservoir monitoring network, *Geophysical Prospecting*, 72(5), 1789 – 1799, doi: 10.1111/1365-2478.13486.

25. Pavoni, M., J. Boaga, L. Peruzzo; I. Barone, B. Mary, **G. Cassiani**, 2024, Characterization of a Contaminated Site Using Hydro-Geophysical Methods: From Large-Scale ERT Surface Investigations to Detailed ERT and GPR Cross-Hole Monitoring, *Water*, 16(9), 1280, doi: 10.3390.w16091280.

26. Blanchy G., P. Mclachlan, B. Mary, M. Censini, J. Boaga, **G. Cassiani**, 2024, Comparison of multi-coil and multi-frequency frequency domain electromagnetic induction instruments, Front. Soil Sci. - Sec. Pedometrics, 4, doi: 10.3389/fsoil.2024.1239497

27. Mary B., V. Iván, F. Meggio, L. Peruzzo, G. Blanchy, C. Chou, B. Ruperti, Y. Wu, **G. Cassiani**, 2023, Imaging of the active root current pathway under partial root-zone drying 2 stress: A laboratory study for Vitis vinifera, *Biogeosciences*, 20(22), 4625 – 4650, doi: 10.5194/bg-2023-58.

28. Mary B., A. Sottani, J. Boaga, I. Camerin, R. Deiana, **G. Cassiani**, 2023, Non-invasive investigations of closed landfills: An example in a karstic area, *Science of the Total Environment*, 905, 167083, doi: 10.1016/j.scitotenv.2023.167083.

29. Bellizia E., J. Boaga, P. Mozzi, **G. Cassiani**, A. D'Alpaos, A. Finotello, M. Ghinassi, 2023, Impact of morpho-sedimentary heterogeneities on the evolution of coastal meandering rivers (Brenta River, Italy), *Geomorphology*, Volume 437, 15 September 2023, 108797, doi: 10.1016/j.geomorph.2023.108797.

30. Barone I., **G. Cassiani**, A. Ourabah, J. Boaga, M. Pavoni, R. Deiana, 2023, Integrating controlled-source and ambient noise seismic measures for archaeological prospection: The Scrovegni Chapel case, *Geophysical Journal International*, 232 (3), 1944–1956, doi: 10.1093/gji/ggac432

31. Carrera A., M. Longo, I. Piccoli, B. Mary, **G. Cassiani**, F. Morari, 2022, Assessment of hydrological impacts of different agricultural practices using shallow geophysical methods, *Remote Sensing*, 14, 6243. https://doi.org/10.3390/rs14246243

32. Mary B., L. Peruzzo, Y. Wu and **G. Cassiani**, 2022, Advanced potential field analysis applied to Mise-à-la-Masse surveys, *Journal of Geophysical Research – Solid Earth*, 127, e2022JB024747, doi: 10.1029/2022JB024747.

33. Rani P. and **G. Cassiani**, 2022, Tracking contaminant transport using time-lapse geophysics: A review on applications of electrical methods, *Water Security*, 17 (2022) 100127, doi: 10.1016/j.wasec.2022.100127.

34. Barone I., **G. Cassiani**, A. Ourabah, J. Boaga, M. Pavoni, R. Deiana, 2022, Surface wave tomography using dense 3D data around the Scrovegni Chapel in Padua, Italy. *Scientific Reports*, 12, 11806, doi: 10.1038/s41598-022-16061-1.

35. Ciampi P., C. Esposito, **G. Cassiani**, G.P. Deidda, A. Flores-Orozco, P. Rizzetto, A. Chiappa. M. Bernabei, A. Gardon, M. Petrangeli Papini, 2022, Contamination presence and dynamics at a polluted site: spatial analysis of integrated data and joint conceptual modeling approach, *Journal of Contaminant Hydrology*, 248, 104026, doi: 10.1016/j.jconhyd.2022.104026.

36. Deidda G.P., L. De Carlo, M.C. Caputo, **G. Cassiani**, 2022, Frequency domain electromagnetic induction imaging: an effective method to see inside a capped landfill, *Waste Management*, 144, 29-40, doi: 10.1016/j.wasman.2022.03.007.

37. Bellizia E., D. Tognin, J. Boaga, **G. Cassiani**, R. Leardi, A. Finotelli, A. D'Alpaos, M. Ghinassi, 2022, From electromagnetic to sediment textural maps: an integrated approach to unravel the intra-point-bar variability of sediment properties, *Journal of the Geological Society*, 179, 4, 10.1144/jgs2021-156.

38. Deidda G.P., M. Himi, I. Barone, **G. Cassiani**, A. Casas Ponsati, 2022, Frequency-Domain Electromagnetic Mapping of an Abandoned Waste Disposal Site: A Case in Sardinia (Italy), *Remote Sensing*, Special Issue "Near-Surface Geophysics: A Remote Sensing Tool for the Shallow Subsurface", 14, 878., doi: 10.3390/rs14040878.

39. Barone I., **G. Cassiani**, A. Ourabah, J. Boaga, M. Pavoni, R.Deiana, 2022, Comparison and integration of active and passive 3D surface wave measures around the Scrovegni chapel, 83rd EAGE Conference and Exhibition 2022, Madrid, Vol. 4, pp. 2759 – 2763.

40. Mary B., L. Peruzzo, V. Iván, E. Facca, G. Manoli, M. Putti, M. Camporese, Y. Wu, **G. Cassiani**, 2021, Combining models of root-zone hydrology and geoelectrical measurements: recent advances and future prospects, *Frontiers in Water*, doi: 10.3389/frwa.2021.767910

41. Ciampi P., C. Esposito, **G. Cassiani**, G.P. Deidda, P. Rizzetto, M. Petrangeli Papini, 2021, A field-scale remediation of residual light non-aqueous phase liquid (LNAPL): chemical enhancers for pump and treat, *Environmental Science and Pollution Research*, Vol.28(26), 35286-35296, doi: 10.1007/s11356-021-14558-2

42. Cascone V., J. Boaga, **G. Cassiani**, 2021, Small Local Earthquake Detection Using Low-Cost MEMS Accelerometers: Examples in Northern and Central Italy. *The Seismic Record* 1 (1), 20-26. doi: 10.1785/ 0320210007.

43. Boaga J., I. Barone, G.P. Deidda, **G. Cassiani**, C. Strobbia, 2021, Multi-drive level Vibroseis test to evaluate the non-linear response of soft soils, *Soil Dynamics and Earthquake Engineering*, Vol.149, art. 106861, doi: 10.1016/j.soildyn.2021.106861

44. Bellizia E., J. Boaga, A. Fontana, A. D'Alpaos, **G. Cassiani**, M. Ghinassi, 2021, Impact of genesis and abandonment processes of a fluvial meander on geometry and grain-size distribution of the associated point bar (Venetian Plain, Italy), *Marine and Petroleum Geology*, Vol. 127, 104951, doi: 10.1016/j.marpetgeo.2021.104951

45. Barone I., J. Boaga, A. Carrera, A. Flores Orozco, **G. Cassiani**, 2021 Tackling lateral variability using surface waves: a tomography-like approach, *Surveys in Geophysics*, Vol. 42(2), 317-338, doi: 10.1007/s10712-021-09631-x

46. **Cassiani G.**, B. Mary, J. Boaga, I. Barone, V. Ivàn, 2021, Geophysical imaging of the root zone: methods, implications and outlook, *27th European Meeting of Environmental and Engineering Geophysics*, Near Surface Geoscience Conference and Exhibition 2021, NSG 2021.

47. Cascone V., J. Boaga, **G. Cassiani**, 2021, Seismic monitoring with low-cost MEMS sensor arrays in Italy, *27th European Meeting of Environmental and Engineering Geophysics*, Near Surface Geoscience Conference and Exhibition 2021, NSG 2021.

48. Barone I., R. Deiana, A. Ourabah, J. Boaga, **G. Cassiani**, 2021, Active and passive 3D seismic survey around the Scrovegni Chapel using autonomous nodes, 27th European Meeting of Environmental and Engineering Geophysics, Near Surface Geoscience Conference and Exhibition 2021, NSG 2021.

49. Flores Orozco A., P. Ciampi, T. Katona, M. Censini, M. Petrangeli Papini, G.P. Deidda, **G. Cassiani**, 2021, Delineation of hydrocarbon contaminants with multi-frequency complex conductivity imaging, *Science of the Total Environment*, Vol.768, 144997, doi: 10.1016/j.scitotenv.2021.144997.

50. Barone I., E. Kästle, C. Strobbia and **G. Cassiani**, 2021, Surface Wave Tomography using 3D active-source seismic data, *Geophysics*, 86(1), A1-V89, doi: 10.1190/geo2020-0068-1.

51. **Cassiani G.**, E. Bellizia, A. Fontana, J. Boaga, A. D'Alpaos, M. Ghinassi, 2020, Geophysical and sedimentological investigations integrate remote-sensing data to depict geometry of

fluvial sedimentary bodies: an example from Holocene point-bar deposits of the Venetian Plain (Italy), *Remote Sensing*, 12(16), 2568; doi:10.3390/rs12162568.

52. Perri M.T., I. Barone, **G. Cassiani**, R. Deiana, A. Binley, 2020, Borehole effect causing artefacts in cross-borehole electrical resistivity tomography: a hydraulic fracturing case study, *Near Surface Geophysics*, Special Issue: Geoelectrical Monitoring, 18, 445-462, doi: 10.1002/nsg/12111.

53. Boaga J., A. Viezzoli. **G. Cassiani**, G.P. Deidda, L. Tosi, S. Silvestri, 2020, Resolving the thickness of peat deposits with contact-less electromagnetic methods: a case study in the Venice coastland, *Science of the Total Environment*, 737 139361, doi: 10.1016/j.scitotenv.2020.139361.

54. Barone I., **G. Cassiani**, C. Strobbia, 2020, Multi-mode multi-offset phase analysis of surface waves, a new approach to extend MOPA to higher modes, *Geophysical J. International*, 221(3), 1802-1819, doi: 10.1093/gji/ggaa106.

55. Mary B., L. Peruzzo, J. Boaga, N. Cenni, M. Schmutz, Y. Wu, S.S. Hubbard and **G. Cassiani**, 2020, Time-lapse monitoring of root water uptake using electrical resistivity tomography and Mise-à-la-Masse: a vineyard infiltration experiment, *SOIL*, 6, 95–114, doi: 10.5194/soil-6-95-2020.

56. Dalla Santa G., A. Galgaro, R. Sassi, M. Cultrera, P. Scotton, J. Müller, D. Bertermann, D. Mendrinos, R. Pasquali, R. Perego, S. Pera, E. Di Sipio, **G. Cassiani**, M. De Carli, A. Bernardi, 2020, An updated ground thermal properties database for GSHP applications, *Geothermics*, 85 (2020) 101758, doi: 10.1016/j.geothermics.2019.101758

57. Ciampi P., C. Esposito, P. Viotti, J. Boaga, **G. Cassiani**, M. Petrangeli Papini, 2019, Integrated modelling supporting the remediation of an aquifer contaminated with chlorinated solvents by a combination of adsorption and biodegradation, *Applied Sciences*, 9, 4318; doi:10.3390/app9204318.

58. Cenni N., J. Boaga, F. Casarin, G. De Marchi, M.R. Valluzzi and **G. Cassiani**, 2019, 2016 Central Italy Earthquakes: comparison between GPS signals and low-cost distributed MEMS arrays, *Advances in Geosciences*, 51, 1–14, doi: 10.5194/adgeo-51-1-2019

59. Mary B., D. Vanella, S. Consoli and **G. Cassiani**, 2019, Assessing the extent of citrus trees root apparatus under deficit irrigation via multi-method geo-electrical imaging, *Scientific Reports*, 9, 9913, doi: 10.1038/s41598-019-46107-w

60. Jokar M.H., H. Rahnema, J. Boaga, **G. Cassiani**, C. Strobbia, 2019, Application of Surface Waves for Detecting Lateral Variations: Buried Inclined Plane, *Near Surface Geophysics*, 17(5), 501-531, doi: 10.1002/nsg.12059.

61. Jokar M.H., J. Boaga, L. Petronio, M.T. Perri, C. Strobbia, A. Affatato, R. Romeo, **G. Cassiani**, 2019, Detection of lateral discontinuities via surface waves 4 analysis: a case study at a derelict industrial site, *Journal of Applied Geophysics*, 164, 65-74, doi: 10.1016/j.jappgeo.2019.03.008.

62. Nasta P., J. Boaga, R. Deiana, **G. Cassiani**, N. Romano, 2019, Comparing ERT- and scaling-based approaches to parameterize soil hydraulic properties for spatially distributed model applications, *Advances in Water Resources*, 126(13), 155-167, doi: 10.1016/j.advwatres.2019.02.014.

63. Flores Orozco A., A. Kemna, A. Binley and **G. Cassiani**, 2019, Analysis of time-lapse data error in complex conductivity imaging to alleviate anthropogenic noise for site characterization, *Geophysics*, 84(2), B181-B193, doi: 10.1190/GEO2017-0755.1.

64. Boaga J., F. Casarin, D. De Marchi, M.R. Valluzzi, **G. Cassiani**, 2019, 2016 Central-Italy earthquakes recorded by low cost MEMS distributed arrays, *Seismological Research Letters*, 90, 672-682, doi: 10.1785/0220180198.

65. Busato L., J. Boaga, M.T. Perri, B. Majone, A. Bellin, **G. Cassiani**, 2019, Hydrogeophysical characterization and monitoring of the hyporheic and riparian zones: the Vermigliana Creek case study, *Science of the Total Environment*, 648 (2019), 1105–1120, doi: 10.1016/j.scitotenv.2018.08.179.

66. Bossi G., S. Bersan, S. Cola, L. Schenato, F. De Polo, C. Menegazzo, J. Boaga, **G. Cassiani**, F. Donini, P. Simonini, 2019. Multidisciplinary analysis and modelling of a river embankment affected by piping (Book Chapter), Lecture Notes in Civil Engineering, Volume 17, 2019, Pages 234-244, Springer, 10.1007/978-3-319-99423-9_22

67. Song S., U. Tinivella, M. Giustiniani, S. Singhroha, S. Bünz, **G. Cassiani**, 2018, OBS Data Analysis to Quantify Gas Hydrate and Free Gas in the South Shetland Margin (Antarctica), *Energies*, 11, 3290; doi:10.3390/en11123290.

68. Mary, B., Peruzzo, L., Boaga, J., Schmutz, M., Wu, Y., Hubbard, S. S., and **Cassiani, G.**, 2018, Small scale characterization of vine plant root water uptake via 3D electrical resistivity tomography and Mise-à-la-Masse method, *Hydrol. Earth Syst. Sci.*, doi: 10.5194/hess-22-5427-2018.

69. Boaga J., M. Ghinassi, A. D'Alpaos, G.P. Deidda, G. Rodriguez, **G. Cassiani**, 2018, Geophysical investigations unravel the vestiges of ancient meandering channels and their dynamics in tidal landscapes, *Scientific Reports*, Volume 8, Issue 1, Article number 20061, doi: 10.1038/s41598-018-20061-5.

70. Perri M.T., P. De Vita, R. Masciale, I. Portoghese, G.B. Chirico and **G. Cassiani**, 2018, Time-lapse Mise-á-la-Masse measurements and modelling for tracer test monitoring in a shallow aquifer, *Journal of Hydrology*, 561, 461-477, doi: 10.1016/j.jhydrol.2017.11.013

71. Preti F., Guastini E., Penna D., Dani A., **Cassiani G.,** Boaga J., Deiana R., Romano N., Nasta P., Palladino M., Errico A., Giambastiani Y., Trucchi P., Tarolli P., 2018, Conceptualization Of Water Flow Pathways In Agricultural Terraced Landscapes, *Land Degradation & Development*, 29(3), 651-662, doi: 10.1002/ldr.2764.

72. Vanella D., **G. Cassiani**, L. Busato, J. Boaga, S. Barbagallo, A. Binley, S. Consoli, 2018, Use of small scale electrical resistivity tomography to identify soil-root interactions during deficit irrigation, *Journal of Hydrology*, 556, 310-324, doi: 10.1016/j.jhydrol.2017.11.025.

73. Raffelli G., M. Previati, D. Canone, D. Gisolo, I. Bevilacqua, G. Capello, M. Biddoccu, E. Cavallo, R. Deiana, **G. Cassiani**, S. Ferraris, 2017, Local and plot scale measurements of soil moisture: an overview of different techniques applied in plain, hill and mountain experimental sites, *Water*, 9(9), 706, doi: 10.3390/w9090706.

74. **Cassiani G.**, A. Brovelli, T. Hueckel, 2017, A strain-rate-dependent Modified Cam-Clay Model for the simulation of soil/rock compaction, *Geomechanics for Energy and the Environment*, 11, 42-51, doi: 10.1016/j.gete.2017.07.001.

75. Haaken K., G.P. Deidda, **G. Cassiani**, A. Kemna, R. Deiana, M. Putti and C. Paniconi, 2017, Flow dynamics in hyper-saline aquifers: hydro-geophysical monitoring and modelling, *Hydrol. Earth Syst. Sci.*, Volume: 21 Issue: 3 Pages: 1439-1454, doi: 10.5194/hess-21-1439-2017.

76. Rossi M., A. Brovelli, **G. Cassiani**, S. Johansson, T. Dahlin, 2017, Contribution of Stern Layer and Membrane Polarization to the Spectral Induced Polarization of Porous Media, *EAGE Near Surface Geoscience 2017*, September 3, 2017, Malmoe, Sweden.

77. Consoli S., F. Stagno, D. Vanella, J. Boaga, **G. Cassiani**, G. Roccuzzo, 2017, Partial root-drying irrigation in orange orchards: effects on water use and crop production characteristics, *European J. of Agronomy*, Volume 82, 190-202, doi: 10.1016/j.eja.2016.11.001.

78. Rossi M., **G. Cassiani**, G. Vignoli, J. Irving, R. Deiana, A. Binley, 2017, Intricacies in the interpretation of Vertical Radar Profiling caused by borehole effects, *EAGE Near Surface Geoscience 2017*, September 3, 2017, Malmoe, Sweden.

79. Busato L., J. Boaga, L. Peruzzo, M. Himi, S. Cola, S. Bersan, **G. Cassiani**, 2016, Combined geophysical surveys for the characterization of a reconstructed river embankment, *Engineering Geology*, Volume 211, pages 74-84, doi**:** 10.1016/j.enggeo.2016.06.023

80. Petronio L., J. Boaga, **G. Cassiani**, 2016, Characterization of the Vajont landslide (North-Eastern Italy) by means of reflection and surface wave seismics, *Journal of Applied Geophysics*, 128, May 01, 2016, Pages 58-67, doi: 10.1016/j.jappgeo.2016.03.012

81. **Cassiani G.**, J. Boaga, M. Rossi, G. Fadda, M. Putti, B. Majone, A. Bellin, 2016, Soil-plant interaction monitoring: small scale example of an apple orchard in Trentino, North-Eastern Italy, *Science of the Total Environment*, Vol. 543, Issue Pt B, pp. 851-861, doi: 10.1016/j.scitotenv.2015.03.113.

82. **Cassiani G.**, J. Boaga, L. Busato, L. Peruzzo, M. Himi and A. Casas, 2016, Combined geophysical surveys for the characterization of a reconstructed river embankment, 22nd European Meeting of Environmental and Engineering Geophysics, Near Surface Geoscience 2016, Sept 4-8, 2016, Barcelona.

83. Vignoli G., I. Gervasio, G. Brancatelli, J. Boaga, B. Della Vedova, **G. Cassiani**, 2016, Frequency-dependent multi-offset phase analysis of surface waves: an example of high resolution characterization of a riparian aquifer, *Geophysical Prospecting*, 64(1), 102-111, doi: 10.1111/1365-2478.12256

84. Boaga J., S. Renzi, R. Deiana and **G. Cassiani**, 2015, Soil damping influence on seismic response analysis: a linear-equivalent Monte Carlo study, *Soil Dynamics and Earthquake Engineering*, Volume 79, December 01, 2015, Article number 4325, Pages 71-79, doi: 10.1016/j.soildyn.2015.09.002.

85. Strobbia C.L., J. Boaga and **G. Cassiani**, 2015, Double-array refraction microtremors, *Journal of Applied Geophysics*, Volume 121, October 01, 2015, Pages 31-41, doi: 10.1016/j.jappgeo.2015.07.007

86. Piccolroaz S., B. Majone, F. Palmieri, **G. Cassiani** and A. Bellin, 2015, On the use of spatially distributed, time-lapse micro-gravity surveys to inform hydrological modeling, *Water Resources Research*, 51(9), 7270-7288, doi: 10.1002/2015WR016994.

87. Rossi M., G. Manoli, D. Pasetto, R. Deiana, S. Ferraris, C. Strobbia, M. Putti and **G. Cassiani**, 2015, Coupled inverse modeling of a controlled irrigation experiment using multiple hydro-geophysical data, *Advances in Water Resources*, 82,150-165, doi: 10.1016/j.advwatres.2015.03.008.

88. **Cassiani G.**, J. Boaga, D. Vanella, M. T. Perri, S. Consoli, 2015, Monitoring and modelling of soil-plant interactions: the joint use of ERT, sap flow and Eddy Covariance data to characterize the volume of an orange tree root zone, *Hydrol. Earth Syst. Sci.*, 19, 2213-2225, doi:10.5194/hess-19-2213-2015.

89. Camporese M., **G. Cassiani**, R. Deiana, P. Salandin and A. Binley, 2015, Coupled and uncoupled hydrogeophysical inversions using ensemble Kalman filter assimilation of ERT-monitored tracer test data, *Water Resources Research*, 51(5), 3277-3291, doi: 10.1002/2014WR016017**.**

90. Manoli G., M. Rossi, D. Pasetto, R. Deiana, S. Ferraris, **G. Cassiani** and M. Putti, 2015, An iterative particle filter approach for coupled hydro-geophysical modeling and inversion of a controlled infiltration experiment, *Journal of Computational Physics*, pp 37-51, doi: 10.1016/j.jcp.2014.11.035

91. Navarro-Ortega A., V. Acuña, A. Bellin, P. Burek, **G. Cassiani**, R. Choukr-Allah, S. Dolédec, A. Elosegi, F. Ferrari, A. Ginebreda, P. Grathwohl, C. Jones, P. Ker Rault, K. Kok, P. Koundouri, R. P. Ludwig, R. Merz, R. Milacic, I. Muñoz, G. Nikulin, C. Paniconi, M. Paunović, M. Petrovic, L. Sabater, S. Sabater, N. Th. Skoulikidis, A. Slob, G. Teutsch, N. Voulvoulis and Damià Barceló, 2015, Managing the effects of multiple stressors on aquatic ecosystems under water scarcity. The GLOBAQUA project, *Science of the Total Environment*, Vol. 504, pp. 3-9, doi**:** 10.1016/j.scitotenv.2014.06.081

92. Perri M.T., P. De Vita, **G. Cassiani**, R. Masciale, I. Portoghese, G.B. Chirico, 2015, Quantitative interpretation of time-lapse MALM measurements during a saline tracer injection in an alluvial aquifer, Near Surface Geoscience 2015 - 21st European Meeting of Environmental and Engineering Geophysics2015, Pages 606-610, Turin, Sep 6-10, 2015.

93. Perri M.T., J. Boaga, S. Bersan, **G. Cassiani**, S. Cola, R. Deiana, P. Simonini, S. Patti, 2014, River embankment characterization: the joint use of geophysical and geotechnical techniques, *Journal of Applied Geophysics*, Vol. 110, pp 5-22, doi: 10.1016/j.jappgeo.2014.08.012.

94. Boaga J., A. D'Alpaos, **G. Cassiani**, M. Marani, M. Putti, 2014, Plant-soil interactions in salt-marsh environments: experimental evidence from electrical resistivity tomography (ERT) in the Venice lagoon, *Geophysical Research Letters*, Vol 41, pp.6160-6166, doi: 10.1002/2014GL060983.

95. Ursino N., **G. Cassiani**, R. Deiana, G. Vignoli and J. Boaga, 2014, Measuring and Modelling water related soil – vegetation feedbacks in a fallow plot, *Hydrology and Earth System Sciences (HESS)*, doi:10.5194/hess-18-1105-2014.

96. Boaga J., G. Vignoli, R. Deiana, **G. Cassiani**, 2014, The influence of subsoil structure and acquisition parameters on surface wave mode contamination, *Journal of Environmental and Engineering Geophysics*, v. 19, p. 87-99, doi:10.2113/JEEG19.2.87

97. **Cassiani G.**, A. Binley, A. Kemna, M. Wehrer, A. Flores Orozco, R. Deiana, J. Boaga, M. Rossi, P. Dietrich, U. Werban, L. Zschornack, A. Godio, A. JafarGamdomi, G.P. Deidda,

2014, Non-invasive characterization of the Trecate (Italy) crude-oil contaminated site: links between contamination and geophysical signals, *Environmental Science and Pollution Research*, Special Issue on "New approaches for low-invasive contaminated site characterization, monitoring and modelling", vol. 21, issue 15, 8914-8931, doi: 10.1007/s11356-014-2494-7.

98. Petronio L., J. Boaga, **G. Cassiani**, 2013, Reflection seismic and surface wave analysis on complex heterogeneous media: The case of mount toc landslide In the vajont valley, Italian Journal of Engineering Geology and Environment, Volume 2013, Issue TOPIC 6, Pages 593-598, doi: 10.4408/IJEGE.2013-06.B-57.

99. De Carlo L., M.T. Perri, M.C. Caputo, R. Deiana, M. Vurro and **G. Cassiani**, 2013, Characterization of the confinement of a dismissed landfill via electrical resistivity tomography and mise-à-la-masse, *Journal of Applied Geophysics*, 98 (2013) 1–10, doi: 10.1016/j.jappgeo.2013.07.010.

100. Weill S., M. Altissimo, **G. Cassiani**, R. Deiana, M. Marani, M. Putti, 2013, Saturated area dynamics and streamflow generation from coupled surface–subsurface simulations and field observations, *Advances in Water Resources*, 59, 196-208, doi: 10.1016/j.advwatres.2013.06.007

101. Tinivella U., M. Giustiniani, **G. Cassiani**, 2013, Geophysical methods for environmental studies (Editorial), *International Journal of Geophysics*, Volume 2013, Art. No. 950353, doi: 10.1155/2013/950353.

102. Boaga J., **G. Cassiani**, C. L. Strobbia and G. Vignoli, 2013, Mode mis-identification in Rayleigh waves: ellipticity as a cause and a cure, *Geophysics*, 78(4), 1-12, doi: 10.1190/GEO2012-0194.1.

103. Boaga J., M. Rossi and **G. Cassiani**, 2013, Monitoring soil-plant interactions in an apple orchard using 3D electrical resistivity tomography, Conference on Four Decades of Progress in Monitoring and Modeling of Processes in the Soil-Plant-Atmosphere System: Applications and Challenges, Naples, 19-21 June 2013; Series: Procedia Environmental Sciences Volume: 19, Pages: 394-402.

104. Gervasio I., B. Della Vedova, **G. Cassiani**, E. Dazzan, R. Deiana, 2012, Characterization of Bagni di Lusnizza (Udine) sulphureous water resource by Integrated Geophysical Methods. Vol 53, *Bollettino di Geofisica Teorica ed Applicata*, doi: 10.4430/bgta0063.

105. **Cassiani G.**, A. Brovelli, G. Vignoli and B. Plischke, 2012, A study of geomechanical effects on time-lapse seismics, 74th EAGE Conference and Exhibition Incorporating SPE EUROPEC 2012; Copenhagen; Denmark; 4 June 2012 through 7 June 2012.

106. Kemna A., A. Binley, **G. Cassiani**, E. Niederleithinger, A. Revil, L. Slater, K. H. Williams, A. Flores Orozco, F.-H. Haegel, A. Hördt, S. Kruschwitz, V. Leroux, K. Titov, E. Zimmermann, 2012, An overview of the spectral induced polarization method for near-surface applications, *Near Surface Geophysics*, doi: 10.3997/1873-0604.2012027.

107. **Cassiani G.**, N. Ursino, R. Deiana, G. Vignoli, J. Boaga, M. Rossi, M. T. Perri, M. Blaschek, R. Duttmann, S. Meyer, R. Ludwig, A. Soddu, P. Dietrich and U. Werban, 2012, Non-invasive monitoring of soil static characteristics and dynamic states: a case study highlighting vegetation effects, *Vadose Zone Journal*, Special Issue on SPAC - Soil-plant interactions from local to landscape scale, August 2012, V.11, vzj2011.0195, doi: 10.2136/2011.0195.

108. Rossi M., **G. Cassiani** and A.M. Binley, 2012, A Stochastic Analysis Of Cross-Hole GPR Zero-Offset Profiles For Subsurface Characterization, *Vadose Zone Journal*, v. 11, issue 4, pp CP9-+, doi:10.2136/vzj2011.0078

109. Boaga J., S. Renzi, G. Vignoli, R. Deiana and **G. Cassiani**, 2012, From surface wave inversion to seismic site response prediction: beyond the 1D approach, *Soil Dynamics and Earthquake Engineering*, doi:10.1016/j.soildyn.2012.01.001.

110. Vignoli, G., **G. Cassiani**, M. Rossi, R. Deiana, J. Boaga and P. Fabbri, 2012, Geophysical characterization of a small pre-alpine catchment, *Journal of Applied Geophysics*, 80, 32-42, doi:10.1016/j.jappgeo.2012.01.007.

111. Boaga J., G. Vignoli and **G. Cassiani**, 2012, Reply to Comment on "Shear wave profiles from surface wave inversion: the impact of uncertainty onto seismic site response analysis", *Journal of Geophysics and Engineering*, 9, 244–246, doi:10.1088/1742-2132/9/2/244.

112. Perri M.T., **G. Cassiani**, I. Gervasio, R. Deiana, A.M. Binley, 2012, A saline tracer test monitored via both surface and cross-borehole electrical resistivity tomography: comparison of time-lapse results, *Journal of Applied Geophysics*, 79, 6-16, doi: 10.1016/j.jappgeo.2011.12.011.

113. Vignoli, G., R. Deiana and **G. Cassiani**, 2012, Focused inversion of Vertical Radar Profile (VRP) travel-time data, *Geophysics*, 77, No.1, H9-H18, doi: 10.1190/GEO2011-0147.1.

114. Camporese M., **G. Cassiani**, R. Deiana and P. Salandin, 2011, Assessment of local hydraulic properties from electrical resistivity tomography monitoring of a three-dimensional synthetic tracer test experiment, *Water Resources Research*, 47, W12508, doi:10.1029/2011WR010528, 2011.

115. Brovelli A. and **G. Cassiani**, 2011, Combined estimation of effective electrical conductivity and permittivity for soil monitoring, *Water Resources Research*, 47, W08510, doi:10.1029/2011WR010487.

116. Boaga J., G. Vignoli and **G. Cassiani**, 2011, Shear wave profiles from surface wave inversion: the impact of uncertainty onto seismic site response analysis, *Journal of Geophysics and Engineering*, 8, 162-174, doi:10.1088/1742-2132/8/2/004.

117. Strobbia, C. and **G. Cassiani**, 2011, Refraction Microtremors (ReMi): data analysis and diagnostics of key hypotheses, *Geophysics*, 76(3), MA11–MA20, doi:10.1190/1.3560246.

118. Vignoli G., C. Strobbia, **G. Cassiani** and P. Vermeer, 2011, Statistical Multi-Offset Phase Analysis (sMOPA) for surface wave processing in laterally varying media, *Geophysics*, 76, U1, doi:10.1190/1.3542076.

119. Scudiero E., R. Deiana, P. Teatini, **G. Cassiani** and F. Morari, 2011, Constrained optimization of spatial sampling in salt contaminated coastal farmland using EMI and continuous simulated annealing, Spatial Statistics 2011: Mapping Global Change, Procedia of Environmental Sciences, 7, 234-239, doi: 10.1016/j.proenv.2011.07.041

120. Binley A.M, **G. Cassiani** and R. Deiana, 2010, Hydrogeophysics – Opportunities and Challenges, *Bollettino di Geofisica Teorica ed Applicata*, 51(4), 267-284.

121. Ludwig, R., A. Soddu, R. Duttmann, N. Baghdadi, S. Benabdallah, R. Deidda, M. Marrocu, G. Strunz, F. Wendland, G. Engin, C. Paniconi, F. Prettenthaler, I. Lajeunesse, S. Afifi, **G.**

Cassiani, A. Bellin, B. Mabrouk, H. Bach, T. Ammerl, 2010, Climate-induced changes on the hydrology of mediterranean basins - a research concept to reduce uncertainty and quantify risk, *Fresenius Environmental Bulletin***,** 19**(**10A), Sp. Iss. SI**,** 2379-2384**.**

122. Monego. M., **G. Cassiani**, R. Deiana, M. Putti, G. Passadore and L. Altissimo, 2010, Tracer test in a shallow heterogeneous aquifer monitored via time-lapse surface ERT, *Geophysics*, Vol. 75, No. 4, WA61–WA73, doi: 10.1190/1.3474601.

123. Brovelli A. and **G. Cassiani**, 2010, A combination of the Hashin-Shtrikman bounds aimed at modelling electrical conductivity and permittivity of variably saturated porous media, *Geophysical Journal International*, 180, 225-237, DOI: 10.1111/j.1365-246X.2009.04415.x.

124. Zoccatelli C., F. Verdecchia, **G. Cassiani**, R. Deiana, N. Praticelli, 2010, In situ compaction measurements via radioactive markers: an analysis of data precision, Eisols 2010 (Eighth International Symposium on Land Subsidence), Land subsidence, associated hazards and the role of natural resources development, IAHS Publication, Vol. 339, pp 364-367.

125. Altissimo M., Marani M., Weill S., **Cassiani G.**, Deiana R., Rossi M., Putti M., 2010, Hillslope controls on the hydrologic response from a coupled surface/subsurface model, Proceedings of the XVIII International Conference on Computational Methods in Water Resources, Barcelona, Spain, June 21-24, 2010, pp. 705-712.

126. Werban U., T. Behrens, **G. Cassiani** and P. Dietrich, 2010, iSOIL: an EU project to integrate geophysics, digital soil mapping and soil science, Proximal Soil Sensing, Progress in Soil Science, Vol. 1, Part 2, 103-110, DOI: 10.1007/978-90-481-8859-8_8, Springer.

127. Vignoli G. and **G. Cassiani**, 2010, Identification of lateral discontinuities via multi-offset phase analysis of surface wave data, *Geophysical Prospecting*, 58, 389-413, DOI: 10.1111/j.1365-2478.2009.00838.x.

128. Brovelli A. and **G. Cassiani**, 2010, Sensitivity of intrinsic permeability to electrokinetic coupling in shaly and clayey porous media, *Transport in Porous Media*, DOI 10.1007/s11242-009-9472-4.

129. **Cassiani G.**, A. Godio, S. Stocco, A. Villa, R. Deiana, P. Frattini, M. Rossi, 2009, Monitoring the hydrologic behaviour of steep slopes via time-lapse electrical resistivity tomography, *Near Surface Geophysics*, special issue on Hydrogeophysics – Methods and Processes, p.475-486, doi: 10.3997/1873-0604.2009013.

130. **Cassiani, G.**, A. Kemna, A.Villa, and E. Zimmermann, 2009, Spectral induced polarization for the characterization of free-phase hydrocarbon contamination in sediments with low clay content, *Near Surface Geophysics*, special issue on Hydrogeophysics – Methods and Processes, p. 547-562. doi: 10.3997/1873-0604.2009028.

131. **Cassiani, G.**, S. Ferraris, M. Giustiniani, R. Deiana and C.Strobbia, 2009, Time-lapse surface-to-surface GPR measurements to monitor a controlled infiltration experiment, in press, *Bollettino di Geofisica Teorica ed Applicata,* Vol. 50, 2 Marzo 2009, pp. 209-226.

132. Brovelli A. and **G. Cassiani**, 2008, Effective permittivity of porous media: a critical analysis of the Complex Refractive Index Model (CRIM), *Geophysical Prospecting,* 2008, 56, 715–727, DOI: 10.1111/j. 1365-2478.2008.00724.x.

133. Kästner M. and **G. Cassiani**, 2008, Model driven Soil Probing, Site Assessment and Evaluation - An overview on the EU Project ModelPROBE, Proceedings of the Consoil 2008 conference, Milan, June 3-6, 2008, Special Sessions, pp. 32-52.

134. Werban, U., T. Behrens, **G. Cassiani** and P. Dietrich, Interactions between soil related sciences – Linking geophysics, soil science and digital soil mapping, Proceedings of the Consoil 2008 conference, Milan, June 3-6, 2008, Special Sessions, pp. 77-81.

135. **Cassiani G.,** N. Fusi, D. Susanni and R. Deiana, 2008, Vertical Radar Profiles for the assessment of landfill capping effectiveness, *Near Surface Geophysics*, Vol. 6, 133-142, doi: 10.3997/1873-0604.2008010.

136. Deiana R., **G. Cassiani**, A. Villa, A. Bagliani and V. Bruno, 2008, Calibration of a vadose zone model using water injection monitored by GPR and electrical resistance tomography, *Vadose Zone Journal*, Feb 25 2008: 215-226, doi: 10.2136/vzj2006.0137.

137. Deiana R., **G. Cassiani**, A. Kemna, A. Villa, V. Bruno and A.Bagliani, 2007, An experiment of non invasive characterization of the vadose zone via water injection and cross-hole time-lapse geophysical monitoring, *Near Surface Geophysics*, Vol 5, 3 June 2007, 183-194, doi: 10.3997/1873-0604.2006030.

138. Strobbia C. and **G. Cassiani**, 2007, Multi-layer GPR guided waves in shallow soil layers for the estimation of soil water content, *Geophysics*, Vol. 72, No. 4; p. J17–J29, 10.1190/1.2716374.

139. **Cassiani, G.,** A.M. Binley and T.P.A. Ferré, 2006, Unsaturated zone processes, in *Applied Hydrogeophysics*, H. Vereecken et al. (eds.), Springer-Verlag.

140. **Cassiani, G.**, V. Bruno, A. Villa, N. Fusi, A.M. Binley, 2006, A saline tracer test monitored via time-lapse surface electrical resistivity tomography, *Journal of Applied Geophysics*, 59, 244-259, doi: 10.1016/j.jappgeo2005.10.007.

141. **Cassiani, G.,** C .Strobbia, M. Giustiniani, N.Fusi, G.B.Crosta, P.Frattini, 2006, Monitoring of hydrological hillslope processes via time-lapse ground-penetrating radar, *Bollettino di Geofisica Teorica ed Applicata*, Vol.47, No.1-2, March-June 2006, pp-125-144.

142. Binley, A.M., L.D. Slater, M. Fukes and **G. Cassiani**, 2005, The relationship between frequency dependent electrical resistivity and hydraulic properties of saturated and unsaturated sandstone, *Water Resources Research*, Vol. 41, No. 12, W12417 http://dx.doi.org/10.1029/2005WR004202, 14 December 2005

143. Brovelli, A., **G. Cassiani,** E. Dalla, F. Bergamini, D. Pitea and A.M. Binley, 2005, Electrical properties of partially saturated sandstones: a novel computational approach with hydro-geophysical applications, *Water Resources Research*, Vol. 41, No. 8, W08411, http://dx.doi.org/10.1029/2004WR003628, 17 August 2005.

144. Pruiksma, J. H. Teunissen, F. Barends, B. Orlic, and **G. Cassiani**, 2005, Sensitivity analysis and model type evaluation for subsidence above offshore gas fields, Proceedings Seventh International Symposium On Land Subsidence (Sisols2005), Shanghai, China, October 2005, pp. 65-78.

145. Hueckel T., **G. Cassiani**, J. H. Prevost and D. A. Walters, 2005, Field Derived Compressibility Of Deep Sediments Of North Adriatic, Proceedings Seventh International Symposium On Land Subsidence (Sisols2005), Shanghai, China, October 2005, pp. 35-49.

146. **Cassiani G.**, L.F. Burbery and M. Giustiniani, 2005, A Note On In-Situ Estimates Of Sorption Using Push-Pull Tests, *Water Resources Research*, Vol. 41, No. 3, W03005, doi/10.1029/2004WR003382, 05 March 2005.

147. **Cassiani G.** and A. M. Binley, 2005, Modeling Unsaturated Flow in a Layered Formation under Quasi-Steady State Conditions Using Geophysical Data Constraints, *Advances in Water Resources*, Vol. 28/5, 467-477.

148. **Cassiani G.**, C. Strobbia and L. Gallotti, 2004, Vertical Radar Profiles For The Characterization Of Deep Vadose Zones, *Vadose Zone Journal*, Vol.3, 1093-1115.

149. Dalla E., **G. Cassiani,** A. Brovelli, D. Pitea, 2004, Electrical conductivity of unsaturated porous media: pore-scale models and comparison with laboratory data, *Geophysical Research Letters*, Vol. 31, No.5, L05609 10.1029/2003GL019170 10 March 2004

150. **Cassiani, G.**, E. Dalla, A. Brovelli, and D. Pitea, 2004, Pore-scale modeling of electrical conductivities in unsaturated sandstones. Proc. XV International Conference on Computational Methods in Water Resources, Chapel Hill, North Carolina, U.S.A., June 13-17, *Developments in Water Science*, vol. 55, pp. 235-246, doi: 10.1016/S0167-5648(04)80053-4

151. Christensen O., **G. Cassiani**, P.J. Diggle, P. Ribeiro and G. Andreotti, 2004, Statistical estimation of the relative efficiency of natural attenuation mechanisms in contaminated aquifers, *Stochastic Environmental Research and Risk Assessment*, 18, 339-350.

152. Burbery L., **G. Cassiani**, G. Andreotti, T. Ricchiuto, K.T. Semple, 2004, Well test and stable isotope analysis for the determination of sulphate-reducing activity in a fast aquifer contaminated by hydrocarbons, *Environmental Pollution*, 129 (2), 321-330.

153. Binley, A.M., **G. Cassiani** and P.Winship, 2004, Characterization of Heterogeneity in Unsaturated Sandstone using Borehole Logs and Cross Borehole Tomography, *SEPM (Society for Sedimentary Geology) Special Publication No.80, Aquifer characterization*, J. Bridge and D. W. Hyndman (eds), 176 p.

154. Binley A.M., **G. Cassiani**, R. Middleton, and P., Winship, 2002, Vadose zone flow model parameterisation using cross-borehole radar and resistivity imaging, *Journal of Hydrology*, 267, 147-159, doi: 10.1016/S0022-1694(02)00146-4.

155. Slater L., R. Versteeg, A. Binley, **G. Cassiani,** R. Birken and S. Sandberg, 2002, A 3D ERT Study of Solute Transport in a Large Experimental Tank, *Journal of Applied Geophysics*, 49, 211-229.

156. Hueckel T., **G. Cassiani**, F. Tao, A. Pellegrino, V. Fioravante, 2001. Aging Of Oil/Gas Bearing Sediments, Their Compressibility and Subsidence. *Journal of Geotechnical and Geoenvironmental Engineering*. Vol. 127(11), Pp. 926-938.

157. **Cassiani G.** and C. Zoccatelli, 2000, Subsidence Risk in Venice and Nearby Areas, Italy, owing to Offshore Gas Fields: a Stochastic Analysis, *Environmental and Engineering Geoscience Journal*, Vol. VI. No.2, 115-128.

158. **Cassiani G.**, Z.J. Kabala and M.A. Medina, 1999, Flowing Partially Penetrating Well: a Solution of a Mixed-Type Boundary Value Problem, *Advances in Water Resources*, Vol. 23, 59-68.

159. **Cassiani G.**, 1998, A New Method for the Interpretation of the Constant-Head Well Permeameter, *Journal of Hydrology*, Vol. 210(1-4), 11-20.

160. **Cassiani G.** and Z.J. Kabala, 1998, Hydraulics of a Partially Penetrating Well: Solution to the Mixed Boundary Value Problem via Dual Integral Equations, *Journal of Hydrology*, Vol. 211(1-4), 100-111.

161. **Cassiani G.** and G. Christakos, 1998, Analysis and Estimation of Natural Processes with Nonhomogeneous Spatial Variation Using Secondary Information, *Journal of Mathematical Geology*, Vol. 30, No.1, 57-76.

162. **Cassiani G.**, G. Boehm, A. Vesnaver and R. Nicolich, 1998, A Geostatistical Framework for Incorporating Seismic Tomography Auxiliary Data into Hydraulic Conductivity Estimation, *Journal of Hydrology*, Vol. 206(1-2), 58-74.

163. Kabala Z.J. and **G. Cassiani**, 1997, Well Hydraulics with the Weber-Goldstein Transforms, *Transport in Porous Media*, 29(2), 225-246.

164. **Cassiani G.** and M.A. Medina, 1997, Incorporating Geophysical Auxiliary Data into Groundwater Flow Parameter Estimation, *Ground Water*, Vol. 35, 79-91.

165. **Cassiani G.** and M.A. Medina, 1996, Two-Pump System for NAPL Free-Phase Recovery: Numerical Simulations of Downconing, *Hydrologic Science and Technology*, Vol.12 (1-4).

166. **Cassiani G.**, W.H. Liu, M.A. Medina and T.L. Jacobs, 1995, Groundwater pollution remediation and control: The role of global optimizers and exploitation of available information. Proceedings of the conference Integrated Water Resources Planning For The 21st Century, Harvard University, pp. 690-693.

167. Chiaruttini C., P.L. Bragato, and **G. Cassiani**, 1994, Seismic Reflection Interpretation as an Image Understanding Problem, *Journal of Seismic Exploration*, Vol.3, 53-68.

Conference abstracts, proceedings and papers in journals with no scientific revision

1. Fagherazzi S.**,** G. Nordio, J. Boaga, **G. Cassiani**, H. Michael, D. Pratt, T. Messerschmidt, M. Kirwan, S. Stotts, 2026, The Ecohydrology of Coastal Ghost Forests, *EGU General Assembly 2026*, Vienna, 3-8 May, 2026.

2. Censini M., L. Peruzzo, M. Pavoni, V. Cioffi, F. Manca, **G. Cassiani**, 2026, Exploring soil heterogeneity across scales in a Chianti vineyard (Italy) using EMI, multi-resolution ERT and plant-scale time-lapse imaging, *EGU General Assembly 2026*, Vienna, 3-8 May, 2026.

3. Pavoni M., M. Guglielmin, J. Boaga, G. Cassiani, A. Carrera, S. Peracchi, M. Zumiani, E. Forte, S. Ponti, L. Peruzzo, 2026, Optimizing Electrical Resistivity Tomography Acquisition Strategies in Rock Glacier Environments, *EGU General Assembly 2026*, Vienna, 3-8 May, 2026.

4. Nesterova O.**,** L. Schenato, A. Constantinou, T. Le Dû, F. Meneghini, A. Travan, C. Bellezza, G. Michaud, A. Marzona, A. Brovelli, S. Zampato, G. Cassiani, J. Boaga, I. Barone, 2026, Distributed Acoustic Sensing at the Engineering Scale: Experimental Insights from the PITOP Test Site, *EGU General Assembly 2026*, Vienna, 3-8 May, 2026.

5. Cioffi V.**,** L. Peruzzo, M. Censini, M. Pavoni, F. Manca, M. Köhli, J. Weimar, **G. Cassiani**, 2026, Bridging Synthetic Modeling and Field Reality: Assessing Dry-Region Dominance in Cosmic-Ray Neutron Sensing via Geophysical Integration, *EGU General Assembly 2026*, Vienna, 3-8 May, 2026.

6. **G. Cassiani**, L. Nardi, I. Barone, M. Pavoni, J. Boaga, A. Fuggi, M. Elghasti, A. Brovelli, 2026, Soil-structure interaction issues in complex environments: the example of a 250 m high chimney, *EGU General Assembly 2026,* Vienna, 3-8 May, 2026.

7. Abdulghany A.A., A. Fuggi, A. Brovelli, **G. Cassiani**, I. Barone, 2026, Ambient Seismic Noise: From Characterization to Simulation, *EGU General Assembly 2026*, Vienna, 3-8 May, 2026.

8. **Cassiani G.**, 2026, Static and dynamic aspects of non-invasive characterization and monitoring agricultural soils: assimilation with traditional probes and scale issues, invited talk, AGROGEO, Advances in Agrogeophysics: Techniques and Applications in Agriculture, 4th Agrogeophysic Seminar - Lisbon 5-6 February 2026.

9. **Cassiani G.**, L. Peruzzo, M. Pavoni, A. Carrera, A. Ghirotto, V. Cioffi, I. Barone, M. Censini, J. Boaga, 2025, Methods and approaches for the assessment and understanding of infiltration processes at different scales, invited talk, AGU Fall Meeting, New Orleans, 15-19 December 2025.

10. **Cassiani G.**, A. Godio, P. Ciampi, J. Boaga, L. Peruzzo, M. Pavoni, A. Carrera, 2025, Estimation of spatial extent of mature hydrocarbon contamination in the subsoli: the Trecate case study, *EGU General Assembly 2025,* Vienna, 27 April – 2 May, 2025.

11. Nesterova O., J. Boaga, **G. Cassiani**, A. Brovelli, M. Pavoni, L. Peruzzo, I. Barone, 2025, Urban seismic noise characterization at the Verona Arena, Italy, *EGU General Assembly 2025*, Vienna, 27 April – 2 May, 2025.

12. Peruzzo L., M. Pavoni, V. Cioffi, M. Censini, F. Manca, I. Barone, J. Boaga, **G. Cassiani**, 2025, On the use of geophysics to support and connect soil sensors and cosmic ray neutron sensing: a case study highlighting the relevance of soil heterogeneity, *EGU General Assembly 2025*, Vienna, 27 April – 2 May, 2025.

13. Ghirotto A., V. Prigiobbe, M.C. Caputo, O. De Giglio, **G. Cassiani**, M.Ç Ekiz, A.C. Turturro, A.F. Savino, D. Colella, G. Barboza, M. Milani, M. Verani, 2025, Transport of pathogens in saturated porous rocks under variable flow and salinity, *EGU General Assembly 2025*, Vienna, 27 April – 2 May, 2025.

14. Barone I., O. Nesterova, J. T. F. Ting, M. Pavoni, J. Boaga, **G. Cassiani**, A. Brovelli, V. R. Tribaldos, A. Galtarossa, L. Schenato, L. Palmieri, L. Peruzzo, H. Karbala Ali, R. Deiana, 2024, Shallow subsoil characterization using seismic nodes and DAS in urban environments, 3rd SEG/EAGE Workshop on Geophysical Aspects of Smart Cities, 3–5 December 2024, Hanyang University, Seoul, South Korea.

15. Carrera A. F. Morari, L. Peruzzo, I. Barone, M. Pavoni, J. Boaga, M. Longo, N. Dal Ferro, **G.**

Cassiani, 2024, Advances in Soil Compaction Characterization Through Applied Geophysics, *2024 IEEE International Workshop on Metrology for Agriculture and Forestry*, MetroAgriFor 2024, Padua, October 2024, pp. 41 – 46.

16. Morari F., **G. Cassiani**, C. Corbari, 2024, Advancements in Proximal Sensing Technologies and Data Integration for Precision Agriculture: From 3D Conductivity Mapping to Dynamic Prescription Maps, *invited talk*, 2024 ASA, CSSA, SSSA International Annual Meeting, November 10-13, San Antonio, Texas.

17. Bressan S., **G. Cassiani**, A. Fuggi, A. Brovelli, 2024, Process-based understanding of induced seismicity: a key step for public acceptance of geothermal power plants in urbanized areas, *EGU General Assembly 2024*, Session: ERE5.1 – Induced/triggered seismicity in geo-energy applications: monitoring, modeling, mitigation, and forecasting, Vienna, 14-19 April 2024.

18. Pini S., **G. Cassiani**, A. Dani, Y. Giambastiani, L. Peruzzo, L. Piemontese, F. Preti, 2024, Accumulation of water and sediments upstream of Tuscan check dams, *EGU General Assembly 2024*, Session: HS9.2 – Quantifying sediment sources, dynamics and the effectiveness of erosion control measures at the catchment scale in the context of global change, Vienna, 14-19 April 2024.

19. Nesterova O., I. Barone, **G. Cassiani**, A. Brovelli, V. Rodríguez Tribaldos, A. Galtarossa, L. Schenato, L. Palmieri, L. Peruzzo, J. Boaga, M. Pavoni, H. Karbala Ali, R. Deiana, 2024, Combined DAS and seismic nodes acquisition for shallow geophysics purposes around the Scrovegni Chapel in Padua, Italy, *EGU General Assembly 2024*, Session: GI4.4 – Urban Geophysics & UASs Remote Sensing approaches in Geoscience research platforms for the 21st century, Vienna, 14-19 April 2024.

20. Romano N., C. Mazzitelli, C. Allocca, **G. Cassiani**, M. Censini, E. Ben-Dor, S. Manfreda, H. Bogena, H. Vereecken, P. Nasta, 2024, Integrated monitoring and modeling activities in the "Alento" critical zone observatory as a lighthouse to support the implementation of the EU Soil Deal Mission in a Mediterranean agroforestry environment, *EGU General Assembly 2024*, Session: SSS9.10 – Novel monitoring techniques and modeling tools to assess soil health for resilient management of soil and water resources in agroecosystems, Vienna, 14-19 April 2024.

21. Peruzzo L., B. Mary, V. Burchard Levine, J. Guerra, M. Herrezuelo, R.Lovera, A. Casas, **G. Cassiani**, H. Nieto, J. Pena, 2024, Identification of long-term irrigation effect on plant water use from geophysical and proximal sensing observations: example of a vineyard, *EGU General Assembly 2024*, Session: ITS3.14/BG8.36 – Biogeophysics: Environmental Monitoring for the Circular Economy, Net Zero, and Contaminants of Concern, Vienna, 14-19 April 2024.

22. **Cassiani G.**, U. Werban, M. Pohle, S. Consoli, G. Longo-Minnolo, D. Vanella, L. Peruzzo, 2024, EMI surveys under precision irrigation contexts: an orange orchard-case study and methodological challenges, *EGU General Assembly 2024*, Session: ITS3.14/BG8.36 – Biogeophysics: Environmental Monitoring for the Circular Economy, Net Zero, and Contaminants of Concern, Vienna, 14-19 April 2024.

23. Barone I., A. Brovelli and **G. Cassiani**, 2024, Seismic Interferometry applied to microseismic monitoring networks in mountain areas, *EGU General Assembly 2024*, Session: SM6.2 – Passive-source seismology for imaging sedimentary basins and energy transition targets, Vienna, 14-19 April 2024.

24. Carrera A., L. Peruzzo, **G. Cassiani**, F. Morari, 2024, Soil compaction signatures on electromagnetic and DC-current geophysics, *EGU General Assembly 2024*, Session: SSS9.11 – The management of agricultural and forest soils in meeting global change mitigation goals, Vienna, 14-19 April 2024.

25. **Cassiani G.**, L. Peruzzo, M. Censini, B. Mary, V. Iván, 2024, Non-invasive monitoring of plant root activities in the framework of the Earth's Critical Zone and soil-plant-atmosphere interactions, *invited talk, EGU General Assembly 2024*, Session: ITS3.14/BG8.36 – Biogeophysics: Environmental Monitoring for the Circular Economy, Net Zero, and Contaminants of Concern, Vienna, 14-19 April 2024.

26. Barone I., M. Pavoni, J. T. F. Ting, J. Boaga, **G. Cassiani**, D. Dupuy, R. Deiana, 2024, Combined 3D surface wave and refraction analysis around the Scrovegni Chapel in Padua, Italy, *GNGTS 2024*, Geophysics for the future of the Planet, Ferrara, 13-16 febbraio 2024.

27. Ciampi P., **G. Cassiani**, G.P. Deidda, C. Esposito, G.Scarascia Mugnozza, M. Petrangeli Papini, 2024, A Dynamic and Multi-Source Hydrogeophysical Model to Remediate a Complex Hydrocarbon-Contaminated Site, *GNGTS 2024*, Geophysics for the future of the Planet, Ferrara, 13-16 febbraio 2024.

28. Carrera A., L. Peruzzo, B. Mary, **G. Cassiani**, F. Morari, 2024, Monitoring soil compaction during a controlled irrigation experiment using multiple hydrogeophysical data, *Agrogeo24*, Zurich, 1-2 feb 2024.

29. **Cassiani G.**, I. Barone, M. Pavoni, J. Boaga, R. Deiana, 2023, Characterization and monitoring at a site of interest for archaeological and cultural heritage using seismic, electrical and electromagnetic methods, from surface and cross-hole, *invited talk*, The International Meeting for Applied Geoscience & Energy (SEG/AAPG IMAGE'23), Special Session on Long Term Geophysical Monitoring of Near Surface Processes, 27 Aug–1 Sept 2023, Houston, Texas.

30. **Cassiani G.**, J. Boaga, I. Barone, L. Peruzzo, B. Mary, V. Iván, 2023, The "true" meaning of Hydrogeophysics: integration of geophysical data with hydrological modeling, INTRUSION 2023, 3-5 July 2023, Bari, Italy.

31. **Cassiani G.**, I. Barone, M. Pavoni, J. Boaga, R. Deiana, 2023, Geophysical characterization of the shallow subsoil at a heavily urbanized archaeological site: the Roman Amphitheater and the Scrovegni Chapel in Padua, EGU23-8737, EGU General Assembly, Vienna, 23-28 April 2023.

32. Carrera A., M. Pavoni, I. Barone, J. Boaga, N. Dal Ferro, **G. Cassiani**, F. Morari, 2023, On the use of seismic geophysical methods to characterize different soil compaction levels, EGU23-12699, EGU General Assembly, Vienna, 23-28 April 2023.

33. Mary B., K. Kaffas, M. Censini, F.S. Manca di Villahermosa, A. Dani, M. Verdone. F. Preti, P. Trucchi, D. Penna, **G. Cassiani**, 2023, Supporting subsurface preferential flow in a small forested catchment from geophysical data and hydrological modelling, EGU23-5954, EGU General Assembly, Vienna, 23-28 April 2023.

34. Carrera A., M. Longo, I. Piccoli, B. Mary, **G. Cassiani**, F. Morari, 2023, On the use of ERT and EMI for the assessment of hydrological impacts of different agricultural practices, GNGTS – 41° Congresso Nazionale, Bologna, 7-9 febbraio 2023.

35. Deiana R., I. Barone, M. Pavoni, J. Boaga, **G. Cassiani**, 2022, 2D and 3D Geophysical Surface and Borehole Acquisitions for Subsoil Characterization at the Archaeological Site of the Roman Amphitheater and Scrovegni Chapel in Padua, *AGU Fall Meeting*, Chicago, 12-16 December 2022.

36. Carrera A.**,** M. Pavoni, I. Piccoli, J. Boaga, **G. Cassiani**, F. Morari, 2022, Soil compaction imaging through Pedophysical Joint Inversion: a Northeastern Italy case study, *EGU General Assembly 2022*, EGU22-7568, HS8.1.6.

37. Iván V., B. Mary, N. Schwartz, M. Ghinassi, **G. Cassiani**, 2022, Spectral Induced Polarization: Laboratory measurements on artificial soils with varying water saturation, salinity and clay content, *EGU General Assembly 2022*, EGU22-5638, HS8.1.6.

38. **Cassiani G.**, M. Censini, P. Nasta, C. Allocca, B. Sica, U. Lazzaro, C. Mazzitelli, M. Verdone, A. Dani, F. Manca di Villahermosa, D. Penna, N. Romano, 2022, Time-lapse multi-frequency EMI mapping and ERT profiling for the characterization of soil water behavior in mountain catchments, *EGU General Assembly 2022*, EGU22-6956, HS8.1.6.

39. Mary B., A. Botto, V. Iván, L. Peruzzo, C. Chou, Y. Wu, **G. Cassiani**, M. Camporese, 2022, Assimilation of ERT data to improve Feddes parameters in a hydrological model during a root water uptake experiment, *EGU General Assembly 2022*, EGU22-6648, SSS6.3.

40. **Cassiani G.**, B. Mary, J. Boaga, I. Barone, V. Ivan, 2021, Geophysical imaging of the root zone: methods, implications and outlook, *Keynote Speech*, Special Session on advanced geophysical imaging of plant-soil interactions, EAGE Near Surface Geoscience Conference & Exhibition 2021, Bordeaux, France, August 29- September 2, 2021.

41. **Cassiani G.**, 2021, The Role of a Priori Knowledge in Geophysical Inversion: the Link to the Physical Processes, to Be Imaged, in MS0 Advances in Regularization for Inverse Problems in Geoscience - Part I of II, SIAM Conference on Mathematical & Computational Issues in the Geosciences (GS21), *invited presentation*, June 21-24, 2021 (Virtual Conference).

42. Mary B., V. Iván and **G. Cassiani**, 2021, Root system monitoring using a mise-à-la-masse (MALM) extension to time-domain IP, Hydrogeophysics: a tool for hydrology, ecology, agronomy and beyond, *European Geoscience Union (EGU) General Assembly 2021*, virtual, 28 April 2021.

43. Blanchy G., P. McLachlan, M. Censini, J. Boaga, A. Binley, **G. Cassiani**, 2021, EMI characterization in mountain catchments: multi-frequency versus multi-coil inversion using EMagPy, Hydrogeophysics: a tool for hydrology, ecology, agronomy and beyond, *European Geoscience Union (EGU) General Assembly 2021*, virtual, 28 April 2021.

44. Bellizia E., M. Ghinassi, J. Boaga, **G. Cassiani**, A. Finotello, M. Cosma, A. Puppin, A. D'Alpaos, 2020, An integrated approach to investigate intra-point bar grain size variability: an example from the Holocene alluvial succession of the Venetian Plain (Italy), *AGU Fall Meeting*, 7-11 December 2020.

45. Binley A., L. Burbery, **G. Cassiani**, R. Mellis. M. Finnemore, T. Sarris, 2020, Denitrifying permeable reactive barriers for groundwater remediation: Barrier design and assessment using resistivity imaging and solute transport modelling, *invited presentation*, AGU Fall Meeting, 7-11 December 2020.

46. Barone I., E. Kästle, C. Strobbia, **G. Cassiani**, 2020, Seismic Surface Wave Tomography on dense 3D active data, *EGU General Assembly 2020*, Vienna, 3-8 May 2020.

47. Ciampi P., C. Esposito, **G. Cassiani**, M. Petrangeli Papini, 2020, A 3D multi-source conceptual model to support the remediation of a jet fuel contaminated site, *EGU General Assembly 2020*, Vienna, 3-8 May 2020.

48. Mary B., F. Meggio, G. Blanchy, L. Peruzzo, J. Boaga, Y. Wu, S.S. Hubbard, B. Ruperti, A. Binley, **G. Cassiani**, 2019, Highlining root activity effects during a partial root zone drying in controlled rhizotrons using geo-electrical methods**,** *AGU Fall Meeting*, San Francisco, 9-13 December 2019.

49. Bellizia E., M. Ghinassi, J. Boaga, **G. Cassiani**, A. Finotello, M. Cosma, A. Puppin, A. D'Alpaos, 2019, Intra-point bar grain-size variability: an example from the holocene alluvial succession of the venetian plain (Italy), *8th British Sedimentological Research Group AGM*, London 13-17 December 2019.

50. **Cassiani G.**, 2019, Near surface geophysics for environmental applications: monitoring, modeling and beyond, *Keynote speech*, SEG-EAGE Geophysical Aspects of Smart Cities Workshop, Singapore, December 10-12, 2019.

51. Mary B., J. Boaga, **G. Cassiani**, R. Deiana, 2019, Non-invasive invesRgaRon below an exhausted landfill located in karstic area, *GNGTS* – 38° Congresso Nazionale, Roma, 12-14 novembre 2019.

52. Barone, E. Kästle, C. Strobbia, **G. Cassiani**, 2019, 2D Surface Wave Tomography using active seismic data, *GNGTS* – 38° Congresso Nazionale, Roma, 12-14 novembre 2019.

53. Mary B., J. Boaga, **G. Cassiani**, 2019, Potential of geoelectrical imaging for the monitoring of root-soil interactions: optimization of measurement configurations, *GNGTS* – 38° Congresso Nazionale, Roma, 12-14 novembre 2019.

54. Barone I., **G. Cassiani**, C. Strobbia, 2019, Multi-Mode Multi-Offset Phase Analysis of surface

wave data (MMMOPA), EGU General Assembly 2019, Vienna, 7-12 April 2019.

55. Boaga J., F. Casarin, G. De Marchi, M.R. Valluzzi, N. Cenni, **G. Cassiani**, 2019, 2016 Central Italy Earthquakes Recorded by Low-Cost MEMS-Distributed Arrays, EGU General Assembly 2019, Vienna, 7-12 April 2019.

56. Botto A., M. Camporese, **G. Cassiani**, A. Furman, P. Kessouri, M. Putti 2019, Uncertainty quantification in modeling water flow and transport of hydrocarbons: a case study in Sardinia (Italy), *EGU General Assembly 2019*, Vienna, 7-12 April 2019.

57. Nasta P., J. Boaga, R. Deiana, **G. Cassiani**, N. Romano, 2019, Comparing two soil hydraulic parameterizations and related uncertainties to simulate catchment-scale distributed water budget with HydroGeoSphere, *EGU General Assembly 2019*, Vienna, 7-12 April 2019.

58. Mary B., S. Rao, M. Javaux, and **G. Cassiani**, 2019, Hydrogeophysics: an tool for hydrology, ecology, agronomy and beyond Tree root system mise-à-la-masse (MALM) forward modelling with explicit representation of root structure, *EGU General Assembly 2019*, Vienna, 7-12 April 2019.

59. **Cassiani G.**, B. Mary, D. Vanella, B.A. Galletta, S. Barbagallo, G.L. Cirelli, S. Consoli, 2018, Assessing The Extent Of Citrus Trees Root Apparatus Under Deficit Irrigation Through Geophysical Imaging, *AGU Fall Meeting*, Washington DC, 10-14 December 2018.

60. Busato L., B. Mary, M. Palladino, N. Romano, J. Boaga, **G. Cassiani**, 2018, Monitoraggio geofisico del dominio non saturo in un sito contaminato soggetto a bonifica, GNGTS – 37° Congresso Nazionale, Bologna, 19-21 novembre 2018.

61. Barone I., **G. Cassiani**, C. Strobbia, 2018, Multi-mode multi-offset phase analysis of surface wave data, a new approach to extend MOPA to higher modes, GNGTS – 37° Congresso Nazionale, Bologna, 19-21 novembre 2018.

62. Boaga J., F. Donini, G. Bossi, S. Cola, P. Simonini, **G. Cassiani**, 2018, Indagini ERT a supporto della modellazione idrologica in opere arginali: un caso in Provincia di Bolzano, GNGTS – 37° Congresso Nazionale, Bologna, 19-21 novembre 2018.

63. Mary B., J. Boaga, L. Busato, **G. Cassiani**, 2018, Soil geological settings characterisation of a contaminated in an urban context: assimilation of archives, geotechnical and geophysical data to identify a clay layer discontinuity, GNGTS – 37° Congresso Nazionale, Bologna, 19-21 novembre 2018.

64. **Cassiani G.**, J. Boaga, D. Vanella, S. Consoli, L. Peruzzo, Y. Wu, SS. Hubbard, M. Schmutz, B. Mary, 2018, The role of small-scale non-invasive monitoring of root systems in the improvement of water use strategies for agriculture, *keynote speech*, Managing Water Scarcity in River Basins, Innovation and Sustainable Development, 4-6 October 2018, Agadir, Morocco.

65. Mary B., L. Peruzzo, J. Boaga, M. Schmutz, Y. Wu, S.S. Hubbard, **G. Cassiani**, 2018, The use of hydro-geophysical monitoring for the identification of root-water-uptake patterns: ERT

and MALM experiments in a vineyard, invited talk, EGU General Assembly 2018, Session 'Hydrogeophysics for the critical zone, Vienna, 8-13 April 2018.

66. Song S., U. Tinivella, M. Giustiniani, **G. Cassiani**, S. Bünz and S. Singhroha, 2018, OBS data analysis to characterize gas hydrate reservoir in South Shetland margin (Antarctic Peninsula), EGU General Assembly 2018, Vienna, 8-13 April 2018.

67. Song S., U. Tinivella, M. Giustiniani, **G. Cassiani**, S. Bünz and S. Singhroha, 2018, Seismic velocity analysis to quantify gas hydrate and free gas from OBS data in the South Shetland margin (Antarctic), 80th EAGE Conference & Exhibition 2018, 11 - 14 June, 2018, Copenhagen, Denmark

68. Boaga J., B. Mary, L. Peruzzo, M. Schmutz, Y. Wu, S.S. Hubbard, **G. Cassiani**, 2017, 3D electrical resistivity tomography and Mise-à-la-Masse method as tools for the characterization of vine roots, *AGU Fall Meeting*, New Orleans, 11-15 December 2017.

69. **Cassiani G.,** J. Boaga, L. Busato, M.T. Perri, 2017, Characterization and monitoring of the riparian and hyporheic zones, *invited talk*, GELMON 2017, Fourth International Workshop on Geoelectrical Monitoring, Vienna, November 22-24, 2017.

70. Vanella D., **G. Cassiani**, L. Busato, J. Boaga, S. Consoli, 2017, Application of electrical resistivity tomography to monitor the soil-root interactions under deficit irrigation, GNGTS – 36° Congresso Nazionale, Trieste, 14-16 novembre 2017.

71. Mary B., L. Peruzzo, J. Boaga, M. Schmutz, Y. Wu, S.S. Hubbard, **G. Cassiani**, 2017, Small scale characterization of vine plant Root Water Uptake via 3D electrical resistivity tomography and Mise-à-la-Masse method: a case study in a Bordeaux Vineyard (France), GNGTS – 36° Congresso Nazionale, Trieste, 14-16 novembre 2017.

72. **Cassiani G.**, M. Giustiniani, R. Nicolich, P. Primiero, C. Strobbia, U. Tinivella, 2017, Reprocessing Of Old Regional Seismic Lines For New Geothermal Targets: The Case Of CROP-03, GNGTS – 36° Congresso Nazionale, Trieste, 14-16 novembre 2017.

73. Rossi M., A. Brovelli, **G. Cassiani**, S. Johansson, T. Dahlin, 2017, Contribution of Stern Layer and Membrane Polarization to the Spectral Induced Polarization of Porous Media, GNGTS – 36° Congresso Nazionale, Trieste, 14-16 novembre 2017.

74. **Cassiani G.**, 2017, Challenges of data integration in near surface geophysics applications, *invited talk*, SEG 4th International Conference on Engineering Geophysics (ICEG), Al Ain, UAE, October 10, 2017.

75. Rossi M., **G. Cassiani**, G. Vignoli, J. Irving, R. Deiana, A. Binley, 2017, Intricacies in the interpretation of Vertical Radar Profiling caused by borehole effects, *EAGE Near Surface Geoscience 2017*, September 3, 2017, Malmoe, Sweden.

76. Rossi M., A. Brovelli, **G. Cassiani**, S. Johansson, T. Dahlin, 2017, Contribution of Stern Layer and Membrane Polarization to the Spectral Induced Polarization of Porous Media, *EAGE Near Surface Geoscience 2017*, September 3, 2017, Malmoe, Sweden.

77. **Cassiani G.**, 2017, Hydrocarbon contamination geophysical signatures: field examples, *invited talk, EAGE Near Surface Geoscience 2017*, workshop on Geophysics for mapping and monitoring of contaminated ground and buried waste, September 3, 2017, Malmoe, Sweden.

78. Mary B., L. Peruzzo, J. Boaga, M. Schmutz, Y. Wu, S.S. Hubbard, **G. Cassiani**, 2017, Small scale characterization of vine plant root zone via 3D electrical resistivity tomography and Mise-à-la-Masse method: a case study in a Bordeaux Vineyard, EGU General Assembly 2017, Vienna, 23-28 April 2017.

79. **Cassiani G.**, M. Putti, J. Boaga, L. Busato, D. Vanella, S. Consoli, 2016, Non-invasive monitoring and modelling of the root active zones: progresses, caveats and outlook, *invited talk, AGU Fall Meeting*, San Francisco, 12-16 December 2016.

80. Boaga J., M. Ghinassi, A. D'Alpaos, G.P. Deidda, G. Rodriguez, **G. Cassiani**, 2016, Multi-frequency inversion of FDEM data for the study of ancient meandering channels in tidal landscapes, *AGU Fall Meeting*, San Francisco, 12-16 December 2016.

81. Boaga J., L. Busato, M.T. Perri and **G. Cassiani**, 2016, Time-lapse ERT and DTS for seasonal and short-term monitoring of an alpine river hyporheic zone, EGU General Assembly 2016, Vienna, 17-22 April 2016.

82. Flores Orozco A., A. Kemna, **G. Cassiani** and A. Binley, 2016, Improved site contamination through time-lapse complex resistivity imaging, EGU General Assembly 2016, Vienna, 17-22 April 2016.

83. Vanella D., L. Busato, J. Boaga, **G. Cassiani**, A. Binley, M. Putti, and S. Consoli, 2016, Micro 3D ERT tomography for data assimilation modelling of active root zone, EGU General Assembly 2016, Vienna, 17-22 April 2016.

84. Boaga J., L. Busato, D. Vanella, S. Consoli, A. Binley, **G. Cassiani**, 2015, Micro 3D ERT tomography for data assimilation modeling of active root zone, *AGU Fall Meeting*, San Francisco, December 2015.

85. Perri M.T., P. De Vita, **G. Cassiani**, R. Masciale, I. Portoghese, G.B. Chirico, 2015, Use of time-lapse Mise-á-la-Masse measurements to monitor a saline tracer test: advantages and limitations, *AGU Fall Meeting*, San Francisco, December 2015.

86. Boaga J., L. Busato, M.T. Perri and **G. Cassiani**, 2015, ERT and DTS time-lapse monitoring of an Alpine river hyporheic zone, GNGTS – 34° Congresso Nazionale, Trieste, 17-19 novembre 2015.

87. Rossi M., J. Boaga, G. Vignoli, **G. Cassiani**, R. Romeo, L. Petronio, A. Affatato, A. Barbagallo, 2015, An example of surface wave analysis in a dismissed and heterogeneous coastal oil deposit, GNGTS – 34° Congresso Nazionale, Trieste, 17-19 novembre 2015.

88. Romeo R., L. Petronio, A. Affatato, A. Barbagallo, R. Belletti, G. Boehm, J. Boaga, **G. Cassiani**, P. Paganini, M. T. Perri, D. Sorgo, M. Rossi, 2015, Geophysical investigations in a

dismissed industrial site: ex-Esso (Trieste, Italy), GNGTS – 34° Congresso Nazionale, Trieste, 17-19 novembre 2015.

89. Perri M.T., P. De Vita, **G. Cassiani**, R. Masciale ,I. Portoghese , G.B. Chirico, 2015, On the reliability of time-lapse mise-á-la-masse measurements to monitor a saline tracer test: a case study in the Campania Region (Italy), GNGTS – 34° Congresso Nazionale, Trieste, 17-19 novembre 2015.

90. G. Vignoli, I. Gervasio, G. Brancatelli, J. Boaga, B. Della Vedova, **G. Cassiani**, 2015, A novel frequency-dependent MOPA of surface wave: theory and applications, GNGTS – 34° Congresso Nazionale, Trieste, 17-19 novembre 2015.

91. Deidda G.P., J. Boaga, M. Ghinassi, A. D'Alpaos, **G. Cassiani**, 2015, Venice salt marsh meander evolution via multi-frequency inversion of FDEM data, GNGTS – 34° Congresso Nazionale, Trieste, 17-19 novembre 2015.

92. Busato L., J. Boaga, L. Peruzzo, G. Asta, S. Cola, P. Simonini, **G. Cassiani**, 2015, Study of a reconstructed river embankment through a combination of non-invasive geophysical methodologies, GNGTS – 34° Congresso Nazionale, Trieste, 17-19 novembre 2015.

93. **Cassiani G.**, Metodi geofisici per scopi ambientali, *invited talk*, Società Italiana di Fisica, 101° Congresso Nazionale, Roma, 22 settembre 2015.

94. **Cassiani G.**, 2015, Geophysical techniques for hydrological and hydrogeological characterization, *keynote speech*, session Hydrogeophysics, remote sensing, and radar technologies: innovative tools and recent development, *42nd International IAH Congress "Aqua2015"*, Rome, September 13-18, 2015.

95. Perri M.T., P. De Vita, **G. Cassiani**, R. Masciale, I. Portoghese and G.B. Chirico, 2015, Quantitative Interpretation of Time-lapse MALM Measurements During a Saline Tracer Injection in an Alluvial Aquifer, *EAGE Near Surface Geoscience 2015*, September 6-10, 2015, Turin, Italy.

96. **Cassiani G.**, 2015, Hydro-geophysical monitoring of roots and hyphoreic zone, *invited talk*, Workshop "Geophysics for the Characterization of the Critical Zone", EAGE Near Surface Geoscience 2015, September 6-10, 2015, Turin, Italy.

97. Vanella D., J. Boaga, M.T. Perri, S. Consoli and **G. Cassiani**, 2015, Modelling orange tree root water uptake active area by minimally invasive ERT data and transpiration measurements, EGU General Assembly 2015, Vienna, 12-17 April 2015.

98. **Cassiani G.**, J. Boaga, L. Busato, M.T. Perri, M. Putti, B. Majone, A. Bellin, 2015, Time Lapse Electrical Resistivity Tomography and Distributed Temperature Measurements in the Hyporheic Zone of an Alpine River, EGU General Assembly 2015, Vienna, 12-17 April 2015.

99. Vignoli G., I. Gervasio, G. Brancatelli, J. Boaga, B. Della Vedova and **G. Cassiani**, 2015, Use of frequency-dependent multi-offset phase analysis of surface waves for a riparian zone characterization, EGU General Assembly 2015, Vienna, 12-17 April 2015.

100. Preti F., **G. Cassiani**, M. Caruso, A. Dani, A. Errico, E. Guastini, F. Preti, N. Romano, P. Trucchi, P. Tarolli, 2015, Agricultural terraces montoring and modeling: a field survey in Chianti region, Firenze, Italy; Second Part, EGU General Assembly 2015, Vienna, 12-17 April 2015.

101. Busato L., D. Vanella, J. Boaga, G. Manoli, M. Marani, M. Putti, S. Consoli, A. Binley and **G. Cassiani**, Identification of active root zone by data assimilation techniques: monitoring and modelling of irrigation experiments, EGU General Assembly 2015, Vienna, 12-17 April 2015.

102. Boaga J., L. Busato, M.T. Perri, G. Strapazzon, D. Pasetto, M. Putti, K. Cano Paoli, B. Majone, A. Bellin, **G. Cassiani**, 2014, Time lapse Electrical Resistivity Tomography and Distributed Temperature measurements and modeling in the hyporheic zone of an alpine river, *AGU Fall Meeting*, San Francisco, December 2014.

103. **Cassiani G.**, J. Boaga, D. Vanella, M.T. Perri, S. Consoli, 2014, Monitoring and Modelling of Soil-Plant Interactions: the Joint Use of ERT, Sap flow and Eddy Covariance to Define the Volume of Orange Tree Active Root Zones, *AGU Fall Meeting*, San Francisco, December 2014.

104. Piccolroaz S., B. Majone, F. Palmieri, **G. Cassiani**, A. Bellin, 2014, Time-lapse distributed microgravità observations as a tool to inform hydrological models, *AGU Fall Meeting*, San Francisco, December 2014.

105. **Cassiani G.**, 2014, Hydro-geophysical exploration for environmental applications: monitoring, modeling and beyond, Lectio Magistralis, *invited*, GNGTS – 33° Congresso Nazionale, Bologna, 25-27 novembre 2014.

106. Busato L., J. Boaga, M.T. Perri, **G. Cassiani**, 2014, Time-lapse monitoring of the hyporheic zone of an alpine river using non-invasive methodologies, GNGTS – 33° Congresso Nazionale, Bologna, 25-27 novembre 2014.

107. Boaga J., C. Strobbia, **G. Cassiani**, 2014, L-shaped array refractions microtremors (LeMi), GNGTS – 33° Congresso Nazionale, Bologna, 25-27 novembre 2014.

108. **Cassiani G.**, S. Consoli, M.T. Perri, D. Vanella, J. Boaga, 2014, Monitoring of soil-plant interactions via geophysical methods, GNGTS – 33° Congresso Nazionale, Bologna, 25-27 novembre 2014.

109. Boaga J., L. Busato, M.T. Perri, G. Strapazzon, A. Bellin, **G. Cassiani**, 2014, Time lapse Electrical Resistivity Tomography and Distributed Temperature measurements in the hyporheic zone of an alpine river, *Geological Society of America*, Annual Meeting, Vancouver, Canada, October 2014.

110. Pasetto D., M. Putti, J. Boaga, **G. Cassiani**, M. Rossi, K. Canopoli, A. Bellin, 2014, SIR-based particle filters for coupled hydro-geophysical assimilation of water infiltration in unsaturated soil, *TERENO international 2014*, University of Bonn September 30- October 2,

2014.

111. **Cassiani G**., 2014, Minimally invasive methods for hydrological characterization, *invited*, *Interdisciplinary Workshop on Frontiers in Hydrology and Hydrogeoscience* 8-9 May 2014, Venice International University, Venice, Italy.

112. Consoli S., **G. Cassiani**, J. Boaga, D. Vanella, M.T. Perri, 2014, The integration of 3D electrical resistivity tomography and ET flux measurements to characterize water mass balance in the soil-plant-atmosphere continuum, EGU General Assembly 2014, Vienna, 27 April -2 May 2014.

113. **Cassiani G.**, M. Rossi, G. Manoli, D. Pasetto,R. Deiana, S. Ferraris, C.Strobbia, M. Putti, 2014, Quantitative hydro-geophysical monitoring and coupled modeling of a controlled irrigation experiment, EGU General Assembly 2014, Vienna, 27 April -2 May 2014.

114. Piccolroaz S., B. Majone, F. Palmieri, **G. Cassiani**, A. Bellin, 2014, On the use of distributed microgravity observations to inform hydrological models, EGU General Assembly 2014, Vienna, 27 April -2 May 2014.

115. **Cassiani G.**, A. Binley, A. Kemna, M. Wehrer, A. Flores Orozco, R. Deiana, J. Boaga, M. Rossi, P. Dietrich, U. Werban, L. Zschornack, A. Godio, A. JafarGamdomi, G.P. Deidda, 2013, Non-invasive characterization of the Trecate (Italy) crude-oil contaminated site: links between contamination and geophysical signals, *invited talk*, *AGU Fall Meeting*, San Francisco, 9-13 December 2013.

116. Camporese M., A. Binley, **G. Cassiani**, R. Deiana and P. Salandin, 2013, Coupled vs. uncoupled hydrogeophysical inversion via ensemble Kalman filter assimilation of ERT-monitored tracer test data, *invited talk, AGU Fall Meeting*, San Francisco, 9-13 December 2013.

117. **Cassiani G.**, J. Boaga, M. Rossi, A. D'Alpaos, G. Fadda, M. Putti, M. Marani, 2013, Time-lapse ERT for the monitoring of soil-plant interactions in the root zone, *invited talk, AGU Fall Meeting*, San Francisco, 9-13 December 2013.

118. Boaga J., S. Consoli, R. Papa, **G. Cassiani**, 2013, Soil-plant-atmosphere water balance via time-lapse 3D Electrical Resistivity Tomography and Eddy covariance measurements, *AGU Fall Meeting*, San Francisco, 9-13 December 2013.

119. Perri M.T., J. Boaga, S. Bersan, S. Cola, **G. Cassiani**, R. Deiana, P. Simonini, S. Patti 2013, On the applicability of different geophysical techniques to river embankments characterization: a case study in Veneto Region (Italy), GNGTS – 32° Congresso Nazionale, Trieste, 19-21 novembre 2013.

120. **Cassiani G.**, A.Binley, A.Kemna, M.Wehrer, A.Flores Orozco, R.Deiana, J.Boaga, M.Rossi, P.Dietrich, U.Werban, L.Zschornack, A.Godio, A. JafarGandomi, G.P.Deidda, 2013, Non-invasive characterization a crude-oil contaminated site: links between contamination and geophysical signals, GNGTS – 32° Congresso Nazionale, Trieste, 19-21 novembre 2013.

121. Boaga J., **G. Cassiani**, C. Strobbia and G. Vignoli, 2013, The impact of Rayleigh waves ellipticity in mode misidentification , GNGTS – 32° Congresso Nazionale, Trieste, 19-21 novembre 2013.

122. Boaga J. M. Rossi and **G. Cassiani**, 2013, Time Lapse 3D Electrical tomography for soil-plant dynamics interactions, GNGTS – 32° Congresso Nazionale, Trieste, 19-21 novembre 2013.

123. Boaga J., **G. Cassiani**, M. Rossi, A. D'Alpaos, G. Fadda, M. Putti, M. Marani, 2012, Time-lapse ERT for the monitoring of soil-plant interactions in the root zone, *Geological Society of America*, Annual Meeting, Boulder, Colorado, October 2013.

124. Perri M.T., J. Boaga, A. D'Alpaos, G. Cassiani, R. Deiana, P. Simonini and S. Patti, 2013, River embankment characterization: and integrated approach using geophysical and geotechnical techniques, IX Forum Italiano di Scienze della Terra, Pisa, 16-18 settembre 2013.

125. Petronio L, Boaga J, **Cassiani G** (2013). Reflection Seismic and Surface wave analysis on complex heterogeneous media: the case of Mt Toc landslide in Vajont valley. In: Journal of Engineering Geology and Environment. In: Vajont 1963-2013: Thoughts and analyses after 50 years since the catastrophic landslide, convegno a Padova. *Italian Journal Of Engineering Geology And Environment*, ISSN: 1825-6635, doi: 10.4408/IJEGE.2013-06.B-57

126. Haaken K., G.P. Deidda, **G. Cassiani**, A. Kemna, R. Deiana, M. Putti, C. Paniconi, 2013, Hydrogeophysical monitoring and modeling of freshwater injection in a hyper-saline aquifer, *NovCare 2013* (Novel Methods for Subsurface Characterization and Monitoring: From Theory to Practice) Leipzig, Germany, May 13-16, 2013.

127. Manoli G., M. Rossi, D. Pasetto, P. Teatini, R. Deiana, S. Ferraris, M. Putti and **G. Cassiani**, 2013, Hydro-geophysical monitoring and stochastic inverse modeling of a controlled irrigation experiment, EGU General Assembly 2013, Vienna, 7-12 April 2013.

128. Boaga J., M. Rossi, **G. Cassiani** and M. Putti, 2013, Time-lapse 3D electrical resistivity tomography to monitor soil-plant interactions, EGU General Assembly 2013, Vienna, 7-12 April 2013.

129. Mazzalai L., J. Boaga, M. Rossi, S. Martin, **G. Cassiani**, A. Viganò, The geoelectrical survey: a powerful tool for the identification of fault zones, EGU General Assembly 2013, Vienna, 7-12 April 2013.

130. Ursino N., **G. Cassiani**, R. Deiana, G. Vignoli and J. Boaga, 2013, Measuring and Modelling water related soil - vegetation feedbacks in a fallow plot, EGU General Assembly 2013, Vienna, 7-12 April 2013.

131. Camporese M., A. Binley, **G. Cassiani**, R. Deiana and P. Salandin, 2013, Coupled vs. uncoupled hydrogeophysical inversion via ensemble Kalman filter assimilation of ERT-monitored tracer test data, EGU General Assembly 2013, Vienna, 7-12 April 2013.

132. Perri M.T., **G. Cassiani**, J. Boaga, M. Rossi, G. Vignoli, R. Deiana, N. Ursino, M. Putti, B. Majone, A. Bellin, M. Blaschek, R. Duttmann, S. Meyer, R. Ludwig, A. Soddu, P. Dietrich and U. Werban, 2012, Monitoring soil-vegetation interactions using non-invasive geophysical techniques, AGU Fall Meeting, San Francisco, 3-7 December 2012.

133. Rossi M., G. Vignoli, **G. Cassiani**, R.Deiana, 2012, A comparison between zero-offset and vertical radar profiling GPR techniques with emphasis on problematic borehole effects, AGU Fall Meeting, San Francisco, 3-7 December 2012.

134. Boaga J. **G. Cassiani**, C.L. Strobbia and G. Vignoli, 2012, Rayleigh waves ellipticity and mode mis-identification in multi-channel analysis of surface waves, AGU Fall Meeting, San Francisco, 3-7 December 2012.

135. Majone B., F. Palmieri, A. Bellin, **G. Cassiani**, 2012, A comparison between hydrological model predictions and micro-gravity time-lapse distributed surveys, AGU Fall Meeting, San Francisco, 3-7 December 2012.

136. **Cassiani G.**, J. Boaga, M.T. Perri, A. D'Alpaos, R. Deiana, 2012, Applicazione di tecniche geofisiche per il monitoraggio di sponde artificiali di contenimento. In: Abstract Volume, IX Workshop di Geofisica, Museo Civico di Rovereto, 14 dicembre 2012, Edizioni OSIRIDE, ISBN: 9788874982004.

137. Boaga J., G. Vignoli, R. Deiana, **G. Cassiani**, 2012, Onde superficiali e contaminazione modale: dall'evidenza sperimentale alla verifica teorica. In Abstract Volume, IX Workshop di Geofisica, Museo Civico di Rovereto, 14 dicembre 2012, Edizioni OSIRIDE, ISBN: 9788874982004.

138. Boaga J., G. Vignoli, **G. Cassiani**, 2012, The Rayleigh wave ellipticity influence on modes misidentification. In 31° Congresso Gruppo Nazionale di Geofisica della Terra Solida, ISBN: 9788890210136

139. Blaschek M., S. Meyer, **G. Cassiani**, R. Deiana, R. Duttmann, R. Ludwig, U. Werban, 2012, Universal Cokriging of alr-transformed soil separates at field scale using geophysical sensing data, Digital Soil Mapping Workshop of the German Soil Science Society, Tübingen, September 2012.

140. **Cassiani G.**, A. Brovelli, G. Vignoli, B. Plischke, U. Tinivella, 2012, Geo-mechanics contribution to time-lapse seismics: an integrated approach using full-waveform simulations, *invited talk*, 74th EAGE Conference and Exhibition, Copenhangen, WP8: Fully Integrated Geomechanical Workflow: A Myth or a Fact?, 4 June 2012.

141. Brovelli A. and **G. Cassiani**, 2012, Contribution of Stern layer and membrane polarization to spectral induced polarization of variably saturated sandy soils, EGU General Assembly 2012, Session SSS4.1, Vienna, 22-27 April 2012.

142. **Cassiani G.**, A. Binley, A. Kemna, A. Flores Orozco, E. Rizzo, R. Deiana, P. Dietrich, U. Werban, L. Zschornack, C. Leven-Pfister, G.P. Deidda and A. Brovelli, 2012, Non-invasive characterization of a crude-oil contaminated sites: complex links between contamination and

geophysical signals, EGU General Assembly 2012, Session HS8.3.2, Vienna, 22-27 April 2012.

143. Haaken K., G.P. Deidda, **G. Cassiani**, A. Kemna, R. Deiana, M. Putti, C. Paniconi, F. Schirru and M. Mura, 2012, Cross-hole ERT monitoring of freshwater injection in a hyper-saline aquifer, EGU General Assembly 2012, Session HS8.1.2, Vienna, 22-27 April 2012.

144. Camporese M., **G. Cassiani**, R. Deiana, M.T. Perri, P. Salandin, 2012, An ensemble Kalman filter approach to identify the hydraulic conductivity spatial distribution from electrical resistivity tomography time-lapse monitoring of three-dimensional tracer test experiments. EGU General Assembly 2012, Vienna, 22-27 April 2012.

145. **Cassiani G.**, N. Ursino, R. Deiana, G. Vignoli, J. Boaga, M. Rossi, M.T. Perri, M. Blaschek, R. Duttmann, S. Meyer, R. Ludwig, A. Soddu, P. Dietrich and U. Werban, 2012, Geophysical mapping of soil static characteristics and monitoring of soil dynamic states: an example on agricultural land, *invited talk*, EGU General Assembly 2012, Session SSS5.15 Vienna, 22-27 April 2012.

146. Gervasio I., B. Della Vedova, **G. Cassiani**, E. Dazzan, R. Deiana, 2011, Searching for optimum sulfurous water well sites using surface geophysical methods, AGU Fall Meeting, San Francisco, 5-9 December 2011.

147. Perri M.T., **G. Cassiani**, I. Gervasio, R. Deiana, A. Binley, M. Camporese and P. Salandin, 2011, A saline tracer test monitored via both surface and cross-borehole electrical resistivity tomography, AGU Fall Meeting, San Francisco, 5-9 December 2011.

148. **Cassiani G.** and A. Brovelli, 2011, Soil mapping using electro-magnetic methods: development of a unified constitutive model, AGU Fall Meeting, San Francisco, 5-9 December 2011.

149. Deiana R., **G. Cassiani**, M. Rossi, G. Vignoli and A. Binley, 2011, Borehole GPR data inversion for hydro-geophysical applications, AGU Fall Meeting, San Francisco, 5-9 December 2011.

150. Deiana R., **G. Cassiani**, G. Vignoli, J. Boaga, N. Ursino, M. Blaschek, R. Duttmann, S. Meyer, R. Ludwig, A. Soddu, P. Dietrich and U. Werban, 2011, Geophysical monitoring of soil static and dynamic characteristics, GNGTS – 30° congresso nazionale, Trieste, 14-17 novembre 2011.

151. Rossi M., G. Vignoli, **G. Cassiani**, R. Deiana, A. Binley, 2011, A comparison between zop and vrp techniques: emphasis on possible guided waves in the vrp configuration, GNGTS – 30° congresso nazionale, Trieste, 14-17 novembre 2011.

152. **Cassiani G.**, R. Deiana, M. Camporese and P. Salandin, 2011, Electrical resistivity tomography time-lapse monitoring of three-dimensional synthetic tracer test experiments, GNGTS – 30° congresso nazionale, Trieste, 14-17 novembre 2011.

153. Gervasio I., G. Brancatelli, B. Della Vedova, J. Boaga, G. Vignoli, **G. Cassiani**, E. Forte, E.

Dazzan, 2011, Caratterizzazione del sito test di turriaco mediante metodologie geofisiche integrate, GNGTS – 30° congresso nazionale, Trieste, 14-17 novembre 2011.

154. Perri M.T., **G. Cassiani**, I. Gervasio, R. Deiana, A. Binley, 2011, A saline tracer test monitored via both surface and cross-borehole electrical resistivity tomography: comparison of time-lapse results, GNGTS – 30° congresso nazionale, Trieste, 14-17 novembre 2011.

155. Boaga J., R. Deiana, **G. Cassiani**, 2011, The influence of random soil damping on linear-equivalent seismic response analysis, GNGTS – 30° congresso nazionale, Trieste, 14-17 novembre 2011.

156. Petronio L., J. Boaga, **G. Cassiani**, 2011, Reflection Seismic and Surface wave analysis on complex heterogeneous media: the case of Mt Toc landslide in Vajont valley, GNGTS – 30° congresso nazionale, Trieste, 14-17 novembre 2011.

157. Deiana R., G. Cassiani, G.P. Deidda, M. Mura, F. Schirru, M.T. Perri, 2011,. Cross-hole electrical resistivity tomography under extreme electrical resistivity conditions. In: GNGTS – 30° convegno nazionale. p. 491-495, TRIESTE: Stella Arti Grafiche, Trieste, 14-17 novembre 2011

158. Perri M.T., G. Cassiani, I. Gervasio, A.M. Binley, P. Salandin, 2011, A saline tracer test monitored via both surface and borehole electrical resistivity tomography: comparison of time lapse results and consideration on resolution and data use. In: GEOITALIA 2011. Torino, Italy, 19-23 September 2011

159. **Cassiani G.**, R. Deiana, M. Camporese, P. Salandini, G. Vignoli, M. Rossi and M.T. Perri, 2011, Hydro-Geophysical techniques for groundwater characterization: the link between measurements and modeling, *invited talk*, Geological Society of America, Annual Meeting in Minneapolis (9–12 October 2011).

160. Donnici S., Rizzetto F., Tosi L., Scudiero E., Morari F., Deiana R., **Cassiani G.**, Teatini P., 2011, Saltwater contamination in the Venice Lagoon margin, Italy. 1: the influence of the geomorphological setting; The Wageningen Conference on Applied Soil Science, September 18-22, 2011.

161. Rossi M., **G. Cassiani**, R. Deiana, A. Binley, 2011, Stochastic analysis of cross-hole GPR data for subsurface characterization, EAGE Near Surface 2011 – 17th European Meeting of Environmental and Engineering Geophysics, Leicester, UK, 12-14 September 2011.

162. **Cassiani G.**, 2011, Introduction to the concept of hydrogeophysics and case studies, *invited talk*, GEOITALIA 2011, Torino, Italy, September 19-24, 2011, Worskhop W11: Airborne EM for groundwater mapping.

163. Rossi M., **G. Cassiani**, R. Deiana, A. Binley, 2011, Cross-hole GPR data for subsurface characterization, EAGE/SEG Research Workshop 2011, Towards a Full Integration from Geosciences to Reservoir Simulation, 1-3 September 2011, Trieste, Italy.

164. Camporese M., **G. Cassiani**, R. Deiana, P. Salandin, 2011, Electrical resistivity tomography

time-lapse monitoring of three-dimensional synthetic tracer test experiments: an Ensemble Kalman Filter approach to identify the hydraulic conductivity spatial distribution, EAGE/SEG Research Workshop 2011, Towards a Full Integration from Geosciences to Reservoir Simulation, 1-3 September 2011, Trieste, Italy.

165. Brovelli A. and **G. Cassiani**, 2011, Constitutive models for the joint estimation of electrical conductivity and permittivity of variably-saturated soils, European Geosciences Union (EGU) General Assembly 2011, Vienna, 03 – 08 April 2011.

166. **Cassiani G.**, M. Rossi, G. Vignoli, R. Deiana and A. Binley, 2011, Advances in borehole GPR data interpretation for hydrological purposes, European Geosciences Union (EGU) General Assembly 2011, Vienna, 03 – 08 April 2011.

167. Caputo M.C., L. De Carlo, **G. Cassiani**, R. Deiana, 2011, Electrical methods for monitoring a site potentially contaminated by landfill leachate , European Geosciences Union (EGU) General Assembly 2011, Vienna, 03 – 08 April 2011.

168. **Cassiani G.**, A. Binley, A. Kemna, A. Flores Orozco, E. Rizzo, V. Giampaolo, V. Bruno, R. Deiana, P. Dietrich, L. Zschornack, U. Werban and C. Leven-Pfister, 2011, Minimally invasive characterization of a hydrocarbon contaminated site: the Trecate example, European Geosciences Union (EGU) General Assembly 2011, Vienna, 03 – 08 April 2011.

169. Gervasio I., B. Della Vedova, E. Dazzan, R. Deiana, **G. Cassiani**, 2010, Caratterizzazione della risorsa termale di bagni di lusnizza (udine) mediante indagini geofisiche integrate, GNGTS – 29° congresso nazionale, Prato, 26-28 ottobre 2010.

170. Vignoli G., C. Strobbia, **G. Cassiani** and P. Vermeer, 2010, Statistical Multi-Offset Phase Analysis (sMOPA) for surface wave processing in laterally varying media, GNGTS – 29° congresso nazionale, Prato, 26-28 ottobre 2010.

171. Vignoli G., R. Deiana, **G. Cassiani**, 2010, Sharp inversion of VRP travel-time data, GNGTS – 29° congresso nazionale, Prato, 26-28 ottobre 2010.

172. Boaga J., S. Renzi, G. Vignoli, R. Deiana and **G. Cassiani**, 2010 The importance of a 2D approach in surface wave inversion: consequences on seismic site response analysis, GNGTS – 29° congresso nazionale, Prato, 26-28 ottobre 2010.

173. Rossi M., **G. Cassiani** and A. Binley, 2010, Stochastic analysis of cross-hole GPR data for subsurface characterization, GNGTS – 29° congresso nazionale, Prato, 26-28 ottobre 2010.

174. Dazzan E., B. Della Vedova, I. Gervasio, R. Deiana, **G. Cassiani**, 2010, indagini geofisiche integrate per la caratterizzazione ambientale di un sito costiero inquinato (muggia – TS), GNGTS – 29° congresso nazionale, Prato, 26-28 ottobre 2010.

175. Perri M.T., **G. Cassiani**, R. Deiana, P. Fabbri, M. Ortombina, A. Liuzzo Scorpo, 2010, Monitoraggio ERT and EM di un test con tracciante in un acquifero di risorgiva, GNGTS – 29° congresso nazionale, Prato, 26-28 ottobre 2010.

176. **Cassiani G.**, R. Deiana and M.C. Caputo, 2010, Geophysical methods to reduce uncertainty in the calibration of variably-saturated fractured rock models, IAHR International

Groundwater Symposium to be held in Valencia, September 22-24, 2010.

177. **Cassiani G.**, A. Binley, A. Kemna, A. Flores Orozco, E. Rizzo, V. Bruno, R. Deiana, H. El-Kaliouby, P. Dietrich, L. Zschornack and C. Leven, 2010, Integrated geophysical characterization of a hydrocarbon contaminated site, Near Surface 2010 – 16th European Meeting of Environmental and Engineering Geophysics Zurich, Switzerland, 6 - 8 September 2010.

178. **Cassiani G.**, A. Binley, A. Brovelli, R. Deiana, P. Dietrich, A. Flores, A. Kemna, E. Rizzo and U. Werban, 2010, Static and dynamic aspects of near surface characterization through physics-based integration of GPR, ERT, SIP and SP data in the time-lapse mode, invited talk, Workshop: Multidisciplinary, Integrated Approaches in Near-surface Geophysics– Novel Developments, Benefits and the Road Ahead,72nd EAGE Conference & Exhibition incorporating SPE EUROPEC 2010, Barcelona, Spain, 14 - 17 June 2010.

179. Vignoli G., C. Strobbia, **G. Cassiani** and P. Vermeer, 2010, Lateral discontinuity localization and characterization by means of enhanced statistical multioffset phase analysis of surface waves, 72nd EAGE Conference & Exhibition incorporating SPE EUROPEC 2010, Barcelona, Spain, 14 - 17 June 2010.

180. **Cassiani G.**, R. Deiana, J. Boaga, G. Vignoli, M. Rossi, M. Marani, M. Putti, M. Altissimo, A. Bellin, O. Cainelli, 2010, Hydro-geophysics for hillslope hydrology, invited, EGU General Assembly 2010, Vienna, 2-7 May 2010.

181. Bevilacqua I., **G. Cassiani**, R. Deiana, D. Canone, and M. Previati, 2010, Hydrogeophysical monitoring of water infiltration processes, EGU General Assembly 2010, Vienna, 2-7 May 2010.

182. **Cassiani, G.** and A. Brovelli, 2009, Improved understanding of the relationship between hydraulic properties and streaming potentials, AGU Fall Meeting, San Francisco, 14-18 December 2009.

183. Deiana R., M. Camporese, **G. Cassiani** and P. Salandin, 2009, Impact of ERT data inversion uncertainty on the assessment of local hydraulic properties from tracer test experiments, AGU Fall Meeting, San Francisco, 14-18 December 2009.

184. Boaga J., G. Vignoli e **G. Cassiani**, 2009, Rilevanza dei processi di inversione di modelli di Vs nella risposta sismica locale, GNGTS – 28° congresso nazionale, Trieste, 16-19 novembre 2009.

185. Böhm G., G. Vignoli e **G. Cassiani**, 2009, Integrazione della tomografia dei tempi d'arrivo con l'inversione delle onde superficiali per la definizione di strutture superficiali, GNGTS – 28° congresso nazionale, Trieste, 16-19 novembre 2009.

186. Casas A., R. Deiana, J.C. Tapias e **G. Cassiani**, 2009, Applicazioni della tecnica VRP per la valutazione della vulnerabilità di acquiferi in aree industriali, GNGTS – 28° congresso nazionale, Trieste, 16-19 novembre 2009.

187. Deiana R., **G. Cassiani** e S. Ferraris, Monitoraggio idro-geofisico quantitativo di un esperimento di infiltrazione controllata, GNGTS – 28° congresso nazionale, Trieste, 16-19 novembre 2009.

188. **Cassiani G.**, A.Godio, A.Arato, L.Sambuelli, S.Stocco, H.French, M. Kaestner, A.M.Binley, A.Kemna, A.Flores, E.Rizzo, R.Deiana, V.Bruno, V. La penna, 2009, ModelPROBE and SoilCAM: two EU FP7 projects aimed at a minimally invasive characterization of contaminated sites, GNGTS – 28° congresso nazionale, Trieste, 16-19 novembre 2009.

189. Perri M.T., **G. Cassiani**, R. Deiana, M. Rossi, M. Camporese, P. Salandin, 2009, Indagine idrogeofisica finalizzata alla valutazione delle zone di rispetto dei pozzi in un acquifero alluvionale, GNGTS – 28° congresso nazionale, Trieste, 16-19 novembre 2009.

190. Rossi M., G. Vignoli, **G. Cassiani** e R. Deiana, 2009, Caratterizzazione non invasiva di un bacino montano per scopi ideologici, GNGTS – 28° congresso nazionale, Trieste, 16-19 novembre 2009.

191. Vignoli G. e **G. Cassiani**, 2009, Individuazione di disomogeneità laterali attraverso il Multi-Offset Phase Analysis di onde superficiali, GNGTS – 28° congresso nazionale, Trieste, 16-19 novembre 2009.

192. **Cassiani, G., 2009**, Metodi geofisici nella caratterizzazione e monitoraggio dei siti inquinati, invited talk, RemTech 2009, Convegno su Metodologie avanzate nella caratterizzazione dei siti inquinati, Ferrara, 24 Settembre 2009.

193. M. Rossi, G. Vignoli, **G. Cassiani and R. Deiana, 2009**, Non Invasive Characterization of Small Mountain Catchment for Hydrological Purposes, EAGE Near Surface 2009, Dublin, September 7-9, 2009.

194. **Cassiani G.** e R. Deiana, 2009, Idrogeofisica: tecniche non invasive a supporto della caratterizzazione idrologica ed idrogeologica del sottosuolo, Rovereto, 25 e 26 giugno 2009, Convegno: nuove frontiere per la geofisica applicata.

195. **Cassiani, G., 2009**, La caratterizzazione speditiva mediante metodi geofisici e tecniche "Direct Push", invited talk, Milano, 21 Maggio 2009, Corso di Formazione ed Aggiornamento Professionale "Metodi avanzati di caratterizzazione e bonifica dei siti contaminati", Provincia di Milano.

196. Vignoli G. and **G. Cassiani**, 2009, Enhanced Multi-Offset Phase Analysis of surface wave data for detection of lateral heterogeneities, Workshop: Surface Wave Analysis for Exploring at Different Scales, 71st EAGE Conference and Exhibition, Amsterdam, June 2009.

197. **Cassiani, G., 2009**, Hydro-geophysics: the non invasive characterization of the shallow subsurface, invited talk, NovCare 2009 International Conference (Novel Methods for Subsurface Characterization and Monitoring: From Theory to Practice), May 13-16, 2009, Leipzig, Germany.

198. Deiana R., **G. Cassiani**, A. Bellin, O. Cainelli, M.Rossi, P. Frattini, 2008, An example of

hydrogeophysical characterization of hillslope hydrology, invited talk, AGU Fall Meeting, San Francisco, 15-19 December 2008.

199. **Cassiani G** e R. Deiana, 2008, Valutazione della vulnerabilità degli acquiferi tramite prove geofisiche nel non saturo, Atti del Workshop in Geofisica 7 dicembre 2007, Museo Civico di Rovereto, p.119-138.

200. Camporese, M., **G. Cassiani**, R. Deiana and P. Salandin, 2008, Local hydraulic properties assessment from Electrical Resistivity Tomography monitoring of tracer test experiments, AGU Fall Meeting, San Francisco, 15-19 December 2008.

201. Kemna A., **G. Cassiani**, T. Winchen, J.A. Huisman, and J. Vanderborght, 2008, On the characterization of soil structure and state from spectral IP responses", invited talk, EEGS NSGS Workshop on Induced Polarization: Research and Recent Advances in Near Surface Applications, 14 Nov 2008 SEG Annual Meeting, Las Vegas, Nevada, USA

202. **Cassiani G.**, A. Godio, S. Stocco, A. Villa, P. Frattini, M. Rossi, R. Deiana e G.B. Crosta, 2008, Studio della dinamica idrologica di versante tramite tomografia elettrica 3d ed irrigazione controllata, XXVII Congresso CNR-GNGTS, Trieste, 6-8 ottobre 2008.

203. Deiana, R., **G. Cassiani**, M. Rossi, M. Monego, G. Passadore e L. Altissimo, 2008, Monitoraggio elettrico ad alta risoluzione per lo studio delle proprietà di trasporto in un acquifero superficiale, XXVII Congresso CNR-GNGTS, Trieste, 6-8 ottobre 2008.

204. **Cassiani G.**, A. Godio, S. Stocco, A. Villa, P. Frattini, M. Rossi, R. Deiana and G.B. Crosta, 2008, A study of hillslope hydrologic dynamics using irrigation tests and time-lapse 3d electrical resistivity tomography, Extended Abstract, EAGE-Near Surface 2008, Krakow, Poland, September 15-17, 2008.

205. Kästner M. and **G. Cassiani**, 2008, Model driven Soil Probing, Site Assessment and Evaluation - An overview on the EU Project ModelPROBE, Consoil 2008 conference, Milan, June 3-6, 2008.

206. Kemna A., **G. Cassiani** and A. Binley, 2008, Recent developments of geophysical methods for site assessment and monitoring, Consoil 2008 conference, Milan, June 3-6, 2008.

207. Werban, U., T. Behrens, **G. Cassiani** and P. Dietrich, Interactions between soil related sciences – Linking geophysics, soil science and digital soil mapping, Consoil 2008 conference, Milan, June 3-6, 2008.

208. **Cassiani G.**, 2008, Soil parameters and geophysical parameters – Application of multi-parameter constitutive laws, Consoil 2008 conference, Milan, June 3-6, 2008.

209. **Cassiani, G.**; Crosta, G.B.; Franco, D.; Frattini, P.; Godio, A.; Stocco, S.; Villa, A., 2008, Monitoring steep slopes hydrological behaviour through controlled infiltration test, EGU General Assembly 2008, Vienna, 13-18 April 2008.

210. Sauer, U.; Werban, U.; Behrens, T.; **Cassiani, G.**; Boruvka, L.; Carizzoni, M.; Dietrich, P. Interactions between Soil related Sciences – Linking Geophysics, Soil Science and Digital Soil Mapping (solicited), EGU General Assembly, Vienna, 13-18 April 2008.

211. Fielitz, D.; Kemna, A.; Zimmermann, E.; Glaas, W.; **Cassiani, G.**; Vereecken, H., 2008, Model response curves and surveying aspects in crosshole MMR, EGU General Assembly, Vienna, 13-18 April 2008.

212. Kemna, A., D. Fielitz, **G. Cassiani** and E.Zimmermann, 2008, 2.5D MMR-Modellierung auf kompakten Gittern, Annual Meeting of the German Geophysical Society, Freiberg, March 2008.

213. Fielitz, D.; Kemna, A.; Zimmermann, E.; Glaas, W.; **Cassiani, G.**; Vereecken, H., 2008, Aspects in crosshole MMR surveying, Annual Meeting of the German Geophysical Society, Freiberg, March 2008.

214. **Cassiani G.**, R. Deiana, A. Villa, V. Bruno e A. Kemna, 2007, Monitoraggio non invasivo del flusso idrico nel non saturo: questioni relative al bilancio di massa in esperimenti controllati di iniezione d'acqua, XXVI Congresso CNR-GNGTS, Roma, 13-15 novembre 2007.

215. Giustiniani M., **G. Cassiani**, S. Ferraris e R. Deiana, 2007, Misure GPR da superficie in time lapse per il monitoraggio di test di irrigazione, XXVI Congresso CNR-GNGTS, Roma, 13-15 novembre 2007.

216. **Cassiani G.**, A. Villa, A. Kemna e E. Zimmermann, 2007, Misure di polarizzazione indotta spettrale per la caratterizzazione dei mezzi porosi multifase, XXVI Congresso CNR-GNGTS, Roma, 13-15 novembre 2007.

217. Godio A e **G. Cassiani**, 2007, Analisi di dati georadar in foro per la caratterizzazione della zona non satura, XXVI Congresso CNR-GNGTS, Roma, 13-15 novembre 2007.

218. Villa A., R. Deiana, V. Bruno, **G. Cassiani**, 2007, The characterization of the vadose zone to determine aquifer vulnerability by means of cross-hole geophysical methods, Geoitalia 2007, Rimini, Italy, September 2007.

219. **Cassiani G.**, R. Deiana and A. Kemna, 2007, Mass balance and anisotropy issues in the geophysical monitoring of controlled water injection experiments in the vadose zone, invited, EGU General Assembly 2007, Vienna, 15-20 April 2007.

220. Villa A., A. Brovelli, **G. Cassiani** and N. Fusi, 2007, Quantitative monitoring of moisture content changes using micro-CT imaging techniques, EGU General Assembly 2007, Vienna, 15-20 April 2007.

221. **Cassiani G.**, R. Deiana and A. Kemna, 2006, Non invasive monitoring of water flow in the vadose zone: the issue of mass balance in controlled tracer injection experiments, invited talk, AGU Fall Meeting, San Francisco, 11-15 December 2006.

222. Deiana R., **G. Cassiani**, A. Villa, A. Bagliani e V. Bruno, 2006, Misure ERT e GPR cross-hole per la stima di vulnerabilità di un acquifero in sabbie/ghiaie, XXV Congresso CNR-GNGTS, Roma, novembre 2006.

223. **Cassiani G.** e A. Brovelli, 2006, Modelli dielettrici per mezzi porosi: analisi di sensitività e sviluppo di nuove relazioni, XXV Congresso CNR-GNGTS, Roma, novembre 2006.

224. **Cassiani, G.**, 2006. Aquifer Characterization and Monitoring, Proceedings of the short Training Course (I) on "Groundwater Management in the Framework of Integrated Water Resources Management IWRM" organized by the Italian Ministry for the Environment (IMET), UNESCO and The Regional Center for Training and Water Studies (RCTWS-Egypt) in Cairo, Egypt, May 2006.

225. Brovelli A. and **G. Cassiani**, 2006, Linking soil properties to permittivity data: beyond the refractive index model, XVI Computational Methods in Water Resources conference in Copenhagen, June 19-22 2006.

226. **Cassiani G.**, R. Deiana, A. Villa, V. Bruno, A. Bagliani, M. Miorali and N. Fusi, 2006, A water injection experiment in the vadose zone: the use and value of non invasive cross-hole data for model calibration, XVI Computational Methods in Water Resources conference in Copenhagen, June 19-22 2006.

227. **Cassiani G.** and C. Strobbia, 2005, GPR guided waves for the estimation of water content in shallow soil layers, AGU Fall Meeting, San Francisco, 5-9 December 2005.

228. **Cassiani G.**, R. Deiana, A. Villa e V. Bruno, 2005, Stima di vulnerabilità di un acquifero in sabbie/ghiaie tramite misure GPR ed ERT cross-hole, , XXIV Congresso CNR-GNGTS, Roma, novembre 2005.

229. Strobbia C. e **G. Cassiani**, 2005, Guide d'onda GPR multistrato per la stima del contenuto idrico negli strati superficiali del sottosuolo, XXIV Congresso CNR-GNGTS, Roma, novembre 2005.

230. Plischke, B. and **G. Cassiani**, 2005, A Finite Element Analysis Of The Local Geomechanical Behavior Of Rock Close To A Marker-Equipped Borehole: Effects Of Drilling, Completion And Reservoir Depletion, Proceedings Seventh International Symposium On Land Subsidence (Sisols2005), Shanghai, China, October 2005.

231. **Cassiani G.**, R. Deiana, A. Villa and B. Vittorio, 2005, Monitoring of water flow in the vadose zone, 11th EEGS-EAGE Meeting, Palermo, Italy, September 4-7, 2005.

232. Bena E., A. Canto, **G. Cassiani**, G. De Bacco, A Godio and C. Strobbia, Test site for aquifer cross-hole investigation for environmental purposes, , 11th EEGS-EAGE Meeting, Palermo, Italy, September 4-7, 2005.

233. **Cassiani G.**, C. Strobbia, M. Giustiniani, N. Fusi, G.B. Crosta and P. Frattini, 2005, Hydrological characterization of mountain slopes via guided GPR waves, EGU II Annual Meeting, Vienna, April 2005.

234. Brovelli, A., E. Dalla, **G. Cassiani** and D. Pitea, 2005, Numerical investigation of geo-electrical relationships in porous media, EGU II Annual Meeting, Vienna, April 2005.

235. Ranieri, G., **G. Cassiani**, A. Godio and P. Buscarinu, 2005, Possible use of electric and electromagnetic methods for the investigation of eutrophic phenomena, EGU II Annual Meeting, Vienna, April 2005.

236. **Cassiani, G.**, M. Giustiniani, C. Strobbia, N. Fusi, G.B. Crosta and P. Frattini, 2004, Surface GPR time-lapse monitoring of hillslope processes, paper H34D-02, AGU Fall Meeting, San Francisco, 13-17 December 2004.

237. Brovelli, A., **G. Cassiani**, E. Dalla, F.Bergamini, D. Pitea and A.M. Binley, 2004, Numerical modeling of surface and water phase contributions to the electrical properties of partially saturated sandstones, paper H34A-08, AGU Fall Meeting, San Francisco, 13-17 December 2004.

238. Binley, A.M., M. Fukes, L. Slater and **G. Cassiani**, 2004, Spectral Induced Polarization of Saturated and Unsaturated Triassic Sandstone, paper H21G-06, AGU Fall Meeting, San Francisco, 13-17 December 2004.

239. **Cassiani, G.**, M. Giustiniani, C. Strobbia, N. Fusi, G.B. Crosta and P. Frattini, 2004, Monitoraggio di processi di versante mediante time-lapse GPR, XXIII Congresso CNR-GNGTS, Roma, 14-16 dicembre 2004.

240. **Cassiani G.**, A. Canto and E. Bena, 2004, Monitoraggio geoelettrico di un test di fratturazione idraulica con un tracciante salino, XXIII Congresso CNR-GNGTS, Roma, 14-16 dicembre 2004.

241. Godio A., **G. Cassiani**, G. DeBacco, C. Strobbia and A. Canto, 2004, Indagini elettriche ed elettromagnetiche per uno studio di fattibilità di una attività estrattiva: caso di studio, Simposio Internazionale di Ingegneria Sanitaria Ambientale, Taormina, 23-26 giugno 2004

242. **Cassiani G.**, N. Fusi, A. Godio, G.B. Crosta, P. Frattini, 2004, Time-Lapse Monitoring of Slope Processes via Non Invasive Methods, EGU I Annual Meeting, Nice, April 25-30, 2004.

243. **Cassiani G.** and C. Strobbia, 2004, Analysis of time-lapse vertical radar profiles to extract lithological and hydrological information, EGU I Annual Meeting, Nice, April 25-30, 2004.

244. Bena E., A. Godio and **G. Cassiani**, 2004, Saline tracer experiments monitored by time-lapse cross-hole ERT for ground water flow model calibration, EGU I Annual Meeting, Nice, April 25-30, 2004.

245. **Cassiani G.** and A.M. Binley, 2003, Constraining Vadose Zone Models on Moisture Content Data Derived from Cross-Hole Radar, H21F-05, abstract AGU Fall Meeting, Dec 2003.

246. Ranieri G., **G. Cassiani**, A. Godio, G. Morelli, 2003, Possibilità di identificazione di fenomeni di eutrofizzazione tramite misure elettriche, XXII Congresso CNR-GNGTS, Roma, 18-20

Novembre 2003.

247. **Cassiani, G.**, V. Bruno, A. Villa, N. Fusi, 2003, Monitoraggio geoelettrico di un test con tracciante salino, XXII Congresso CNR-GNGTS, Roma, 18-20 Novembre 2003.

248. **Cassiani, G.**, C. Strobbia, L. Gallotti, 2003, Profili Radar Verticali (VRP) per la caratterizzazione del non saturo, XXII Congresso CNR-GNGTS, Roma, 18-20 Novembre 2003.

249. **G. Cassiani**, L. Gallotti, V. Ventura, G. Andreotti, 2003, Vertical Radar Profile Monitoring of the Vadose Zone Dynamics and Oscillating Water Table, Extended Abstract, 9th EEGS-ES Meeting In Prague, Czech Republic, August 31- September 4, 2003.

250. **G. Cassiani**, L. Gallotti, V. Ventura, G. Andreotti , 2003, Vertical radar profiles for the calibration of unsaturated flow models under dynamic water table conditions, abstract EGU-AGU-IUGG XXVIII General Assembly, Nice, April 2003.

251. **G. Cassiani**, E. Dalla, A. Brovelli, D. Pitea and A.M. Binley, 2003, pore-scale modelling of electrical and hydraulic properties of a semi consolidated sandstone under unsaturated conditions, abstract EGU-AGU-IUGG XXVIII General Assembly, Nice, April 2003.

252. P. Winship, A.M. Binley and **G. Cassiani**, 2003, Characterising unsaturated flow processes using cross-borehole radar and resistivity, The Permo-Triassic Sandstone meeting, EIGG-Geological Society, London, 29 January 2003

253. **Cassiani, G.**, A.M. Binley, P. Winship, 2002, L'identificazione dei parametri del flusso nel non saturo sulla base di misure radar cross-hole in formazioni stratificate, XXI Congresso CNR-GNGTS, Roma, 19-21 Novembre 2002.

254. **Cassiani G.**, A. Godio, G. DeBacco, C. Strobbia, 2002, Indagine elettrica ed elettromagnetica in un sito contaminato da idrocarburi, XXI Congresso CNR-GNGTS, Roma, 19-21 Novembre 2002.

255. **Cassiani, G.**, A.M. Binley and P. Winship, 2002, Constraining Vadose Zone Flow Model Parameterisation Using Gamma Ray Borehole Logs And Zero-Offset Cross-Hole Radar Profiles, abstract EGS XXVII General Assembly, Nice, April 2002.

256. **Cassiani, G.** and M. Giustiniani, 2002, In Situ Estimates Of Sorption Via Small-Scale Push-Pull Tests: Modelling Issues, abstract EGS XXVII General Assembly, Nice, April 2002.

257. Binley A.M. ,**G. Cassiani**, R. Middleton e P. Winship, 2001, Tomografia radar e di resistività elettrica per la determinazione dei parametri di flusso nel non saturo, XX Congresso CNR-GNGTS, Roma, Novembre 2001.

258. Binley, A.M., **G. Cassiani**, R. Middleton and P., Winship, 2001, Hydraulic Parameterisation Aided by Cross-Borehole Radar and Resistivity Imaging, EEGS-ES 2001 Meeting, Birmingham, UK, September 5, 2001.

259. Giustiniani, M., **G. Cassiani** and A.M. Binley, 2001, Use of Borehole Geophysical Data for

Stochastic Characterisation of a Sandstone Aquifer, EEGS-ES 2001 Meeting, Birmingham, UK, September 5, 2001.

260. Hueckel T., F. Tao, **G. Cassiani** and A. Pellegrino, 2001, Chemical softening and hardening of geomaterial in situ, Computer Methods and Advances in Geomechanics, Desai et al.(eds), Balkema, Rotterdam.

261. Middleton R., A. Binley, **G. Cassiani** and P. Winship, 2001, Cross Borehole 3-D Electrical Resistivity Tomography as a Source of Auxiliary Information for Unsaturated Flow Models, abstract EGS XXVI General Assembly, Nice, March 2001.

262. Slater, L, R. Versteeg, A. Binley, **G. Cassiani**, R. Birken and S. Sandberg; 2000; Hydrogeological interpretation of solute transport from 3D electrical imaging; abstract AGU Fall Meeting, Dec 11-15, 2000.

263. Hueckel T., F. Tao, **G. Cassiani** and A. Pellegrino, 2000, Sediment Compressibility Evolving During Aging: Experiments And Reactive Plasticity Model, Proceedings Sixth International Symposium On Land Subsidence (Sisols2000), Ravenna, September 2000.

264. Palozzo W., **G. Cassiani**, G. Brighenti, C. Zoccatelli, 2000, Three Dimensional Simulation of Subsidence caused by gas production in the Barbara Gas Field and Comparison with Field Data, Proceedings Sixth International Symposium On Land Subsidence (Sisols2000), Ravenna, September 2000.

265. **Cassiani G.** and C. Zoccatelli, 2000, Towards a Reconciliation between Laboratory and In-situ Measurements of Soil and Rock Compressibility, Proceedings Sixth International Symposium On Land Subsidence (Sisols2000), Ravenna, September 2000.

266. **Cassiani G.** and K.Beven, 2000, Uncertainty Assessment of a Screening Model for Petroleum Hydrocarbon Natural Attenuation, abstract EGS XXV General Assembly, Nice, April 2000.

267. **Cassiani G.**, 1999, Criteria of Permissibility for Multiple Non-Homogeneous Random Fields, Geostats-UK Meeting, Leicester, November 22, 1999.

268. Ferraris F., **G.Cassiani**, C.Gallo and A.Godio, 1999, Sensitivity of models for unsaturated zone pathways recognition, Workshop on Testable stochastic features of subsurface flow and transport, Monte Verita, Svizzera, 25 ottobre 1999.

269. Hueckel, T., F. Tao, **G. Cassiani** and A. Pellegrino, 1999, Reactive Plasticity for Geological Materials with a Double Structure Evolving During Aging, Constitutive Laws fro Engineering Materials, 4th Int. Conference, RPI, Troy, NY, USA, July 1999.

270. Barnaba P.F. and **G. Cassiani**, 1999, Situazione idrogeologica e proposte di interventi sulla falda acquifera nella zona di San Donato Milanese, Acque Sotterranee, n.2, Fascicolo 62, 43-48.

271. **Cassiani, G.**, G. Dossena and C. Zoccatelli, 1998, L'approccio ENI-Agip al problema della subsidenza, atti Geofluid 98, Piacenza, 31-44.

272. Bevilacqua, N., **G. Cassiani**, P. Macini and E. Mesini, 1998, Misure di compattazione nel

sottosuolo mediante marker radioattivi: tecniche ed applicazioni in Adriatico, atti Geofluid 98, Piacenza, 77-92.

273. **Cassiani, G.** and C. Zoccatelli, 1998, Gas Extraction and Risk of Subsidence: the Case of the Northern Adriatic Gas Fields, Technical Issues, Society of Petroleum Engineers, Fourth International Conference on Health, Safety and Environment in Oil and Gas Exploration and Production, 7-10 June 1998, Caracas, Venezuela.

274. **Cassiani G.**, C. Zoccatelli and A. Pellegrino, 1998, Program aims to prevent subsidence due to offshore gas production, World Oil, April 1998.

275. Kabala Z.J., **G. Cassiani**, N.C. Ruud, 1996, Flowing Partially Penetrating Well with an Infinitesimal Skin, poster, A.G.U. Fall Meeting, San Francisco, CA.

276. Ferraris S. and **G. Cassiani**, 1996, Field Evaluation of the Spatial Variability of Surface Water Content and Saturated Hydraulic Conductivity, Quaderni di Geologia Applicata, 3-2, 77-86.

277. **Cassiani, G.**, W.H. Liu, M.A. Medina and T.L. Jacobs, 1995, Groundwater Pollution Remediation and Control: The Role of Global Optimizers and Exploitation of Available Information, Proc. ASCE Water Resources Planning and Management Div., annual meeting, Boston.

278. Chiaruttini, C., **G. Cassiani**, V. Roberto and P.L. Bragato, 1993, A Distributed Architecture for a Geophysical Interpretation System, Proc. of EUROCaipep'93, Aberdeen, Scotland.

279. Chiaruttini, C., P.L. Bragato, **G. Cassiani**, C. De Cillia, S. Persoglia and V. Roberto, 1993, Artificial Intelligence Techniques in the Intepretation of Seismic Data, E.A.E.G. 55th meeting and technical exibition, Stavanger, Norway.

280. Della Vedova, B., I. Marson, R. Nicolich, R. Marzona, **G. Cassiani** and F. Palmieri, 1992, Le risorse termali di Lignano e Grado, Ricerca Territorio e Sviluppo, n.4, p.40-50.

281. **Cassiani, G**., C. Chiaruttini and C. De Cillia, 1992, Analisi automatica di facies sismica, Atti XI convegno nazionale GNGTS, CNR, Rome, Italy.

282. Della Vedova, B., I. Marson, R. Nicolich, R. Marzona, **G. Cassiani** and F. Palmieri, 1991, Metodologie geofisiche per la valutazione di risorse geotermiche a bassa entalpia: Lignano S. e Grado (Litorale Friuli-Venezia Giulia), Atti X convegno nazionale GNGTS, CNR, Rome, Italy.

283. **Cassiani, G**., R. Linari, and R. Nicolich, 1991, Vibrazioni indotte dall'uso di esplosivi e da attività industriali: sicurezza ed interventi, Atti X conv. nazionale GNGTS, CNR, Rome, Italy.

Books, book chapters and reports

1. **Cassiani G.,** M. Censini, I. Barone, M.T. Perri, J. Boaga, R. Deiana, 2021, Hydrogeophysical methods for water resources protection and management, Chapter in book "*Instrumentation and Measurement Technologies for Water Cycle Management*", Springer, ISSN: 23646934, doi: 10.1007/978-3-031-08262-7_22

2. **Cassiani G.**, J. Boaga, I. Barone, M.T. Perri, G.P. Deidda, G. Vignoli, C. Strobbia, L. Busato, R. Deiana, M. Rossi, M. C. Caputo, L. De Carlo, 2019, Ground Based Remote Sensing of the Shallow Subsurface: Geophysical Methods for Environmental Applications, in: *Remote Sensing of Geomorphology*, Paolo Tarolli and Simon Mudd (Eds), ISBN: 9780444641779, Elsevier.

3. Kaestner M., M. Braeckvelt, G. Doberl, **G. Cassiani**, M. Petrangeli Papini, C. Leven-Pfister, D. Van Ree, 2012, Model-driven soil probing, site assessment and evaluation: guidance on technologies, *University of Rome La Sapienza Press*, Rome, Italy.

4. Werban U., T. Behrens, **G. Cassiani** and P.Dietrich, 2010, iSOIL: an EU project to integrate geophysics, digital soil mapping and soil science, Proximal Soil Sensing, Progress in Soil Science, Vol. 1, Part 2, 103-110, DOI: 10.1007/978-90-481-8859-8_8, Springer.

5. Vereecken H., A. Binley, **G. Cassiani**, I. Kharkhordin, A. Revil, K. Titov (eds), 2006, Applied Hydrogeophysics, *Springer-Verlag*, Berlin.

6. Dalla E., A. Brovelli, D. Pitea, **Cassiani, G.**, 2003, A new pore-scale approach to investigate electrical properties of soils, in *Science and supercomputing at Cineca*, 2003 Report.

7. Connell L.D and **G. Cassiani**, 2001, The Estimation of Aquifer Hydraulic Properties through Well Testing, in: Barry DA and Parlange JY, Transport Models in Soils: Surface and Subsurface Hydrology: Mathematical Models for Subsurface Water Flow, *The Encyclopaedia of Life Support Systems*, UNESCO and EOLSS Publishers Co. Ltd, UK

8. **Cassiani, G.**, 1998, Multiple Intrinsic Random Fields Criteria of Permissibility, *Research Reports on the Stochastic Analysis of Environmental Systems*, No SM/3.98, Dept. of Environmental Science and Engineering, Univ. of North Carolina-Chapel Hill.

9. Medina, M.A. and **G. Cassiani**, 1996, Groundwater Contamination by Organic Carcinogens: Detection, Modeling, Health Risk Assessment and Remedial Measures, report to Urban Environmental Health, Division of Operational Support in Environmental Health, *World Health Organization*, Geneva, Switzerland.

10. **Cassiani, G.** and W.H Liu, 1995, Duke Forest Gate 11 site: modeling and optimal remediation design, *report to Duke Medical Center, Dept. of Environmental Safety*, Duke University, Durham, NC, USA.

11. **Cassiani, G.**, 1995, Criteria of Permissibility for Generalized Covariances and Intrinsic Co-kriging, *Research Reports on the Stochastic Analysis of Environmental Systems*, No SM/5.95, Dept. of Environmental Science and Engineering, Univ. of North Carolina-Chapel

Hill.

12. Kemme, Th., Vasak, S., Ritsema, I., Geel, K., Lutgert, J., Bragato, P.L., Brancolini, G., De Cillia, C., Rebesco, M., Polonia, A., Chiaruttini, C., **Cassiani, G.**, Roberto, V., 1994, Integration of Methods for Reservoir Characterization using Artificial Intelligence Techniques, in Helbig, K. (Ed.), *Modeling of the Earth for Oil Exploration*.