

Via Cosattini, 32, Udine ó Italy
tel.fax +39 (0)432 229424. +39 (0)432 519343. cell +39 337 532202
P.IVA 01556930301 - geoecoud@tin.it - www.geoecoitalia.it

- Water Sciences, Quantitative hydrology and hydrogeology
- Mathematical modeling in ground and surface waters and predictive simulations
- Water and soil rehabilitation, depollution of aquifer systems, Risk Analysis
- Planning and management of water resources
- Environmental Impact Evaluations
- Research & development of renewable energies

Dr. Geol. GIAN PAOLO DROLI hydrogeologist

U.E. certified (D.E.A. Ecole Nationale des Mines de Paris)

Water Sciences, Quantitative hydrology and hydrogeology

Research & Development of water projects and works (drinking, mineral, agricultural, industrial, thermal waters)

Development of renewable energies: geothermal, hydroelectric, biomass

Mathematical modeling (analytical and numerical) in ground & surface waters and predictive simulations

Water and soil rehabilitation, depollution of aquifer systems and surface water bodies, Risk Analysis

Planning & management of water resources, Environmental Impact Evaluations, assistance for water/pollution lawsuits

INFORMATIVE SHEET - Short profile (2015)

After his scientific high school certificate, **Gian Paolo DROLI** (1959) became **doctor in Geological Sciences** (academic year 1986-87) at the **University of Trieste (Italy)** with thesis in "Geophysics methods applied to hydrogeology in mountain zones". He spent 2 years in France (1990-91) by the engineering school "**Ecole Nationale des Mines de Paris**" applying himself to hydrology-mathematics and obtaining the **D.E.A. hydrogeology specialisation U.E. certified** diploma in "Water Sciences and Management - Hydrology and quantitative Hydrogeology" (diploma given by the French Ministry of National Education and Research). Every year he attends several **courses and public conferences**, both in Italy and abroad, dealing with hydrogeology, water and renewable energy resources in order to be always technically and scientifically updated.

Working as hydrogeologist freelance he created in Udine (Italy) **in 1986 the STUDIO IDROGEOLOGICO GEOECO** and **in 1990** he started applying exclusively in **hydrogeology, water management and drinking water projects, depollution and protection of ground and surface waters and contaminated areas, management of aquifer systems, geothermal plants in E.P.C.** with particular attention to the complex problems that require high technical and scientific standards and innovative solutions.

On these particular subjects he works as expert and advisor for National and Public Bodies, Private Companies, Universities, Health centres and Councillors' offices, especially in central and north-Italy, but he also works for some foreign countries (France, Australia, England, Bulgaria, Romania). Since 1990 he is promoter, both in Italy and abroad, for about a dozen of innovative activities and new law texts (national and regional laws) regarding groundwater human risk management, drinking water supply for large territory, technical-strategic and prescriptive development in natural water resources.

Since now (2015) he did **365 hydrogeological projects and studies for private and public companies.**

He **taught in some Italian, French, Dutch universities** and international important Scientific Bodies. He is author of **60 scientific-technical articles** and papers about hydrogeology, water management and drinking water projects, depollution, management of aquifer systems, geothermal studies.

Office and contacts:

Studio Idrogeologico GEOECO
Dr. Gian Paolo DROLI
Via Cosattini, 32 ó Udine - ITALY
Mobile: +39 337 532202
Phone: +39 432 229424
Fax: +39 432 519343
E-mail geocoud@tin.it
Web site: geoecoitalia@tin.it

EDUCATION

- Degree in GEOLOGICAL SCIENCES (thesis in Hydrogeology), University of Trieste (1986-87).
- Specialisation in "Quantitative Hydrology and Hydrogeology" U.E certified Postgraduate Diploma D.E.A. in "Sciences de l'eau et aménagement - option HYDROLOGIE ET HYDROGEOLOGIE QUANTITATIVE" (thesis in Mathematical Modelling of drinking waterworks – proff. De Marsily G., Ledoux E., Combes P.) Laboratoire d'hydrogeologie mathematique - Ecole Nationale Supérieure des Mines de Paris, Paris (F), (1990-91).
- Technical-normative update: presence at 56 courses and conferences regarding hydrogeology, hydrology and environment for a total of 135 days. The most important are the following:
 - Hydrogeologie karstique. CNRS, Univ. Paris VI, Moulis Thoulouse (8-12 avril 1991). (proff. Bakalowicz, Hubert).
 - Modelling of flow and contaminants in the subsoil with emphasis on the unsaturated soil. IGWMC, IHE, Delft, Holland (28 june-2 july, 1993). (Proff. Bear J., Yeh G.T.).
 - Protezione e gestione delle acque sotterranee: metodologie, tecnologie e obiettivi. CNR - GNDICI. Nonantola (Modena), Italia (17-19 maggio 1995). (Proff. Civita M., Francani V., Gelmini R., Beretta G.P., Pellegrini M., Celico P., Alifracco G., Pilolli D.).
 - Groundwater flow and transport modelling 3D using Modfluw-MT3D and GIS. IGWMC, IHE, Delft, Holland (25-29 november 1996). (Prof. Bear J.).
 - Modern approach to groundwater tracer investigations: methods and models. IHW, ETH Honggerberg, Zurich, Switzerland (9-11 mach 1998). (Proff. Carrera J., de Marsily G., Kinzelbach W., Balderer W., Hoehn E., Kipfer R.).
 - Modelli di simulazione di flusso di falda e trasporto dei contaminanti in ambiente Windows. ESI Italia, Milano, Italia (1-3 marzo 2000). (Proff. Beretta G.P., Miller Fermour M.).
 - A hands-on course groundwater Risk Analysis and assessment and remedial targets for contaminated land. ESI International, Shrewsbury, England (23-24 July 2001). (Proff. Herbert A., Streely M., Sears R., Whittaker J., Stagg K., Johnson A., Hulme L.).
 - The remediation of contaminated waters and soils. Princeton Groundwater Waterloo Inc., Denver, U.S.A. (14-18 march 2005). (Proff. Cleary R., Kueper B. H., Kavanaugh M. C., Rorech G. J.).
 - XII Simposio Internazionale sulla Gestione dei Rifiuti e sullo Scarico Controllato, Salute e Inceneritori. S.ta Margherita di Pula, Cagliari – Italy, 5-9 Ottobre 2009. (Prof. Cossu R., I.W.W.G.).
 - Advisory working group on geothermal policy – European Geothermal Energy Council (EGEC). "Towards 2030-2050, Green Paper 2030 and 2050 Energy Roadmap". Bruxelles (B) 14 May 2013.
 - European Geothermal Congress 2013 (Expò and short course on "Drilling and completion of geothermal wells"). Pisa (Italy), 3-7 June 2013.
 - Advisory working group on geothermal policy – European Geothermal Energy Council (EGEC). "European Geothermal Panel". Bruxelles (B) 22-23 Sept 2014.

PROFESSIONAL AND PERSONAL QUALIFICATIONS

- Member of the W.W.F. of Udine since 1985 where he coordinated, from 1985 to 1990, studies and work groups regarding controlled rubbish dumps and natural waters.
- Since 1986 he is holder of the Hydrogeological GEOECO Firm in Udine.
- Responsible for the Civil Defence of the city San Leonardo (Udine), from 1994 to 1996.
- Member of the "Waters Commission" and "Pits Commission" of the Order of the Engineers of the city of Udine since 1995.
- Member of the study group "36/94 Act - integrated water resource". Ecology and Environment Councillorship of the government for the Province of Udine, 1995-96.
- Manager of the "Water and Hydrogeology Commission " for the Regional Order of Geologists Friuli Venezia Giulia, from 1996 to 1998.
- Member of the Regional Commission "Atrazine and its metabolites in waters", Regional Health Service Direction - Health and Environment protection since 1996, where he worked as follows:
 - manager of the work group "water crises management: emergency operating outline for the responsibility of the EE. LL., waterworks and A.S.S.", 1996-97.
 - proposing member and member of the work group "Cervignano pilot study: prevention methodologies and decontamination activities for the applied water-bearings in the city of Cervignano del Friuli (Ud)", 1997.
- Member of the "Technical-scientific Committee" in the provincial district of Udine for the authorized analysis of environmental plans. Ecology and Environment Councillorship of the government for the district of Udine since 1998.
- Member of Building Commission: at present commissioner in the districts of S. Leonardo, Drenchia, Torreano and Stregna. Currently also member of the Urban Planning Commission of the city Lignano Sabbiadoro. He worked as commissioner for the Building Commission of the districts: Grimacco, Pulfero, Mortegliano and S. Pietro al Natisone (all assignments carried out for periods of 10-12 years).
- Since 1992-actually: Member of the "Italian Hydrotechnics Association"; nominated Councilman in 1998 for the Friuli Venezia Giulia department.
- Member of the I.A.H. "International Association Hydrogeologists". Italian Committee, 1993.
- Technical advisor of the Judge regarding Hydrology and Hydrogeology for the Law Court in Udine (since 1994-actually) and Ancona (since 2001-actually).
- Since 1994-actually: Technical manager of the Coordination Group "Italian Scientific Studies Group and Researches (G.S.I.S.R.) - Drinkable Waters and Water Resources Department", Milan.
- Since 26/07/2000-actually: founder-member and vice-president of LINFA limited company, the first agency in the region Friuli for professional advise in environmental issues, natural resources planning and management (water, air, soil, land, energy, rubbish).
- Since 22/10/2002-actually: the person in charge for the work group "undue influences" and natural waters protection to the home consumption as part of the program "destined waters to the home consumption", with university work groups directed by the University of Brescia through prof. Collivignarelli (Univ. of Brescia) and prof. Riganti (Univ. of Pavia).
- From 2013 member EGEC - European Geothermal Energy Council (Advisory Working Group on Policy) - Brussels (B).

- From 2015 team coordinator of the Order of Geologists of Friuli V. Giulia region (Italy) for the PLAN OF WATER PROTECTION – group "Groundwater and surface "(Trieste).
- From 2015 delegate for the Order of Geologists of Friuli V. Giulia region in National Working Group "Geothermal Energy" at the Italian National Order of Geologists (Rome).
- Spoken and written languages: French, English.

PROJECTS, RESEARCH, PLANNING AND ADVISING ACTIVITIES REGARDING WATER, ENERGY, HYDROGEOLOGY AND HYDROLOGY

(in *Italic character* are the parts carried out completely by Dr. DROLI. In DDA are the studies carried out for Environmental Impact Studies, environmental and water Due Diligences or similar).

1 - ACTIVITIES REGARDING THE HYDROELECTRIC ENERGY AND OTHER RENEWABLE SOURCES OF ENERGY

- Hydrogeological study and environmental modifications due to hydroelectric system realization in Noiaris (Udine), DDA. *Quantitative and hydrogeological study, data collecting and mathematical modelling*, 1994.
- Hydroelectric water-power plant plan on the river Rio de Val and river Aupa in Moggio Udinese (Udine). *Hydrologic and hydrogeological executive study*, 1994.
- Hydroelectric rebuilding plan on the river Zaneberde area (Dogna, Ud) which was destroyed from the flood of 22/06/96. *Geologic-technical and hydrologic relation*, Dogna (Ud), 1996.
- Concession request for great water derivation for water-power plant in Vedronza, ex Enel (Ud). *Quantitative hydrogeological and hydrologic study*, 1997.
- Great water derivation C.A.F.C. at the river Torre sources to hydroelectric and idro-drinkable use of the water in Lusevera area. *Hydrologic and hydrogeological executive study*. Estimated amount for the works: €15Mil. Udine. 1998.
- Water intakes for the industrial waterworks "Alba" and the water-power plants owned by Cartificio Ermolli shares company in Moggio Udinese: concession request for great water derivation. *Hydrologic and hydrogeological study. Management strategy and optimal quality restoration of the water resource*, Udine, 1999.
- *Market research and prefeasibility study for buying hydroelectric water-power plants in large deviation in Bulgaria*, Udine – Sofia, 2002.
- Environmental impact study regarding the electric power production by biomasses in Arzene. DDA. *Environmental, geologic and hydrogeological settings* (LINFA assignment), Arzene (Pordenone), 2002.
- Environmental examination for the aeolian power plant at 10Mw "Venti of Nurra" (Nurra winds) in Port Torres (Sassari). *Coordination of the work group, climatic, hydrologic, hydrogeological and geologic study*. (LINFA assignment). DDA. Sassari, 2003.
- Environmental examination for the aeolian power plant at 8Mw "serracavallo" in Collepasso (Lecce). *Coordination of the work group, climatic, hydrologic, hydrogeological and geologic study*. (LINFA assignment). DDA. Lecce, 2004.
- General coordination, project and Environmental Impact Study of the hydroelectric plant 3 Mwe "S. Rocco" – Pontebba (Ud) 17.000.000 kWh. Udine. €16Mil. - 2007-08.
- General coordination, project and Environmental Impact Study of the biomass plant 1Mwe "S. Leonardo - CEMUR" (Ud) 5,5 Mil €. 2009-13.
- Research and feasibility of hydroelectrical power plants in north of ROMANIA – 2012-15.

2 - GEOTHERMAL RESEARCHES AND HYDRO-THERMAL DERIVATED PROJECTS

- Geothermal feasibility study in Valcanale valley in the Julian Alps. *Geological and hydrogeotermical preliminary analysis*, Tarvisio (Udine), 2000.
- *Hydrogeological coast area in Lignano Sabbiadoro and geothermal research through deep artesian pools*. Lignano Sabbiadoro (Udine), 2000.
- *Hydrogeological-geothermal study to search hydro-thermal resources by "Sport Village"*, Cordenons (Pordenone), 2000.
- Smaller geothermal resources exploitation plan in Tempio area and Latisana. *Hydrogeological-geothermal study*, Latisana (Udine), 2001.
- *Hydrogeological-geothermal study to search hydro-thermal resources by Lignano Pineta "Hotel Fra i Pini"*, Lignano Sabbiadoro (Udine), 2003.
- Geothermal well "Moretti's" rehabilitation in Latisana. *Hydrogeological-geothermal study*, Latisana (Udine), C.T.U. of Udine Court 2003-09.
- *Hydrogeological-geothermal study to search hydro-thermal resources and water-privilege by Lignano Pineta "Terme S.I.L. s.p.a."*, Lignano Sabbiadoro (Udine), works 15 Mil €, 2005-actually.
- *Hydrogeological-geothermal study to search hydro-thermal resources and water-privilege by Lignano Sabbiadoro "Centro Ippico Lignano"*, Lignano Sabbiadoro (Udine), works 25 Mil €, 2006-actually.
- *Hydrogeological-geothermal study to search hydro-thermal resources and water-privilege by Lignano Riviera "Green Village Resort"*, Lignano Sabbiadoro (Udine), 2007-actually.
- *Hydrogeological-geothermal study to search hydro-thermal resources by Lignano Riviera "Area Sviluppo turistico del Tagliamento"*, Lignano Sabbiadoro (Udine), 2009-actually.
- *Hydrogeological-geothermal study to search hydro-thermal resources and water-privilege by Grado "Villaggio Sacca Moreri e Valle Cavarera"*, GRADO (Gorizia), works € 800 Mil, 2010-actually.
- *Hydrogeological-geothermal study to search geothermal and thermal resources and water-privilege by PORTO MARGHERA (Venice-Italy) to "Palais Lumiere"*. Works € 2150 Mil, 2013- actually.
- *Hydrogeological-geothermal study to heat-cold plant production in the City Park - Condominio De Eccher, Largo S. Giorgio - Pordenone*. 2012-13.
- *Hydrogeological-geothermal study to search geothermal and thermal resources by LATISANA HOSPITAL and CITTADELLA DELLA SALUTE (Udine - Italy)*. Works € 15 Mil. 2013- actually.
- *Hydrogeological-geothermal research of resources in Lignano Sabbiadoro "Site GETUR - EFA ODA"*. Environmental Impact Assessment. DDA. Drilling project and use to request permission. Lignano (Ud) 2014-actually.
- *Hydrogeological study to evaluate the feasibility, effectiveness, applications and benefits hydro-geological aquifer systems of the device "Fracking Leakage Prevention System (FLPS) - Patent No. AU2014901918" for the decontamination of aquifers contaminated by fracking operations*. 2014-2015.

3 - ACTIVITIES REGARDING WATER MANAGEMENT AND WATER RESOURCES, POLLUTION PROTECTION OF WATER BODIES AND CONTAMINATED EVENTS MANAGEMENT.

- Incineration system of city solid rubbish and relevant works; *Geologic-technical analysis relation*. Competition Contract, Ercole Martelli Association I.T.-C.E.D.A. (MI),1988.
- *Hydrogeological-qualitative study on the water bearing in Blaves-Thonon les Bains*, 1990.

- Etude de l'exhaure de mines de fer de Soumont (F), *Hydrogeological water draining study for the iron mine in Soumont*, 1991.
- Modèle Mathématique de la Nappe du Calcaire Carbonifère - Lille (F, B). (*Mathematical model of the water stratum to its drinkable use in the Calcaire Carbonifère*), 1991.
- Environmental pollution in metalliferous mining regions in Bulgaria and Czechoslovakia. Hydrogeology, Models and Health. C.E.E. D.G. XII. Program R & S: Joint research proposal. Consortium R.G.D. Haarlem Euromin. A *propositive program for the hydrogeological study of water stratum model and management in polluted regions owing to the activities of the mines in Bulgaria and Czechoslovakia*, 1992.
- Railway plan for High Speed System from Bologna to Florence. *Hydrogeological survey and hydrogeological study of the flows in Emiliana variant*, 1993.
- *Integrated Study about water resources in the region Friuli Venezia Giulia. Practicability analysis, main problems and managerial program*, 1993.
- Work plan of waterworks of Musi "river Torre sources" (Udine)- *Quantitative, geologic-technical and hydrogeological study. Competition contract of the Central Friuli Waterworks Consortium*. Grouping: Cicuttin constructions general partnership- D'Orlando & Associates company- Geoeco. Amount for the work: about £ 1.500.000.000, Udine, 1993.
- Water stratum study of the Low Friulian Plain: integrated management and quality protection of the water resource. *Hydrogeological study and mathematical model - Phase 1*. DDA, 1994.
- Concession request for great water derivation: *integrated quantitative hydrogeological study on the works of water undue influence of Gemona Manufactures limited company*. Factory in Gemona (Ud), 1994.
- *Hydrogeological study for the communal hydro-drinkable sink to build in the town Sottoselva - Palmanova (Udine)*, 1995.
- Concession request for great water derivation: *hydrologic and hydrogeological-environmental study of great water derivation of the farm Di Bert, Porpetto (Ud)*, 1995.
- Concession request for great water derivation: *hydrologic and hydrogeological-environmental study of great water derivation of the farm Collavini, Bertiole (Ud)*, 1995.
- Concession request for great water derivation: *integrated quantitative hydrogeological study on the works of water undue influence of the factory M. G. Gorizia joint-stock company, Gorizia*, 1995.
- *Territorial organization of the water service in the land surrounding the province of Udine - 36/94 Act, art. 8. Province of Udine*, Environmental Councillorship 1995.
- *Hydrogeological study for the environmental reclamation, protection and artificial recharges of phreatic waters in the territory of the middle Friuli- Friuli Venezia Giulia Region*, 1996.
- Plan of the underground pedestrian passages by the railway in Latisana, Railway station - Sottopovolo. *Hydrogeological and technical-geologic relation*. Amount for the works: £ 2.500.000.000, Latisana, 1996.
- Urbanization completion works industrial zone, handicraft D2 in Carpacco (Ud). Artificial recharge of phreatic stratum due to superficial water infiltration: *Hydrogeological study and preliminary analysis of the costs*, 1996.
- Concession request for great water derivation: *Hydrologic and hydrogeological-environmental study of water derivation regarding fishing industry Azzurro limited company, Rivoli di Osoppo (Ud)*, 1996.

- Concession request for great water derivation: *Hydrologic and hydrogeological-environmental study of water derivation regarding fishing industry S.A.I.S. limited company, Zoppola (Pn)*, 1996.
- Concession request for great water derivation: *hydrologic and hydrogeological-environmental study of water derivation regarding fishing industry Trote dell'Arzino, Nizzetto*. Forgaria del Friuli, Pinzano (Pn), 1996.
- *Hydrogeological-quantitative study of the water-bearing in the plain of Zompitta, water samples optimisation, management and protection of the natural water resource due to drinkable use for the waterworks in Udine (A.M.G.A.)*, 1997.
- *The drawing up of a regional act proposal (Friuli Venezia Giulia Region). Contamination phenomena prevention and management regarding the natural water resources: contaminating risk factors, contaminated resources and crises*. Operating plan for the Regional Body EE.LL., sanitary and regional waterworks, 1997.
- *Hydrogeological study for great water derivation of the pit system and concreting for F.Ili Martina & Della Mea general partnership, Chiusaforte (Ud)*, 1997.
- *Hydrogeological study and geophysical executive for water research due to irrigation in the plain of Premariacco-Orzano. Drilling perforations and capacity measures in sink*. Reclamation Consortium of Ledra-Tagliamento, Udine, 1997.
- Plan for the realization of an integrated model of management regarding the waterworks system in the district of Udine. *Hydrologic and hydrogeologic modelling of waters basements in the high plain of Friuli on the left of Tagliamento river, 1A Phase*, Udine, 1997.
- Great water derivation C.A.F.C. from Torre sources due to hydroelectric and hydro-drinkable use in Lusevera area. *Hydrologic and hydrogeological quantitative executive study*. Estimated value for the works: £ 15.000.000.000, Udine, 1998.
- Water resources strengthening due to irrigation owing to the drop of the stratum in the following towns: Mereto di Tomba, Camino al Tagliamento, Mortegliano and Codroipo. *Hydrogeological-quantitative study of the effects due to the samples' plan on the hydro-drinkable sources for the Central Friuli Aqueduct Consortium (C.A.F.C.)*, Udine, 1998.
- Executive plan of the water monitoring net on the artificial feeding system of the water stratum in the Middle - Friuli area. *Hydrogeological-quantitative study, piezometric net site, definition of the monitoring strategy and executive plan parameters*. Estimated amount for the works: £2.500.000.000, Udine, 1998.
- Territorial, hydrologic and hydrogeologic computerisation of the Friuli Venezia Giulia Consortia Union. *Organization, planning and supplying of the hydrogeologic and hydro-agronomic mathematical modelling system*. Udine - Pordenone, 2000.
- *Hydrogeological study and optimization activities of the water intakes from the waterworks of the City of Pordenone – central-east Torre. Stratum waters monitoring, integrating planning on the wells system, emergency situations, existing systems restorations* - Pordenone, 2000.
- Realization of a sink for great derivation due to irrigation in Remanzacco area (Ud) to meet the water requirements of the Orzano and S. Giusto areas for the Ledra-Tagliamento Reclamation Consortium. *Hydrologic and Hydrogeological study*. Estimated amount for the works £ 300.000.000, Udine, 2000.

- *Market research on the working private companies in the depuration systems field and drinkableness of the waters in the Veneto and Friuli regions, Udine, 2001.*
- *Technical advice about the existing norm and unprovided with concession situations, risks and problem solutions. Derivations in Lazio region, Rome, 2001.*
- *Research, market and technical analysis on the water strategies and on the hydro-drinkable service in Bulgaria (some regions including Sofia region). Udine - Sofia, 2002.*
- *Hydrogeological-quantitative study of the water-bearing in the Zompitta plain for the water samples optimization, natural water resource protection and management to the drinkable waters from the waterworks of the City of Udine (A.M.G.A.) Convective-dispersive mathematical model for the resource management (Phase 2), Udine, 2002.*
- *Planned and drowned up the National Law proposal: "Rules and regulations for water crisis, emergencies and egressive acts against drinking water resources", Roma, 2004.*
- *Water protection regional plant of the Friuli Venezia Giulia Region territory. (coordinator of the Macroarea: "Groundwater and surface water: quantity and quality"). Trieste, 2004-2008*
- *Drainage project of underground parking area "Complesso residenziale S. Giorgio Pordenone city center" RIZZANI DE ECCHER company. 2008-10.*
- *Hydrogeological-quantitative project for the treatment plant hazardous and non-hazardous waste in CASSOLA (Vicenza): protection against pollution of the water system and drinking well "S. Paolo" E.T.R.A.. 2013-2014.*
- *Hydrogeological study, work management and research of groundwater at the well of Pederobba to the site "MONFENERA". Pederobba (Treviso). 2010-14.*

4 - ACTIVITIES REGARDING WASTE DUMPS AND DISPOSAL SYSTEMS

- *Graphical system to single out the suitable homogenous geo-environmental areas potentially due to controlled rubbish dumps, 1990.*
- *Plan and V.I.A. of the 1st Cat. waste dump in Pozzuolo del Friuli (Ud) near the Bottò quarry. DDA. Hydrogeological integrated study and water pollution prevention, 1994.*
- *1st Cat. waste dump plan for SOCECO in Pozzuolo del Friuli (Ud), DDA. Hydrogeological-quantitative surveying, water pollution prevention and additional geologic technique, 1995.*
- *Executive plan for the strengthening of the 1st Cat. waste dump in Pozzuolo del Friuli, DDA. Geologic and hydrogeological-quantitative study. Permanent monitoring study, Udine, 1997.*
- *Environmental impact and 2nd Cat. waste dump plan for North Asphalts in Povoletto area, DDA. Geologic and hydrogeological study, Udine, 1999.*
- *Ironworks waste dump in north S. Maria La Longa. Hydrogeological study of the site. Policy definition for the stratum monitoring system and activities in case of contamination of the stratum, S Maria la Longa, Udine, 1999.*
- *Percolate release cases by the waste dump E.X.E. in Trivignano. Analysis and integrations to the emergencies management plan, monitoring system optimization in stratum and hydrogeological surveyings in sink. Trivignano (Udine), 2000.*
- *Urban Waste dump in Pozzuolo del Friuli - Soceco limited company. Geognostic and hydrogeological surveyings, hydrogeological study to carry out a monitoring net and optimal strategic use of the water sampling. Udine, 2001.*

- Environmental impact study regarding the waste dump in Udine (S. Gottardo). DDA. *Geologic and hydrogeological study*, LINFA Assignment, Udine, 2002.
- Environmental impact study regarding the mud stockpiling and dredging system in Z. Aussa Corno to S. George di Nogaro (Udine), DDA. *Geologic and hydrogeological study*. LINFA Assignment, Udine, 2002.
- Environmental impact study regarding the solid city rubbish dump for Ecofelix in Carpeneto (Pozzuolo). DDA. *Geologic, climatic, hydrological and hydrogeological study*. Eng. Cudini Assignment, Udine, 2003.
- Environmental impact study regarding the solid waste dump of Udine city for Soceco s.r.l. in Pozzuolo del Friuli. DDA. *Geologic, climatic, hydrological and hydrogeological study*. Udine, 2004-2005.
- Environmental and hydrogeological study regarding the Romanello solid waste dump of Udine city. DDA. *Geologic, hydrological and hydrogeological study*. Udine, 2006-2007.
- *Risk Analysis (R.A.M.), aquifer vulnerability and hydro-chemical analysis of the landfill of urban waste of Udine city "Soceco"*. 2005-09.
- *Hydrogeological-quantitative analysis of the project for the landfill for amiantus BERGANTINO (990.000mc). Committee SAT and grouping of 9 local municipalities. (Bergantino - Rovigo)*. 2014-actually.

5 - ACTIVITIES REGARDING RECLAMATION, DECONTAMINATION IN POLLUTED AREAS AND ABBANDONED SITES GENERATING ENVIRONMENTAL RISKS.

- Safety works for the illegal waste dump in Castellazzo Bormida (To) subject to percolate releases phenomena. *Hydrogeologic and geoelectrical surveyings in site in order to fix the contaminated areas subject to anomalous dumps*. Estimated amount for the works: £ 13 mld. Assignment by IDROGEO limited company (Trieste), 1990.
- *Hydrogeological-environmental analysis study for reclamation, general reorganization and hydrocarbons pollution prevention for the small lake E.N.E.L. San Giorgio, Marconi street, Pordenone*. Assignment by the local government City of Pordenone (Pordenone), 1997.
- Analysis and prevention plan for the reclamation from hydrocarbons pollution in the site "Distribution Oils Group ", Aquileia street 30 - Pordenone: *Hydrogeological study of the polluting agents transport, definition of the pollution responsible subjects and reclamation activities in the site*. DDA. Assignment by the local government City of Pordenone (Pordenone), 1997.
- Monitoring activities and environmental depuration in Premariacco and Cividale del Friuli areas: "FIRMANO CLEAN 1998" Plan. *Hydrogeological water pollution plan and reclamation of the stratum. Standard model project to deal with water contaminations*. Estimated amount for the works: £ 2,2 mld. Assignment by the local government City of Udine, Udine, 1998.
- *Prevention pollution study in water-bearing and water crises organisation in the district of Pordenone*. Assignment by the provincial government City of Pordenone and Tepco limited liability company in Vittorio Veneto (Tv). Pordenone, 1999.
- Environmental impact study regarding demolition, reclamation and rebuilding on the vacant factory site called "Ex-Cantoni Area" in Legnano (Me). DDA. *Hydrologic and hydrogeological study, geognostic and chemical-physical laboratory surveyings, measures and activities of mitigate and prevent*. Estimated amount for the works: £ 120 mld. Milan, 2000.
- Emergency safety work and characterization sites plan (D.M. 471/99 All. A) for the Industrial Consortium "Ponte Rosso" zone (ZIPR), Area B. *Hydrogeological*

and hydrologic surveyings plan, activities and analysis study in the site S. Vito al Tagliamento (Pordenone), 2001.

- Characterization plan (1st level), reclamation project (D.M. 471/99 All. A) for the real estate site Be.Ta. limited company in Pramaggiore industrial area. *Hydrogeological and hydrologic surveyings program, analysis and activities study in the site Pramaggiore (Venice), 2001.*
- Reclamation Ex Cogolo area in Aussa Corno (S. Giorgio di Nogaro, Udine). Characterization plan, DDA. *Geologic surveyings coordination program, geologic, hydrologic and hydrogeological study, Udine, 2003.*
- Stratum contamination of the site Former Farmers Consortium in central Pordenone - Santin Skyscraper. *Hydrogeological surveyings, analysis and technical strategies definition, Pordenone. 2003.*
- Emergency safety work and characterization sites plan (D.Lgs. 152/2006, D.M. 471/99 All. A) for the Industrial Zone "Ex-Cogolo" zone (ZIAC). *Hydrogeological and hydrologic surveyings plan, activities and analysis study in the site S. Giorgio di Nogaro (Udine), 2004-2007.*
- Emergency safety work and characterization sites plan (D.Lgs. 152/2006, D.M. 471/99 All. A) for the "Fadalti - Sacile" farm (Pordenone). *Hydrogeological and hydrologic surveyings plan, activities and analysis study in the site. Pordenone, 2006-07.*
- Emergency safety work and characterization sites plan (D.Lgs. 152/2006) for the "Domanins" (S. Giorgio Richinvelda - Pordenone). *Hydrogeological and hydrologic surveyings plan, activities and analysis study in the site. Pordenone, 2006-07.*
- Emergency safety work and characterization sites plan (D.Lgs. 152/2006) for the "AGIP in Pordenone city center station" (Pordenone). *Hydrogeological and hydrologic surveyings plan, activities and analysis study in the site. Pordenone, 2006-07.*
- Emergency safety work and characterization sites plan (D.Lgs. 152/2006) for the "ILPEA s.p.a." (Zoppola - Pordenone). *Hydrogeological and hydrologic surveyings plan, activities and analysis study in the site. Pordenone, 2007-2014.*
- Water and soil pollution management (D.Lgs. 152/2006) for the "SME - Pordenone" site (Pordenone). *Hydrogeological and hydrologic surveyings plan, activities and analysis study in the site. Pordenone, 2010-2014.*

6 - HYDROGEOLOGICAL WORKS ON WATERCOURSES AND SUPERFICIAL WATER-DRAINAGE GRID

- Var. n° 8 to the P.D.F. of S. Leonardo Municipality. *Hydrologic study to settle the flood phenomena in the Cemur plain (erosion reclamation, fluvial protection works and banking).* (local government City S. Leonardo, Ud), 1988.
- Executive plan for basic sports facilities in Scrutto. *Hydrologic study to settle the flood phenomena in the Scrutto-Merso plain (erosion reclamation, protection works and banking).* (local government City S. Leonardo, Ud), 1988.
- Etude Hydrologique et estimation des probabilités des crues du bassin-versant de the Jasse. Montpellier (F). *Hydrologic study and potential fluvial floods by the river basin La Jasse. Montpellier (F), 1991.*
- Executive plan to work on the upheaval in T. Alberone and Savogna areas and to build the Brizza Bridge. *Hydro-geologic study to settle the flood area in T. Alberone, floods prevention works, Brizza Bridge building and erosion prevention in Savogna* (local government City Savogna, Ud), 1995.

- *Hydrologic-hydrogeological and banks study to avoid erosion and flood areas reclamation in T. Alberone in Savogna district.* (local government City Savogna, Ud), 1995.
- Urgent Civil Protection activities along the right bank of Alberone in order to minimize the high flooding risk in the city and in Blasin area (local government City Savogna, Ud). *Hydrogeological and geologic-technical relation.* (Amount for the work: about £. 400.000.000. Local government City Savogna, Ud, 1999.
- Urgent hydraulic protection activities, superficial waters drainage and flood areas reorganization by the rivers Cosizza and Erbezzo in Cemur area, Phase 1, S. Leonardo district (Ud). DDA. *Hydrologic and geological study.* Amount for the works: £ 1.650.000.000. S. Leonardo (Ud), 2000.
- *Hydrologic and hydrogeological study to settle the plan and water-drainage activities on superficial and subterranean waters for Seima Italiana shares company, industrial area in Tolmezzo.* Management and program on the geognostic surveyings and study, Tolmezzo (Ud), 2000.
- Hydrogeological study and project against bank erosion and landslide in the Rieca River in Paciuch - City of Drenchia. (Amm.ne Com.le Drenchia, Ud). 2015.

7 - GENERAL HYDROGEOLOGICAL-ENVIRONMENTAL STUDIES, FOR DISTRICTS, INFRASTRUCTURES AND LARGE COASTAL AREAS STUDIES

- General town-planning of Stregna (Ud). *Attached geologic-technical study to the Plan (contents: hydrogeological, landslides and hydrologic flooding study for the district areas).* Local government of Stregna, 1995.
- General town-planning of Savogna (Ud). *Attached geologic-technical study to the Plan (contents: hydrogeological, landslides and hydrologic flooding study for the district areas).* Local government of Savogna, 1995.
- General town-planning of Drenchia (Ud). *Attached geologic-technical study to the Plan (contents: hydrogeological, landslides and hydrologic flooding study for the district areas).* Local government of Drenchia, 1995.
- General town-planning of San Leonardo (Ud). *Attached geologic-technical study to the Plan (contents: hydrogeological, landslides and hydrologic flooding study for the district areas).* Local government of San Leonardo, 1996.
- General town-planning of Grimacco (Ud). *Attached geologic-technical study to the Plan (contents: hydrogeological, landslides and hydrologic flooding study for the district areas).* Local government of Grimacco, 1996.
- *Hydrogeological and hydrodynamic-sedimentary study on the coastal area in Lignano Sabbiadoro (Udine) and surroundings lands. Coastal erosion prevention and environmental management of the coastline,* 1996.
- *Hydrodynamic and sedimentary study for the sea activities. Executive plan for building activities on the shoreline Lignano Sabbiadoro, Pineta and Riviera ,Lignano (Ud).* 1997.
- *Hydraulic and hydrological study on the communal area and activities to avoid floods. Surveyings program, synthesis, study and general coordination, Lignano Sabbiadoro (Udine),* 2001.
- Environmental impact due to the building of a third lane on the motorway A4 Villesse-Gorizia. DDA. *Climatic, hydrological and hydrogeological study.* LINFA Assignment. Gorizia, 2003.
- Environmental practicability study for rebuilding the state road n° 56 Udine(Paparotti) - San Giovanni al Natisone. DDA. *Responsible for the study, general coordinator, geologic, climatic, hydrological and hydrogeological study.* Amount for the work: €84.000.000, Udine, 2003.

- Flooding phenomena by underground "Oberdan Parking" in Pordenone. *Hydrogeological analysis to check the "Hydrogeological-quantitative study, waters depuration and buildings settlements prevention"*, Pordenone, 2003.
- Flooding phenomena by underground "Candiani Parking" in Pordenone. *Hydrogeological analysis to check the "Hydrogeological-quantitative study, waters depuration and buildings settlements prevention"*, Pordenone, 2004-2009.
- Strategic Environmental Evaluation (VAS) for Municipal Town-planning of Savogna municipality (Udine). Udine. 2008-09.

8 - WORKS ON AREAS AT HYDROGEOLOGICAL RISK, LANDSLIDES AND CONSOLIDATION SIDES.

- Executive plan for works against rocks and avalanches in Drenchia area. DDA. *Geological prevention study and activities regarding avalanches and landslides' upheaval near Mount Colovrat*. Amount for the work: £ 3.000.000.000. Local government of Drenchia, Udine, 1992.
- Working on the hydrogeological upheaval after the landslide in Tèssina in Chies d' Alpago district (Bl). *Quantitative hydro-geological study*. Contract competition Veneto Region. Grouping: C.I.S.A joint-stock corporation - I.CO.P. joint-stock company- D'Orlando & Associates company - Geoco Agency. Amount for the work: about £ 2.000.000.000. Belluno, 1994.
- Restoration works executive plan and landslide-slope reclamation in Vernassino-Costa area. *Geological-technical relation (hydrogeological upheaval study, slope prevention and reclamation work)*. Amount for the work: about £ 250.000.000 (Local government of S. Pietro al Natisone, Ud), 1995.
- Executive plan for restoration works on the hydrogeological and fluvial upheavals in Brizza and Savogna areas. *Hydrogeological and geological-technical relation (settling activities and landslide reclamation in Brizza)*. Amount for the work: about £ 500.000.000 (Local government of Savogna, Ud), 1995.
- Executive plan for restoration works on the hydrogeological upheaval Peternel-Paciuch road in Potoc river area. *Geological-technical relation (hydrogeological upheaval study, reclamation work of Paciuch landslide and slope prevention)*. Amount for the work: about £ 150.000.000 (Local government of Drenchia, Ud), 1997.
- Executive plan for restoration works after the landslide on Iesizza-Raune road. *Geological-technical relation (hydrogeological upheaval study, reclamation works of Iesizza landslide and slope prevention)*. Amount for the work: about £ 200.000.000 (Local government of S. Leonardo, Ud), 1997.
- Executive plan of urgent restoration works for the regional Civil Defence F.V.G. on the Plataz-Canalaz landslide. *Geological-technical relation (hydrogeological upheaval study, slope prevention and reclamation work)*. Amount for the work: about £ 300.000.000 (Local government of Grimacco, Ud), 1997.
- Executive plan for restoration works after the landslide in Bocchette di Calla area. *Geological-technical relation (hydrogeological upheaval study, slope prevention and reclamation work)*. Amount for the work: about £ 250.000.000 (Local government of Torreano, Ud), 1998.
- Executive plan for restoration works on the hydrogeological upheavals in Stregna district – following areas: Cobilza-Podgora, Tribil – Podlach crossroads, Presserie-Tribil Sup. *Geological-technical relation (hydrogeological upheaval study, reclamation works on every landslide, slope prevention)*. Amount for the work: about £ 455.000.000 (Local government of Stregna, Ud), 1998.

- *Hydro-geological study in order to firm and restore the landslides upheavals in build-up areas and road conditions in "Costone di Azzida" area, S. Pietro al Natisone (Ud).* Amount for the work: about £ 900.000.000. (S. Pietro al Nat. Ud), 1999.
- *Hydro-geological study in order to firm and restore the landslides upheavals in Liessa and Grimacco Sup. (Grimacco district- Ud).* Amount for the work: £ 600.000.000. (S. Pietro al Natisone, Ud), 1999.
- *Executive plan for restoration works on the landslides upheaval and water phenomena of in build-up area "Costone di Scrutto – Step 1", San Leonardo (Ud).* Amount for the work: £ 750.000.000. (S. Leonardo, Ud), 2000.
- *Hydrogeological upheaval on buildings in Montacuto area (Ancona). Geognostic surveyings program, analysis, Hydrogeological and geologic-technical study.* C.T.U. Law Court of Ancona (Ancona), 2001.
- *Hydrogeological upheaval on road situations in Barcaglione area (Ancona). Geognostic surveyings program, analysis, hydrogeological and geologic-technical study.* C.T.U. Law Court of Ancona (Ancona), 2001.
- *Executive plan for works against rocks and avalanches in Drenchia area. Geological prevention study and activities regarding avalanches and landslides' upheaval near Mount Colovrat in Drenchia and Zuodar areas.* Amount for the work: about £ 600.000.000. Local government of drenchia, Udine, 2002.
- *Executive plan for the hydraulic and hydrogeological restoration works on the water phenomena of in build-up area "Costone di Scrutto – Step 2", San Leonardo (Ud).* Amount for the work: € 750.000. (S. Leonardo, Ud), 2008-09.
- *Study of the instability of the landslide SACROVINT: rehabilitation of the Tagliamento landslide, rockfall protection, drainage and greening of the slope - Forni di Sotto (Udine).* 2012-actually.

The activity is carried out for following the main Public and Governmental Agencies, Companies and Clients:

- Comunità Montana – Mountain Communes Consortium - Valli del Natisone (Udine).
- Castalia 2 joint-stock company (Genova).
- Idrogeo limited company (Trieste).
- Ecole Nationale Sup. des Mines de Paris (Parigi - F).
- O.R.S.T.O.M. (Montpellier - F).
- Benedil joint-stock company (Cividale del Fr. - Udine).
- L. Broilli Geological Agency (Tricesimo - Udine).
- Istituto Autonomo Case Popolari di Udine – Council Houses' Body (Udine).
- Elettronica Industriale joint-stock company (Milano).
- Università degli Studi di Trieste. Ist. di Geologia – University of Trieste, Geology Department (Trieste).
- Università degli Studi di Udine. Dip. Georisorse e territorio – University of Udine, Territory and Geo-resources Department (Udine).
- Cicuttin Constructions general partnership Latisana (Latisana - Udine).
- Soc. Elettrica Coop. Alto But – Electric company Alto But (Paluzza - Udine).
- Comune di Moruzzo – Moruzzo Municipality (Udine).
- Comune di Manzano - Municipality (Udine).
- Felix limited company (Udine).
- I.C.O.P. joint-stock company (Udine).
- C.I.S.A. joint-stock company (Pisa).

- Gemona Manifatture limited company (Udine).
- Comune di Palmanova – Palmanova Municipality (Udine).
- Comune di Savogna – Savogna Municipality (Udine).
- Comune di San Leonardo - Municipality (Udine).
- Comune di Grimacco - Municipality (Udine).
- Comune di Stregna - Municipality (Udine).
- Comune di Lignano Sabbiadoro (Udine).
- Comune di Latisana (Udine).
- M. di G. Gorizia joint-stock company (Gorizia).
- Soceco limited company (Udine).
- Provincia di Udine - Ass.to all'Ambiente e Territorio (Udine). – Province of Udine, Environmental Councillorship
- Comune di Lignano Sabbiadoro – Lignano Municipality (Udine).
- Comunità Collinare del Friuli - Colloredo (Udine). Hill Communes Consortium
- T. & A. limited company (Genova).
- Trader joint-stock company (Udine).
- Nuova Azzurro limited company (Verona).
- S.A.I.S. limited company - Zoppola (Pordenone).
- Trote dell'Arzino - Forgaria nel Fr., Pinzano (Pordenone).
- Chiappo mobili joint-stock company (Udine).
- Ditta Compassi Gelindo Idroelettrica. (Udine)
- Comune di Pordenone – Pordenone Municipality (Pordenone).
- S.P.E.I. Soc. Produzione Energia Idroelettrica – Hydroelectric Company limited company (Vicenza).
- A.M.G.A. di Udine (Udine).
- Cons. Acquedotto Friuli Centrale (Udine) – Waterworks Friuli Consortium
- Regione Friuli V. Giulia, Direzione Regionale della Sanità (Trieste) – Friuli Region, Health Service Department
- F.lli Martina & Della Mea general partnership - Chiusaforte (Udine).
- Consorzio di Bonifica Ledra-Tagliamento (Udine) – Reclamation Consortium
- Cartificio Ermolli joint-stock company - Moggio Udinese (Udine), Paper Factory
- Università d. Studi di Udine. Dip. di Produzione vegetale e Tecnologie agrarie. (Udine) – University of Udine, Vegetal Production and Agriculture Department
- Gesteco s.p.a, Vetroresina Fiberdur Italia s.r.l. (Udine).
- Tepco limited company - Vittorio Veneto (Treviso).
- Provincia di Pordenone - Serv. Protezione Civile e Assess. Ambiente (Pordenone), Environmental Councillorship and Civil Defence
- Verdalpe limited company – Enemonzo (Udine).
- Orion limited company – Rubano (Padova).
- Acquedotto Città di Pordenone (Pordenone).
- Law Court of UDINE (Italy) – Civil and Penal Section
- Law Court of ANCONA (Italy) – Civil Section
- Gartner Sicurezza Ambientale –limited company – Envir. Safety (Milano).
- C.D.S. Immobiliare limited company (Pordenone).
- D. & F. ltd. Roma – Sofia (Bulgaria)
- S.A.R.C. limited company – S. Vito al Tagliamento (Pordenone).
- S.E.I.M.A. Italiana joint-stock company – Tolmezzo (Udine).
- PricewaterhouseCoopers joint-stock company (Milano).
- Gartner Sicurezza Ambientale limited company – (Roma).
- I.A.L. Friuli V. Giulia (Pordenone).
- LINFA limited company (Udine).
- Time Ambiente limited company (Udine).
- Studio Ingegneria Ing. M. CUDINI. (Udine), Engineer Agency.

- Consorzio Agrario delle Province della Regione Friuli V. Giulia (Udine), Agriculture Consortium Friuli Region.
- Elettrostudio limited company – Mestre (Venezia).
- ACEGAS s.p.a. (Trieste).
- Regione Friuli Venezia Giulia - Direz. Regionale Ambiente (Trieste).
- GESTRADING s.r.l. (Venezia).
- IVEM s.r.l. (Venezia).
- Società Imprese Lignano s.p.a. (Udine).
- Agritur s.r.l. (Latisana – Udine)
- Cometa Energy s.r.l. (Bologna).
- Impresa VIDONI s.p.a. (Udine).
- Impresa RIZZANI DEECCHER s.p.a. (Udine).
- Monte Mare Grado s.r.l. (Varese)
- ASS n. 5 BASSA FRIULANA (Udine)
- Ge.Tur. Lignano (Udine).
- ANNSCA ENERGY Pty Ltd (Sidney – Australia)
- Comitato SAT (Bergantino – ROVIGO)

SPEAKER, TEACHING ACTIVITIES AND CONFERENCES

- Seminar teacher for geology students (4 hours/year): "Mathematical models in Hydrogeology: water stratum pollution and management", University of Trieste, Geology Department, Hydrogeology Course (professor Giorgetti F.): Trieste, 1992, 93, 94, 95, 96.
- Seminar teacher for postdegree engineering specialization (10 hours): "Water crises management and public health", Master de Inst. Sup. d' Ingénierie (I.S.I.G.E.) - Ecole DES Mines de Paris, Fontainebleau (F), 1997.
- Teacher for a Civil Protection course (12 hours): "Water crises management and water supplies in case of calamity." I.A.L. Friuli Venezia Giulia, Pordenone, 2002.
- University teacher for chemical-environmental engineering specialization (6 hours): "Water-bearing management, contaminations' protection and prevention." University of Padova, Engineering Department (professor Scaltriti G.), Padova, 2003.
- Seminar teacher for geology students (4 hours): "Subterranean waters: surveyings, parameters definition tests, free waters, dimensioning and water-bearing characterization." University of Trieste, Geology Department (professor Cucchi F.), Trieste, 2003.
- Contract professor in Università di Trieste – Geology Department in "Geological and environmental standards and laws". Trieste. 2007.
- Author and lecturer of the permanent course for employees of the Regional Offices and ARPA FVG called "AREAT - Water, Waste, Energy, Environment, Territory" organized with Linfa Ltd. and INSIEL s.p.a. Udine and Trieste, about 15 days/year of teaching from 2008-actually.
- Speaker and/or teacher at the following conferences about hydrogeological and environmental issues:
 1. Study for the three-year elaboration program on refuse. Relation title: "methodology definition for settling suitable sites due to controlled rubbish dump." Ecoistituto A. Peccei - Region Friuli Venezia Giulia, Udine, 1990.
 2. Environmental waste dump issue in Caneva. District of Tolmezzo.

- Tolmezzo (Ud), 1990.
3. Modèle mathématique de nappe du the Calcaire Carbonifère. Université "Paris YOU" Pierre ET Marie Curie. Paris (F), 1991.
 4. The environmental depuration for the Italcementi quarry in Vernasso, Ecoistituto A. Peccei, Cividale of the Friuli (Ud), 1992.
 5. Mathematical modelling for the stratums management. G.S.I.S.R.. Milan, 1993.
 6. Water stratums management: real situation in Lille region (F). Italian Hydrotechnics Association, Friuli Section, Udine, 1993.
 7. The water resource: a good to protect. Water resource management and pollution in Low Friuli. District of S. Giorgio di Nogaro, S. Giorgio di Nogaro, (Ud), 1993.
 8. Water resource management and pollution in Low Friuli. District of Porpetto, Porpetto (Ud), 1993.
 9. Clear, fresh, sweet waters. Water sinks Defense Committee. Relation title: "Hydrogeology in the low Friuli and artesian stratums protection." Cervignano (Ud), 1994.
 10. Advanced methods for groundwater pollution control. Civil Defence Friuli Venezia Giulia Region. Relation title: "mistakes' management in hydrogeological-mathematics modelling." C.I.S.M., Civil Defence Friuli Venezia Giulia, Udine, 1994.
 11. Management and quality control on the hydro-drinkable resources. Relation title: "The right management of subterranean resources: the important role of hydrogeological-mathematics modelling and its correct use." G.S.I.S.R., Milan. 1994.
 12. Hydrogeological data surveying and current knowledge about the water-bearings and sinks in Low Friulan Plain. 15 conferences near by different towns in the Low Friulan Plain (Ud). University of Udine, Territory and Geo-resources Department, 1994-95.
 13. The water-bearing stratums in the Friulan Plain: protection and resource use. Sanvitese Committee to defence the "heritage Water". S. Vito the Tagliamento (Pn), 1995.
 14. Waters due to home consumption. Relation title: "efficiency control on natural water-bearing systems". G.S.I.S.R.. Milan, 1995.
 15. Tap water or mineral water? Quality, law, prescriptive and economical aspects. G.S.I.S.R.. Relation title: "mountain water-bearing use: operative rules and optimal undue influence systems." Milan, 1995.
 16. Mineral waters - 1st International Congress - "Legislation, production and quality control". Relation title: "Hydrogeological-mathematics modelling: its role within a management strategy for the hydro-mineral resource and the rules for its right use." S.S. Health and Preventive Medicine, Univ. of Pisa. Florence, 1996.
 17. The natural water-bearing importance: first important step towards the application of L. Galli n° 36/94 Act. A.M.G.A. - District of Udine, 1995. G.S.I.S.R., Milan 1997.
 18. Pollution risk prevention and management on natural waters (stratums, rivers, lakes, seas). Relation title: "Water pollution prevention: costs, short, medium and long-term advantages. Risk management Proposal, G.S.I.S.R. Milan, 1997.
 19. Galli Act and Consolidation Act: new strategies for waters integrated management. Relation title: " Technical proposal act for optimal management of water crises and natural waters contamination." G.S.I.S.R., Milan, 1998.

20. Galli Act and its application in Friuli Venezia Giulia. Relation title: "Hydrography within the district of Udine area, available water resources and current territorial issues. Ord. Engineers of Udine and Ecology Councillorship of the Province. Udine, 4/02/1999.
21. Subterranean water resources. Relation title: "Contamination emergencies management: strategic activities and working on single emission source, operative outlines to use in case of water crisis." G.S.I.S.R., Milan, 22/02/1999.
22. Territory management: Hydrogeological risk and contaminated sites reclamation. Relation title: "The systematic approach in managing hydrogeological risk: structural protection, activities on the risk areas, single upheaval prevention." G.S.I.S.R., Milan, 26/02/1999.
23. Presentation: "stratum artificial refeeding plan in the middle Friuli area: analysis and hydrogeological parameters of the plan works." Italian Hydrotechnics Association, Friuli Venezia Giulia section, University of Udine, Engineering Dept. Territory and Geo-resources Dept., Udine, 17/11/1999.
24. Hydro-drinkable resources within the Forecast and Prevention Risks Plan for the Province of Pordenone. Civil Defence Councillorship District of Pordenone. Pordenone, 20/11/1999.
25. Waters protection and management: instructions following the new 152/99 Act, Water Consolidation Act. Relation title: "A new notion on stratum's vulnerability: active vulnerability. An operative instrument for protection and prompt actions. G.S.I.S.R., Milan, 25/02/2000.
26. Waters for home consumption: drinkable waters quality and law innovations. Relation title: "Artificial water-bearing feeding due to drinkable use: a right use methodology of a natural sink and strength of its capacities." G.S.I.S.R., Milan, 24/02/2000.
27. 12-lessons course for craftsmen and small companies: special and non-dangerous city rubbish collection and transportation. Lessons' title: Ecology elements and environmental safety. Artisan Union and Small Companies of Friuli Venezia Giulia (UAF) Udine, 5/07/2000.
28. Solid transport phenomenon and river-bed activities following the 18.05.1989 n. 183 Act and 03.08.1998 n. 267 Act. Relation title: "operating needs in mountain communes: site activities and local upheaval prevention strategy. District of Udine, Environmental Protection, Udine 25/10/2000.
29. Home consumption waters - Acts, management, treatments and use. Relation title: "water-bearing protection: the passage from passive control procedure to active site intervention." G.S.I.S.R., Milan, 15/02/2001.
30. Pollution waters protection - Law innovations and managerial aspects. Relation title: "stratum's pollution protection in sensible areas: an operative strategy on planning and advanced use of monitoring piezometers". G.S.I.S.R., Milan, 16/02/2001.
31. Polluted sites: administrative and legal aspects, duties, executions and solutions. Relation title: "pollution effects on water bodies: conceptual model, monitoring criteria and site strategies principles. Consortium Z.I. Ponte Rosso, S. Vito al Tagliamento, 22/02/2001.
32. Hydrogeological upheaval - risk management and territory planning. Relation title: "The water factor: structural territorial protection and activities on risk areas". G.S.I.S.R., Milan, 4/04/2001.
33. Home consumption waters: water resources management, water

- protection and quality. Relation title: "Saving water it starts with a right active water-bearing management: stratum waters samples optimisation and contaminations' protection." G.S.I.S.R., Milan, 1/03/2002.
34. Local Developing Discussion for Cividale and Natisone areas (Udine). Relation title: "profit and feasibility in the small hydroelectric power-plants. Natisone the GAL, Friuli Venezia Giulia Region. Torreano (Ud), 18/03/02.
 35. The European Code on Refuse (CER) and the waste dump after the new EU dispositions concerning refuse management. Relation title: "preliminary surveyings evolution and planning criteria about waste dumps from D.L. 22/97 act till today: instruments in order to improve environmental performances." G.S.I.S.R., Milan, 7/05/2002.
 36. Food treatment in case of natural calamities: emergency organisation, crisis, how to deal the drinkable water. I.A.L. FRIULI, 12-hours course. Pordenone, Ott.-Nov. 2002.
 37. Home consumption waters. Relation title: "Emergency and destabilization following an important water crisis: management criteria, applications and real situation "Atrazine case" in the Friuli Plain (1996-97). G.S.I.S.R., Milan, 31/01/2003.
 38. Applied modelling to water-bearing stratum: polluted sites reclamation and hydro-drinkable resources management. Relation title: "An integrated applicative case of hydrogeological-mathematical model and emergencies' management." G.S.I.S.R., Milan, 22/05/2003.
 39. The D.L.gs. 152/99, interpretation and practical faisibility. Relation title: "Groundwaters". G.S.I.S.R., Milan, 22/04/2004.
 40. Wind energy: where the wind blow from in Italy. Relation title: High environmental and social impact projects: building and reaching public consensus, technical approach and main problems. Assoc. Produttori Energia da Fonti Rinnovabili (APER), Milan, 22/04/2004.
 41. Landfills. Relation title: Groundwaters pollution protection – sampling strategy, monitoring wells, risk analysis, emergency actions methods. G.S.I.S.R., Milano, 22/02/2005.
 42. Contaminats transport. Relation title: Recharge and protection of the aquifer of Udine: parameters, flow and transport mathematical model, project and management. ESI Italia, Padova, 20/04/2005.
 43. Risk analysis and environment. Relation title: Case study of landfill urban waste – Risk Analysis by analitical calculation and simulation of a manganese, ammonia, nitrates, chlorinates pollution. G.S.I.S.R., Milano, 4/07/2005.
 44. Sampling of effluent waters in superficial and underground bodies. Relation title: The sampling works of groundwaters: problems and methods. G.S.I.S.R., Milano, 5/07/2005.
 45. The thermoevaluation of wastes. Relation title: Very high social-environmental impact works and projects: building the positive agreement with population and local public adiministration officies. G.S.I.S.R., Milano, 14/02/2006.
 46. Risk analysis. Relation title: The hydrogeological variable parameters and the mathematical-analytical approach. Ordine dei Geologi del Friuli V. Giulia, Udine, 2/02/2007.
 47. D.Lgs 152/2006 news in rehabilitation of polluted sites. Relation title: Risk Analysis, the gradual approach and the positive agreement with population and local public adiministration officies. G.S.I.S.R., Milano, 26/02/2007.

48. Polluted sites rehabilitation. Relation title: Management of positive agreement and costs optimisation according to the 2° Correttivo of the D.lgs. 152/2006. GEOECO/LINFA/INSIEL. Udine, 18/02/2008.
49. Polluted sites rehabilitation. Relation title: Risk Analysis according to the 2° Correttivo of the D.lgs. 152/2006. GEOECO/LINFA/INSIEL. Trieste, Udine, Nov.2008 – Gen.2009.
50. Hard techniques in managing the "difficult polluted" sites. Relation title: Maximun result and minimum effort for the chemical-hydrogeological parameters detection and for difficult emergency governance. G.S.I.S.R., Milano, 2/07/2009.
51. "Risk Assessment: environmental pollution risk evaluation and human health effects". Rapport title: "The management and prevention of a heavy environmental crisis in the "Zoppola-Pordenone" Industrial Site: risk control in the major phase, methods and decisions of an success work.". G.S.I.S.R., Milano, 2/05/2010.
52. "Drinking water management: actual situation and new perspectives". Rapport title: "To maximize the fluw ratio purchase amount and to protect groundwater pollution used for dinking water supply: work schemes on site, project guidelines, cost-benefit calculations, pay-back time". G.S.I.S.R., Milano, 3/05/2010.
53. "Regulations and techniques for water, soil and air sampling". Rapport title: "sampling of ground and surface waters". G.S.I.S.R., Milano, 13/10/2010.
54. "Risk Assessment – Evaluation methods for environment and for human health". Rapport title: "Risk evaluation for complex environmental projects approving: general methodology and case study "DEEP GEOTHERMAL SYSTEM OF LIGNANO SABBIAADORO (Udine – Italy)". GSISR, Milano, 22/02/11.
55. "Geothermal Energy: actual projects and perspectives". Rapport title: "1) Hot waters in the aquifers: hydrogeological feasibility, water recharge, availability of geothermal energy. 2) TERME SIL deep geothermal project in Lignano Sabbiadoro (Ud): a calculate success". AESSE CONGRESS. Milano, 6 Ottobre 2011.
56. "The Energy topics – GEOTHERMAL ENERGY". Rapport title: "The technical-economical feasibility of geothermo-thermical and geothermo-electrical plants: parameters and risks". Fondazione Internazionale Trieste. Trieste, 24 Ottobre 2012.
57. SEP ENERGY Padova 19-22/03/13. GEOECO organized the short course "THE GEOTHERMAL PLANTS FOR THE MEDIUM-BIG INDUSTRY: INNOVATIONS AND APPLICATIONS WITH WATER WELL EXTRACTION TO DECREASE ENERGY COSTS". Rapport Title: "The deep geothermal waters: a renewable resource, a "zero impact" energy, a guarantee of "calculated and programmed water extraction", Padova, 22 Marzo 13.

PUBLICATIONS AND ARTICLES

- Droli G.P., Carulli G.B., Giorgetti.F.: Geophysical research applied to the hydrogeological characterization of the Torre Valley. Rassegna Tecnica Friuli Venezia Giulia, 6/88.
- Droli G.P., Combes P.: Drinking water supply in the Lille Region (France): mathematical model for the management of the carstic acquifer of the Calcare

- Carbonifer. Proceedings of the Congress "Drinking Waters", G.S.I.S.R. Milano, 1993.
- Droli G.P., Correct management of underground drinking water resources: the decisive role of hydrogeological-mathematical models and the rules for an appropriate use. Congress papers "Drinking Waters", G.S.I.S.R. Milano, 1994 and Mineral waters and soft drinks. 1st international congress - "Legislation, quality control and production". S.S. Igiene e medicina preventiva Università di Pisa. Firenze, 1996.
 - Droli G.P., Control of the efficiency of natural aquifer systems. Congress papers "Water for human consumption", G.S.I.S.R. Milano, 1995.
 - Droli G.P., Hydrological utilization of mountain aquifers: some operative principles and optimized captation systems. Congress papers "Tap water or Mineral water?", G.S.I.S.R., Milano, 1995.
 - Hechich R., Droli G.P.: The ecological house. Selecting the site: geobiology and hydrogeological problems. Zeta Sanità - rivista internazionale di cultura medico sanitaria, Anno II n. 3 - 1996.
 - Camoli L., De Cecco M., Droli G.P., Truant P.: Territorial organisation of the Integrated Water Service (S.I.I.) in Province of Udine (L. 36/94 Art. 8). Ecology and Environment Departement of the Province of Udine (Papers), Udine, 1996.
 - De Cecco M., Droli G.P.: Integratated Water Resource: what future for the Province of Udine?. Julia Augusta, anno IV - n°1. Udine, 1996.
 - Droli G.P.: The prevention of the water pollution: the immediate costs, advantages and on medium-along term. Proposal of management of the risk. Congress papers "Prevention and management of the pollution risk of natural waters" G.S.I.S.R., Milan, 1997.
 - Droli G.P.: Proposal of technical norm for the optimal management of the water crises and the contamination of natural waters. Congress papers "Read to Galliums and Unified Body of Laws: new strategies for the integrated management of waters ". Rapp. G.S.I.S.R. N. 60-10/98, Milan 1998.
 - Droli G.P.: The systematic approach in the management of the Hydrogeological risk: structural protection of the territory, participations on the areas to risk, prevention of the single upheaval. Congress papers "Management of the territory: Hydrogeological risk and reclamation of contaminated sites". G.S.I.S.R., Milan, 1999.
 - Droli G.P.: A new concept of vulnerability of the stratum: the active Vulnerability. One operating instrument for the protection and the ready participation. Congress papers: The protection and the management of waters. G.S.I.S.R., Milan, 2000.
 - Droli G.P.: Used artificial alimentation of a water-bearing to the drinkable ends: one methodology for the use optimized of a natural river basin and increase of the derived capacities. Congress papers: Water destined to the human consumption: quality of drinkable waters and legislative innovations. G.S.I.S.R., Milan, 2000.
 - Droli G.P.: The protection of the water-bearing: the passage from passive procedure of control to active procedure of participation in sites. Congress papers: Waters destined to the human consumption - law, management, treatments and use. G.S.I.S.R., Milan, 2001.
 - Droli G.P.: The water saving begins from one corrected management of water-bearing: participations for optimization of money of stratum waters and for the protection from the contaminations. Congress papers: waters to the human consumption: management and protection of the water resources and quality of waters. G.S.I.S.R., Milan, 2002.

- Droli G.P.: Evolution of preliminary surveyings and the criteria of planning of the rubbish dumps from D.L.gs 22/97 today: the instruments in order to improve the acclimativable performances. Congress papers: European Code on Refusals (CER) and the waste landfill after the new communitarian dispositions in matter of management of the refusals. G.S.I.S.R., Milan, 2002.
- Droli G. P.: Urgency and destabilization derived from one important water crisis: criteria of management, applications at the present time due to Atrazine" of the Friulana Plain (1996-97). Congress papers: Waters to the human consumption: managerial and sanitary aspects. G.S.I.S.R., Milan, 2003.
- Droli G.P.: Groundwaters. Congress papers: The D.L.gs. 152/99, interpretation and practical faisibility. G.S.I.S.R., Milan, 2004.
- Droli G.P.: Wind energy: where the wind blow from in Italy. High environmental and social impact projects: building and reaching public consensus, technical approach and main problems. Assoc. Produttori Energia da Fonti Rinnovabili (APER), Milano, 2004.
- Droli G.P.: Landfills. Groundwaters pollution protection – sampling strategy, monitoring wells, risk analysis, emergency actions methods. G.S.I.S.R., Milano, 22/02/2005.
- Droli G.P.: Risk analysis and environment. Case study of landfill urban waste – Risk Analysis by analitical calculation and simulation of a manganese, ammonia, nitrates, chlorinates pollution. G.S.I.S.R., Milano, 4/07/2005.
- Droli G.P.: Sampling of effluent waters in superficial and underground bodies. The sampling works of groundwaters: problems and methods. G.S.I.S.R., Milano, 5/07/2005.
- Droli G.P.: The thermoevaluation of wastes. Very high social-environmental impact works and projects: building the positive agreement with population and local public adiministration officies. G.S.I.S.R., Milano, 14/02/2006.
- Droli G.P.: D.Lgs 152/2006 news in rehabilitation of polluted sites. Risk Analysis, the gradual approach and the positive agreement with population and local public adiministration officies. G.S.I.S.R., Milano, 26/02/2007.
- Droli G.P.: Hard techniques in managing the "difficult polluted" sites. Maximun result and minimum effort for the chemical-hydrogeological parameters detection and for difficult emergency governance. G.S.I.S.R., Milano, 2/07/2009.
- Droli G.P.: Managing and preventing a hard hydro-environmental emergency in the Industrial Site of Zoppola-Pordfenone: risk control in the highest danger phase, methods and decisions for a success work. G.S.I.S.R., Milano, 2/05/2010.
- Droli G.P.: Maximizing water flow to sell and the pollution protection in the drinking-water acquifer: work program, project methods, cost-benefit evaluations, pay-back period. G.S.I.S.R., Milano, 3/05/2010.
- Droli G.P.: Sampling of ground and surface waters. G.S.I.S.R., Milano, 13/10/2010.
- Droli G.P.: "The deep geothermal system of Lignano Sabbiadoro (Udine – Italy)". GSISR, Milano, 22/02/11.
- Droli G.P.: The hot waters in the aquifers: hydrogeological feasibility, water recharge, availability of geothermal energy. The TERME SIL deep geothermal project in Lignano Sabbiadoro (Ud): a "calculate" success. AESSE CONGRESS. Milano, 6 Ottobre 2011.
- Droli G.P.: The mathematical model of a complex multilayer acquifer: the Bassa-Alta Friuli plane system (Udine – Italy). Rassegna Tecnica del Friuli V. Giulia. Gennaio 2012.

- Droli G.P.: "The technical-economical feasibility of geothermo-thermical and geothermo-electrical plants: parameters and risks". F.I.T. Fondazione Internazionale Trieste. Trieste, 24 Ottobre 2012.
- Droli G.P.: "The deep geothermal waters: a renewable resource, a "zero impact" energy, a guarantee of "calculated and programmed water extraction", Padova S.E.P. Conference Acts , 22 Marzo 13.

Udine (Italy), 2/03/2015

G. P. DROLI

