

Andrea Gigliuto, Ph.D

Partner – Account Manager

Andrea is a Partner at ERM, base in the Italian office. He is an Hydrogeologist (PhD) with experience in Environmental Consulting and Water Sustainability.

He follows major international clients in power sector as Account Manager and leads several projects in water management, ESG and sustainability strategies, environmental liabilities management and remediation programs.

He is an expert in Water Stewardship and Water Sustainability, working at all levels from corporate commitments to the implementation of individual facilities.

EXPERIENCE: 20 years' experience in Environmental Consulting, Contaminated Sites Management, Water & Natural Resources Management, ESG and Sustainability Strategies, Groundwater and Surface Water Modelling, International Project Management, Account Management and Teams Management

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EDUCATION

- 2013 PhD in Hydrogeology - University of Siena "Evaluating the feasibility of hydraulic and physical barriers at contaminated sites by means of multicriteria analysis".
- 2004 Italian Geologist Council qualification.
- 2004 MS Geological Sciences (110/110) - University of Milan. Major in geophysical and structural geology – applied geology.
- Scientific degree (54/60), Liceo Scientifico "G.B. Grassi", Saronno, 1997

PROFESSIONAL AFFILIATIONS AND REGISTRATIONS

- Alliance for Water Stewardship Credentialed Specialist
- IAH member
- Reviewer for the Italian Journal of Groundwater

- Advisory Board Member of EU founded FREEWAT project (FREE and open source tools for WATER resources management), within Horizon 2020 program

LANGUAGES

- Italian, native speaker
- English, fluent

FIELDS OF COMPETENCE

- Water sustainability, water stewardship, water resources management, water risk;
- ESG and sustainability strategies;
- Groundwater modelling;
- Geological and hydrogeological studies;
- Surface water modelling;
- Remediation.

KEY INDUSTRY SECTORS

- Power,
- Food and beverage,
- Pharmaceutical,
- Chemical,
- Real Estate,
- Manufacturing,
- Oil & Gas.

HONOURS AND AWARDS

David Giuntini award for the best PhD thesis "Evaluating the feasibility of hydraulic and physical barriers at contaminated sites by means of multicriteria analysis". 2014.

KEY PROJECTS

ESG strategy and sustainability reporting

Confidential Client (manufacturing)

ESG strategy definition, double materiality, action plan and sustainability reporting

ESG strategy and sustainability reporting

Confidential Client in steel market

ESG strategy definition, double materiality, action plan and sustainability reporting

Water stewardship study

Confidential Client

Expert water advisory and consultancy for a global water stewardship programme. Lead for Spanish and Turkish sites. 2023

Water stewardship study

Procter & Gamble

Expert water advisory and consultancy for a global water stewardship programme. Lead for Italian site. 2023

Water stewardship study

Cliente Confidenziale - pharmaceutical

Expert water advisory and consultancy for a global water stewardship programme. Lead for Slovakian and English sites. 2023

Circular remediation tool development

Confidential Client

Circular remediation process development and elaboration of a powerBI tool. 2021-2022. Project Manager.

Water stewardship study

Confidential Client

Expert water advisor and consultant for a global water stewardship programme. Lead for Italian and Spanish sites. 2021

Global training program delivery

Confidential client

Delivery of a global training on different technical pillars. 2021. Project Manager.

Auditing program on geothermal power generation facilities

Confidential client

Auditing program delivery in 5 Italian geothermal power facilities. Italy. 2020-2021. Project Manager.

Water stewardship global programme

Confidential Client

Expert water advisor and consultant for a global water stewardship programme. Lead for Saudi Arabia and Turkey sites. 2020.

Ph1-Ph2 auditing program

Confidential client

Ph1-Ph2 audit for pharmaceutical assets acquisition.

Bergamo. 2020-2021. Project Manager.

Auditing program on power generation facilities

Confidential client

Auditing program delivery in 40 Italian power facilities. Italy. 2019-2020. Project Manager.

Thermal treatment remediation execution

Confidential

Full scale in-situ thermal treatment (ISTT) for chlorinated solvents removal. Torreglia (PD). 2019-2021. Project Manager.

Groundwater remediation plan

Confidential Client

Conceptual model definition, risk assessment and remediation design in a pharmaceutical facility Padova (PD). 2019-2021. Project Manager.

Thermal treatment pilot test

Confidential Client

In-situ thermal treatment "Steam Enhanced Recovery" for hydrocarbons LNAPL removal. Pilot test. Piombino (PI). 2017-2018. Project Manager.

Flooding study Ghana

Confidential Client

Water study and remote sensing to evaluate possible impacts on planned infrastructures. Ghana, 2016. Task Manager

Contaminated site management and emergency measures

Confidential Client

Pure oxygen groundwater microdiffusion system management as a remedial actions (MISO) in a pharmaceutical plant. Baranzate (MI). 2015-2021. Project Manager.

Contaminated site management and emergency measures

Confidential Client

Pump&Treat remedial actions (MISO) management in a manufacturing plan. Torreglia (PD). 2015-2021. Project Manager.

Groundwater numerical model to water resources management

ENEL

Implementation of a groundwater flow numerical model (MODFLOW) to support water management in an E&P project. Algeria, 2015-2016. Project Manager.

Flooding study Ghana

Confidential Client

Water study and remote sensing to evaluate possible impacts on planned infrastructures. Ghana, 2015. Task Manager

Dam demolition impact evaluation

Compagnia Valdostana Acque

Evaluation studies and testing for the estimation of the impact of demolition activities of Beauregard Dam on different environmental targets. Water, noise and air monitoring activities to control in-operam impacts. Val d'Aosta, 2012-2016. Technical Coordinator and Project Director.

Key Projects Prior to Joining ERM

Sediment and surface water study

Confidential Client (for AECOM)

Sediment and surface water (rivers and lake) quality evaluation in an Oil & Gas exploration and production area. Basilicata. 2015. Technical Coordinator and Project Manager.

Hydrogeological study for water supply

Confidential Client (for AECOM)

Hydrogeological and hydrochemical study to support water supply management by pumping wells for bottle water market. Bahrain, 2014-2015. Technical Coordinator and Project Manager.

Contaminated site management and emergency measures

Confidential Client (for AECOM)

Full scale design and construction of a pure oxygen groundwater microdiffusion system as a remedial actions (MISO) in a pharmaceutical plant. Baranzate (MI). 2014. Project Manager.

Hydrogeological study and field activities

ENI R&M (for AECOM)

Tracers tests execution to evaluate aquifers hydraulic connection. Livorno (National Priority List – SIN), 2014. Technical Coordinator.

Environmental baseline in a lake (Uganda)

Total (for AECOM)

Environmental baseline for Lake Albert. Surface water sampling. Field activities coordination and execution. Uganda, 2014. Technical Coordinator.

River water resources management and supply (Iraq)

Confidential Client (for AECOM)

Planning and execution of long term surface water and sediments monitoring activities in a river. Oil&Gas industry water resources management. Technical staff training and field activities supervision. IRAQ, Basra, 2013-2015. Technical Coordinator.

Geological and hydrogeological studies

Confidential Client (for AECOM)

Geological and hydrogeological studies to support future oil&gas exploration actions. Geological mapping, hydrochemical characterization and springs investigations. Basilicata. 2013-2015. Technical Coordinator and Project Manager.

Geological and hydrogeological study

Confidential Client (for AECOM)

Geological and hydrogeological study and Hydrogeochemical evaluation of groundwater and surface water in the deep injection well area to support future oil&gas exploration actions. Geological mapping, hydrochemical characterization and springs investigations. Basilicata. 2013-2014. Technical Coordinator.

Vulnerability study (Kazhakistan)

Confidential Client (for AECOM)

Vulnerability map and procedure matrix to support the hydrocarbons spills impact evaluation on environmental target for an oil and gas condensate field. Kazakhstan, 2013.

Ecotoxicological study to evaluate industrial water discharge impact in the sea

Confidential Client (for AECOM)

Ecotoxicological study to assess the short and long term toxicity for marine organisms by the additives used by a Floating Production Storage and Offloading (FPSO) for the extraction of oil and gas. Puglia, 2012-2013. Technical Coordinator.

Hydrogeological study and field activities

Syndial (for AECOM)

Monitoring wells and pumping wells drilling in a calcareous aquifer, aimed at carrying out tracers tests, within a project of optimization of a site emergency remedial action. Manfredonia (National Priority List – SIN). 2012-2014. Technical Coordinator and Project Director.

Transient groundwater flow numerical model

ENI R&M (for AECOM)

Implementation of a transient groundwater flow numerical model (FEFLOW) in a coastal multilayered aquifer affected by tidal fluctuations and superficial water regulation. Provisional scenario to design a hydraulic barrier along a front of 4000 m. Livorno (National Priority List – SIN), 2010-2014. Technical Coordinator.

Database and GIS design

ENI R&M (for AECOM)

Design of a database (Microsoft® Access), spatial analysis, data management, and mapping (GIS, ESRI ArcGIS) for remediation strategies plans and risk assessment in an industrial site. Livorno (National Priority List – SIN), 2011-2012.

Hydraulic barrier management

Confidential Client (for AECOM)

Hydraulic barrier design and construction in an active chempharma site to contain contaminate groundwater. Varese Province, 2011. Project Manager.

Database and GIS design

Polimeri Europa - Versalis (for AECOM)

Design of a database (Microsoft® Access), spatial analysis, data management, and mapping (GIS, ESRI ArcGIS) for remediation strategies plans and risk assessment in an industrial site. Mantova (National Priority List – SIN), 2011

Groundwater flow numerical model

Polimeri Europa - Versalis (for AECOM)

Implementation of a groundwater flow numerical model (FEFLOW) in a coastal aquifer to evaluate the efficiency of a hydraulic barrier of 63 wells. Calibration of the model by Pest. Sarroch (National Priority List – SIN), Cagliari, 2011. Technical Coordinator.

Transient Groundwater flow and transport numerical model

Italgas (for AECOM)

Transient Groundwater flow and transport numerical model (MODFLOW and MT3D) evaluating the relation between groundwater and surficial water in a formerly MGP site. Rome, 2011. Technical Coordinator.

Density dependent flow and transport numerical model

ENI E&P (for AECOM)

Implementation of a density dependent flow and transport numerical model (FEFLOW) to evaluate seawater intrusion and to design a slurry wall and hydraulic barrier to contain groundwater contamination in a gas plant site. Calabria (National Priority List – SIN), 2008.

Thermal impact modelling

Edison (for AECOM)

Implementation of numerical models to evaluate the thermal effects caused by the cooling water discharge into superficial water bodies (MIKE 3 - DHI). Italy, 2008. Technical Coordinator.

Contaminated site management

Alenia Aermacchi (for AECOM)

Remediation design and execution in a hydrocarbon contaminated aviation site; in operam and post operam monitoring activities. Venegono (VA). 2007-2014. Project Director.

Hydraulic barrier management

Confidential Client (for AECOM)

Hydraulic barrier management in a remediation site. Efficiency evaluation in a pumping and injection system. Venice Province. 2006-2013. Technical Coordinator.

PUBLICATIONS

- Mori, P., Baldock, J., Gigliuto, A., Cappelletti Zaffaroni, M., Marino, C. (2023). Remediation of chlorinated solvents with Electrical Resistance Heating (ERH) at an active industrial site in Italy. *Acque Sotterranee - Italian Journal of Groundwater*, 12(3), 41- 50.
<https://doi.org/10.7343/as-2023-674>.
- Remonti, M., Stefania, G.A., Gigliuto, A. Numerical groundwater models: the quantitative support to water stewardship and riskmanagement of the contaminated sites 2023. AquaConSoil 2023, Prague.
- Remonti, M.; Aquino, C.; Gigliuto, A. "Groundwater model of a large desert area in Algeria for groundwater resources impact assessment". 15th International Conference on Sustainable Use and Management of Soil, Sediment and Water Resources. 20–24 May 2019, Antwerp, Belgium. 2019.
- A.Gigliuto, P. Mori, M. Remonti, G.Bissolotti, et al. (2017). Barriera di ossigeno puro con sistema ground bio2 ® per la bonifica delle acque di falda in un sito farmaceutico del nord italia. *Ingegneria dell'Ambiente*, Vol. 4, n.2/2017.
- A. Gigliuto, P. Mori, M. Remonti, G. Bissolotti, E. Pasinetti, M. Peroni. Pure oxygen barrier with ground bio2 ® system for groundwater remediation at a pharmaceutical site in the north of Italy. SIDISA 2016.
- A.Gigliuto, E. Stopelli, AM. Sanangelantoni, A. Malcevschi (2016). Coupling Flow Analysis With Geochemical and Microbiological Analyses to Assess the Bioremediation Feasibility of a Contaminated Aquifer. REMEDIATION Summer 2016.
- A. D'Anna, A.Gigliuto, R. Vaccari, G.Bissolotti, et al. (2015). Bioremediation con microiniezione di ossigeno puro (ground bio2 ®) in falda: un caso di studio. *Ingegneria dell'Ambiente*, Vol. 2, n.1/2015.
- A. Gigliuto, R. Rossetto, Evaluating the feasibility of hydraulic and physical barriers at contaminated sites by means of multicriteria analysis. Paper on "Italian Journal of Groundwater", n° 2/136, Vol. 3, June 2014.
- A. D'Anna, A.Gigliuto, G.Bissolotti, et al. (2014). Rimozione della contaminazione da idrocarburi in falda con sistema di microiniezione di ossigeno puro GROUND BIO2®. SiCon 2014, February 6-8, 2014, Brescia.
- A. D'Anna, R. Brutti, Dott. A. Gigliuto, Dott.ssa R. Vaccari, Ing. G. Bissolotti, Dott.ssa E.Pasinetti, Ing. M. Peroni (2014) Micro-bubbles oxygen injection in groundwater contaminated by organic biodegradable compounds and metals. INEF 2014, August 2014 Cambridge UK.
- A. Gigliuto, C. Righetti, R. Vaccari, L. Moretti, "Field and modeling studies of aquifer heterogeneity to improve remediation planning in a multilayered aquifer system". Paper on ""Italian Journal of Groundwater", n°2/129, Vol.1 September 2012.
- A. Gigliuto, R. Vaccari, C. Righetti, L. Moretti, Field and modeling studies of aquifer heterogeneity to improve remediation planning in a multilayered aquifer system. Proceedings of the Battelle 2012 "Eighth International Conference on Remediation of Chlorinated and Recalcitrant Compounds", Monterey, California (USA), 21-24 Maggio 2012.
- A. Gigliuto, R. Vaccari, C. Righetti, S. Verdelocco, L. Moretti & M. Cremonesi, Interactions between groundwater and surface water of a contaminated site: field studies and numerical modelling results. Conceptual and Modelling Studies of Integrated Groundwater,

Surface Water, and Ecological Systems (Proceedings of Symposium H01 held during IUGG2011 in Melbourne, Australia, July 2011) (IAHS Publ. 345, 2011).

- A. Gigliuto, C. Righetti, A. Cuzzola, Finite elements numerical modelling of tidal effects on groundwater flow in a complex multilayered aquifer. International Groundwater Symposium - International Association for Hydro-Environment Engineering and Research (IAHR), Valencia (Spain), 22-24 Settembre 2010. Paper in Conference Proceedings.
- A. Gigliuto, C. Righetti, A. Chini & R. Rossetto, Remediation design and water quality assessment at a coastline E&P gas plant site by means of finite element groundwater flow numerical modeling. In "Calibration and reliability in Groundwater Modeling "Managing Groundwater and Environment"", China University of Geoscience Press, pag 341-344. Proceedings of Modelcare 2009.
- A. Gigliuto, A. Cuzzola, C. Righetti, P. Belfanti, Groundwater flow Finite element model in a coastal aquifer to evaluate remediation strategies in "2nd International FEFLOW® User Conference", Potsdam (Berlin), Germany, 14-16 Settembre 2009. Paper in Conference Proceedings.
- A. Gigliuto, C. Righetti, A. Chini, R. Rossetto, Saltwater intrusion in a coastal contaminated aquifer: density-dependent finite element model of flow and transport to assess remediation strategies and saltwater intrusion at a coastal gas plant site in "2nd International FEFLOW® User Conference", Potsdam (Berlin), Germany, 14-16 Settembre 2009. Paper in Conference Proceedings.
- A. Gigliuto, D. Tangari, A. Tognoni, M. Cremonesi e R. Ruggeri, Caratterizzazione, modellazione numerica e bonifica di un sito contaminato da solventi organici in "L'Ambiente", Ranieri Editore.
- A. Gigliuto, C. Righetti, R. Ruggeri, D. Susanni, A. Tognoni, R. Vaccari, Remediation design optimization case study. Numerical modelling for remediation strategies in a chlorinated solvents impacted site in "MODFLOW and More conference: Ground Water and Public Policy", International Ground Water Modeling Center - Colorado School of Mines, May 19-21, 2008. Paper in Conference Proceedings.
- A. Gigliuto, D. Tangari, A. Tognoni e M. Cremonesi, Caso di studio di un acquifero freatico a doppia porosità. Caratterizzazione, modellazione numerica e bonifica di un sito contaminato da solventi organici. Atti del Sesto Forum Italiano di Scienze della Terra - Geoitalia 2007, Rimini, 12-14 Settembre 2007. "Giornale di Geologia Applicata 2008", 9 (2) 207-214 – doi: 10.1474/GGA.2008-09.2-10.0240.
- A. Gigliuto, D. Tangari, A. Tognoni and M. Cremonesi, Dual porosity aquifer case study. Characterization, numerical modeling and remediation in a chlorinated solvents impacted site in "The First International Conference on Contaminated Fractured Rock: Characterization and Remediation (CFR-1)", Niagara Falls, New York, USA, September 24 to 27, 2007. Paper in Conference Proceedings.
- R. Ruggeri, R. Savini, A. Gigliuto, T. Minnei, Indoor Radon Gas Management For Multi-Site Companies: How To Screen For Potentially High-Risk Sites By Studying The Local Geology in American Institute of Physics (AIP) Conference Proceedings Series. August 7, 2008. Volume 1034, pp 165-168.
- R. Ruggeri, R. Savini, A. Gigliuto, La gestione della problematica gas radon negli ambienti di lavoro di aziende multisito: definizione di piani di monitoraggio mediante identificazione

su base geologica dei siti potenzialmente a maggiore rischio, in "Acqua e Aria", BE-MA Editrice, n. 3, 2007.

- M.L. Damiani, G. Groppelli, G. Norini, E. Bertino, A. Gigliuto, A. Cucita, A lava flow simulation model for the development of volcanic hazard maps for Mount Etna (Italy), in Computer & Geosciences. 32 (2006) 512-526.
- M. L. Damiani, E. Bertino, A. Gigliuto, G. Groppelli , G. Norini, A. Nucita. A GIS approach to the lava flow simulation on the Mount Etna (Italy) for volcanic hazard assessment. Proceedings of the GIS Research UK – 12th Annual Conference. University of East Anglia (Norwich), 28th – 30th April 2004