

GROUNDWATER QUALITY 2025

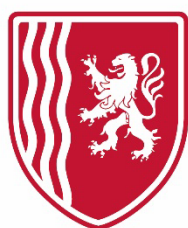
10 to 13th of june of 2025

Bordeaux, FRANCE

6th edition



-- PROGRAM --



RÉGION
**Nouvelle-
Aquitaine**



Geosyntec
consultants
engineers | scientists | innovators

EVONIK
Leading Beyond Chemistry

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INSTRUMENTATION

Albillia
FLUOROMETERS



Géosciences pour une Terre durable
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TUESDAY MORNING

>> IN THE "GRAND AMPHITHEATER"

9h30-11h00 INTRODUCTORY SESSION

- Conference Introduction (Aquitaine Region, Bordeaux Technology University)
- Groundwater quality: a major research question for Bordeaux Metropolitan area
- The French Geological Survey position in front of groundwater
- ADEME: French environmental agency research funding soil contamination studies
- Recent history of groundwater quality questioning and GQ evolution (*Peter Grathwohl, Germany*)

LONG TERM APPROACH OF GROUNDWATER QUALITY

11h00-11h25 Keynote : Elumalai Vetrimurugan (U. Zululand). Emerging Trends in Groundwater Pollution and associated health risks in South Africa

Chair: Serge Brouyère & Georg Houben

11h25-12h25

31. Denitrification in German aquifers – a large-scale study

Andreas Musolff, Stephan Hannappel

52. Advancing global groundwater quality understanding through data sharing and collaboration

Feifei Cao, Claudia Ruz Vargas

153. Long-term impact of pesticide residues in agricultural subsurface soils on surface and groundwater quality.

Anna K. Nielsen, Anne Esbjørn, Iben K. Nilsson, Charlotte S. Vesterlund, Tove Svendsen, Lars F. Pedersen, Katerina Tsitonaki, Poul L. Bjerg

158. (Invited talk) Role of NSZD in closing corrective actions at petroleum NAPL-impacted sites

James Rayner

12h30-13h30: LUNCH BREAK

TUESDAY AFTERNOON

>> IN THE "GRAND AMPHITHEATER"

SURFACE-GROUNDWATER INTERACTIONS IN URBAN AND RURAL CONTEXT

13h35-14h00 Keynote: Yan Zheng (China). Biodegradation of Sulfonamide Antibiotics: A Window to the World of Contaminants of Emerging Concern during Surface Water and Groundwater Interaction

Chair: Yan Zheng and Mario Schirmer

14h00-15h00

26. Source Water Protection in Quebec City: Integrated surface and subsurface hydrological modelling to assess surface water intake vulnerability

Benjamin Frot, Laura Gatel, Yohann Tremblay, Hugo Delottier, René Therrien

109. Quantification of the influence of a Rhine flood on the microbiology of groundwater

Isabell Erdmann, Verena Brauer, Rainer Meckenstock

115. Challenges in urban hydrogeology – groundwater quality and resources

Mario Schirmer

151. Modelling of groundwater nutrient transport from land to sea at the semi-arid Caribbean Island of Curaçao

Mike Wit, Anne Versleijen, Titus Kruijsen, Victor Bense, Boris Van Breukelen

15h00-15h30: BREAK

NEW TOOLS TO INFER CONTAMINATION

15h35-16h00 Keynote: Richard Martel (Canada). Innovative Treatments of NAPL source zones

Chair: Mario Schirmer

16h00-16h30

75. Assessment of Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Mass Flux and Distributions in a Lake System Using Sediment Bed Passive Flux Meters and Ceramic Dosimeters

Alexander Haluska, Andreas Meder, Bernd Susset, Klaus Röhler, Renate Seelig, Amirhossein Ershadi, Jay Cho, Mike Annable, Peter Grathwohl

100. In Situ Monitoring of Lnapl-Contaminated Aquifer Treatment Using Ultraviolet Light-Induced Fluorescence Imaging

Radjiv Bewi, Antonio Rodriguez De Castro, Olivier Atteia

16h45-19h00: POSTERS AND COCKTAIL

WEDNESDAY MORNING

>> IN THE "AMPHITHEATER D"

QUALITY AT THE CATCHMENT SCALE

9h00-9h25 Keynote: Christian Moeck (Switzerland). Balancing Water Security and Contamination Risks: Adaptive Management using Managed Aquifer Recharge (MAR)

Chair: Georg Houben and Vetrimurugan Elumalai

9h25-10h25

64. Seasonal Vulnerability Assessment of the Island Aquifer of Bozcaada (Türkiye) to Seawater Intrusion Using the GALDIT Approach

Khalilullah Zulal, Raquel Maríjuan Cuevas, Alper Baba, Orhan Gündüz

28. Coupling passive samplers and high-resolution mass spectrometry: an innovative approach to clarify surface water-groundwater interactions at a wellfield scale

Laurine Grimaud, Valentin Dupraz, Guillaume Couturier, Patrick Candido, Elise Richard, Jessy Jaunat

101. Diffuse groundwater pollution from urban sources and agriculture

Mariem Laouissi, Marco Petitta, Mohamed Fethi Ben Hamouda

108. An Isotope-Based Early-Warning Model for Monitoring Groundwater–Leachate Contamination Phenomena

Giuseppe Sappa, Flavia Ferranti

10h30-11h00: BREAK

NEW APPROACHES OF HETEROGENEOUS SYSTEMS

Chair: Massimo Rolle and Olivier Atteia

11h00-12h15

69. Evaluating the Impact of Enhanced Mixing on Groundwater Quality: Redox Reactions, Fate of CECs and ARGs, and Ecotoxicological Implications

Paula Rodriguez-Escales, Sonia Jou, Lurdes Martinez-Landa, Daniel Fernandez-Garcia, Michela Trabuchi, Gerard Quintana, Silvia Diaz-Cruz, Laia Navarro, Claudia Sanz, Benjami Piña, Jesus Carrera

78. Hydrochemical impact from underground constructions and groundwater abstraction -the current and future influence from changes to the climate and the bulk precipitation deposition

Fredrik Mossmark, Viktor Bergion, Anders Blom, Lars O. Ericsson

122. Fate and Transport of Microplastic Fibers in Inhomogeneous Groundwater Systems

Navid Tavakoulnia, Mojdeh Rasoulzadeh

156. Hydrogeological Characterisation And Modeling Of An Lnapl Impacted Aquifer To Define The Remediation Scenario

Christophe Barnier, Florian Dalstein

161. Groundwater flow and HCH transport model through the sands and gravels of the Gállego River alluvial aquifer (Huesca, Spain)

Brais Sobral, Javier Samper, Luis Montenegro, Alba Mon, Joaquin Guadaño, Jorge Gomez, Javier San Roman, Felipe Delgado, Jesus Fernandez

12h15-13h30: LUNCH BREAK

WEDNESDAY AFTERNOON

>> IN THE "AMPHITHEATER D"

THE ROLE OF BIODEGRADATION IN WATER QUALITY

Chair: Henning Prommer and Patrick Höhener

13h40-14h25

18. The flooding of a bank filtration site for municipal water supply in Wrocław (Breslau) and its hydrochemical, microbiological and temperature effects – insights from an old data set

Georg J. Houben, Karol Zawistowski, Maciej R. Kłonowski

144. Microcosm to MSSS: development of treatment strategies for a radionuclide plume at an active nuclear site.

David Holmes

150. Determining a Bulk Plume Degradation Rate for TCE in Fractured Sandstone using Multiple Lines of Evidence at Laboratory and Field Scales

Amanda A. Pierce, Beth L. Parker, Ramon Aravena, David L. Freedman, Richard G. Andrachek

14h30-15h00: BREAK

PFAS IN GROUNDWATER

15h00-15h25 Keynote: Fritjoff Fagerlund (Sweden). Fate and transport of per- and polyfluoroalkyl substances (PFAS) in the soil-groundwater system

Chair: Poul Bjerg and Anna Jurado

15h30-16h30

44. Managing PFAS Contamination in Belgium's Largest Wellfield: A Case Study

Tanguy Robert, Guillaume De Schepper, Eric Chauveheid, Stefaan Meeus, Georges Jumet

47. Investigation and modelling of PFAS leaching from landfills to groundwater and surface water

Nika Bilic, Poul Bjerg, Biao Jin, Klaus Mosthaf

61. Understanding the input of per- and polyfluoroalkyl substances (PFAS) into groundwater systems during managed aquifer recharge systems by measuring PFAS concentrations and long-term stable water isotope signals ($\delta^{18}\text{O}$ and $\delta^2\text{H}$)

Tabea Mumberg, Lutz Ahrens, Philip McCleaf, Frida Brännlund, Oliver Ekesiöö, Philipp Wanner

88. Assessment of parameters for the transport of PFAS in the unsaturated and saturated zone of a sandy aquifer

Laura Morsing, Therese Lyng Petersen, Klaus Mosthaf, Annika Sidelman Fjordbøge, Nina Tuxen, Poul L. Bjerg

16h45-18h00: POSTERS

18h45: DEPARTURE FOR THE GALA

THURSDAY MORNING >> IN THE "AMPHITHEATER D"

MODELLING GROUNDWATER QUALITY

9h00-9h25 Keynote: Massimo Rolle (Germany). Recent advances in reactive transport modelling

Chair: Henning Prommer and Richard Martel

9h25-10h10

116. Extensive research on the factors affecting the behaviour of heavy metals originating from pyrite ash in an estuarine area: from lab and pilot test to remedial design

Jeroen Vandenbruwane, Lionel Counet, James Delanoeye

130. Using the GQ Toolbox to transform metal mining

Henning Prommer, James Jamieson, Riccardo Sprocati

157. In Situ Groundwater Remediation with Layered Double Hydroxides: Injection Strategies for Bimolecular Reactions

Dimitrios Vlassopoulos, Ali Meyal, Deviyani Gurung, Olivier Attia

10h10-10h45: BREAK

FLUX MEASUREMENTS FOR SITE CHARACTERIZATION

10h50-11h15 Keynote: Serge Brouyère (Belgium). Risk based approaches using contaminant fluxes

Chair: Olivier Atteia and Serge Brouyère

11h20-12h20

49. Contaminant mass discharge a metric in risk assessment and evaluation of remedial actions at contaminated sites

Anton Bøllingtoft, Mads Trolborg, Nina Tuxen, Vinni Rønde, Poul L. Bjerg

66. Innovative approaches to groundwater dynamics and Contaminant mass flux characterization using In-Well Point Velocity Probes (IWPVP) to enhance remediation efforts

Nathalie Nief, Trevor Osorno, Matthieu Cao-Thanh, Marine Goyallon, Jean-Sebastien Dehez

125. Innovative real-time iFLUX sensors reveal rapidly changing groundwater – surface water dynamics: technology presentation & two case studies

Goedele Verreydt, Erik Bosmans, Niels Van Putte

136. Characterisation of Groundwater flux and direction using Active-Distributed Temperature Sensing: first modelling results

Luca Varisano, Nataline Simon, Serge Brouyere

12h20-13h30: LUNCH BREAK

THURSDAY AFTERNOON >> IN THE "AMPHITHEATER D OR E"

13h35-14h00 (amphi E) Keynote: Ilka Wallis (Australia). Modelling the fate of PFAS: Can we learn anything useful?

ROOM 1: AMPHITHEATER D

PROCESSES INTERACTIONS IN COMPLEX SYSTEMS

Chair: Daniel Hunkeler and Olivier Atteia

14h00-15h15

35. Electrokinetic transport dynamics in subsurface porous media: Assessment of the interplay of porosity, tortuosity and pore water chemistry

Andrea Gallo, Riccardo Sprocati, Massimo Rolle

54. Did we break our tool: Can boron and boron isotopes still trace urban wastewater in surface- and groundwater?

Wolfram Kloppmann, Eline Malcuit, Catherine Guerrot, Coralie Soulier

107. The significance of the colmation layer on the removal of organic micropollutants during surface water infiltration

Bas Van Der Grift, Peer Timmers

94. Efficient Numerical Modeling of Multi-Scale, Multi-Rate Processes in Complex DNAPL Source Zones *Bo Stewart*

143. Groundwater modelling to support monitoring of natural attenuation
Hanna Zandin

UNDERSTANDING PROCESSES AT DIFFERENT SCALES

Chair: Patrick Höhener and Poul Bjerg

15h30-16h30

68. Influence of redox and temperature variations on the attenuation of pharmaceuticals: Insights from parallel batch reactor experiments

Alejandra Villa, Nafiseh Salehi Siavashani, Estanislao Pujades-Garnes, Nicola Montemurro, Sandra Perez, Jan Willem Foppen, Marc Teixido, Anna Jurado

80. Experimental investigations and modeling of isotope fractionation during backdiffusion of chlorinated solvents from low-permeability porous media

Patrick Höhener, Asma Ben Salem, Maria Prieto Espinoza, Daniel Bouchard, James Henderson

93. In Situ Chemical Oxidation of Trichloroethylene Using Xanthan-Modified Permanganate Solutions: 1-D and 2-D Experimental Approaches

Cihan Okutan, Olivier Atteia

112. Pore-Scale Investigation of a Novel Method for the Remediation of Soils Polluted with Chlorinated Solvents Based on Compositional Ripening with Pickering Emulsions

Shuxin Wang, Antonio Rodriguez De Castro, Azita Ahmadi-Senichault, Abdelaziz Omari, Fernando Leal-Calderon

ROOM 2: AMPHITHEATER E

EMERGING CONTAMINANTS ON A LARGE SCALE

Chair: Anna Jurado and Fritjof Fagerlund

14h00-15h15

70. Sorption of PFAS and TCE in colloidal activated carbon in co-mingled groundwater plumes

Joel Fabregat-Palau, Alexander Arthur Haluska, Annegret Walz, Bharat Choudhary, Peter Grathwohl

79. Ambient concentrations of PFAS in soil and groundwater in Sweden – results from a national survey conducted within an ongoing government effort for strengthened coordination and guidance on PFAS-contaminated areas

Lars Rosenqvist, Maria Åkesson

82. Micropollutants in groundwater originate from sludge amended fields

Katerina Tsitonaki, Martin Hansen, Karen Andreassen, Jakob Magid, Anne Esbjørn, Helle Ugilt Sjø, Liselotte Clausen

104. Recent advances in PFAS fate and transport in groundwater and perspectives for future research

James Rayner, Frederic Cosme, Matthew Lee, Rula Deeb

148. Compositional changes of per- and poly-fluoroalkyl substances during groundwater transport and exfiltration into surface water

Francesco Scattolini, Daniel Hunkeler, Geëtan Glauser

REGIONAL STUDIES OF GROUNDWATER QUALITY

Chair: Christian Moeck and Serge Brouyère

15h30-16h15

91. The Budos spring, a mixture of old and recent water. Where does the water come from?

Laurie Lemaitre, Marc Saltel, Bernard Ladouche, Jessy Jaunat, Melanie Erostate, Bruno De Grissac

110. Study of the occurrence of organic contaminants in groundwater of an endorheic basin draining to a salt lagoon—Fuente de Piedra (Southern Spain)

Marta Inés Llamas, Pablo Jiménez-Gavilán, Carmen Corada-Fernández, Lucía Ojeda, Joaquín Jiménez-Martínez, Iñaki Vadillo

131. Integrated approach for predicting geogenic contaminants in Groundwater

Julie Lions, Eric Lasseur, Louis Alus, Catherine Lerouge, Justine Briais

16h45-19h00: POSTERS AND COCKTAIL

FRIDAY MORNING >> IN THE "AMPHITHEATER D OR E"

ROOM AMPHITHEATER D

ANALYSES TO EXPLORE PFAS BEHAVIOUR

Chair: Poul Bjerg and Ilka Wallis

9h00-10h00

20. PFAS sorption –comparing methods to determine Kd values for clayey tills and limestone

Esther Schott, Søren Dyreborg, Poul Løgstrup Bjerg, Anders G. Christensen, Annika Sidelmann Fjordbøge

105. In-situ PFAS Stabilization by Injection of surface modified clay (InSuFix Project)

Hans Baillieul, Jeroen Vandenbruwane, Ilse Van Keer, Nick Pays, Lise Destombes, Marjan Joris, Ward Swinnen

138. Understanding PFAS Transformation and Mobility in Contaminated Soils: Linking Field and Laboratory Insights

Alexander Haluska, Klaus Röhrer, Joel Fabregat-Palau, Diogo Alexandrino, Sergey Abramov, Katharine Thompson, Daniel Straub, Sara Kleindienst, Boris Bugsel, Jonathan Zweigle, Christian Zwiener, Peter Grathwohl

162. Leaching and transport of PFAS from aqueous film-forming foam in porous media under saturated and unsaturated conditions: new insights from combining column experiments and reactive transport modelling

Nicolas Devau, Hugues Thouin, Samuel Mertz, Mohamed Djemil, Anne Togola, Sebastien Bristeau, Stefan Colombano, Fabien Lion, Ali Batikh, Julie Lions

10h00-11h00: BREAK

REMEDATION INNOVATIONS AT THE PILOT SCALE

Chair: Richard Martel and Georg Houben

11h00-12h30

38. Combining Microbiological, Chemical, and Abiotic Processes for Simultaneous Degradation of cVOCs and Removal of Dissolved Metals

Alan Seech, Daniel Leigh, Michael Mueller, Erwan Goulian

58. Overcoming mass-transfer limitations in heterogeneous subsurface porous media combining electrokinetic and pressure-driven flow and transport

Riccardo Sprocati, Alberto Guadagnini, Andrea Gallo, Massimo Rolle

83. Monitored natural attenuation of an urban CVOC plume from 2004 to 2024 / Region of Hannover

Robert Kringel, Martin Wegner, Paul Jelen

114. Linking microbial gene-expression and denitrification rates: Insights from an intermediate-scale in-aquifer injection-extraction experiment and reaction model

Cora Strobel, Adrian Mellage, Olaf Cirpka, Franziska Schaedler, Daniel Straub, Carsten Leven, Sara Kleindienst

133. BIO&BIO project: final results and sharing of experiments about a soil Bioflushing pilot. Evidence of hydrocarbon biodegradation in groundwater

Clotilde Johansson, Louise Dumoux, Carole Marcon, Christophe Barnier, Camille Dechelette, Stéphanie Ouvrard, Sonia Henry, Martin Gaboriau

146. Evaluating the Effectiveness of Bedrock Vapor Extraction in a Fractured Sandstone

Ferdinando Manna, Jonathan Kennel, Laura Weaver, Amanda Pierce, Beth Parker

12h30-13h30: LUNCH BREAK

ROOM AMPHITHEATER E

TRENDS IN VULNERABILITY ASSESSMENT

Chair: Anna Jurado and Mario Schirmer

9h00-10h30

21. Biodegradation of atrazine in groundwater: Point vs. non-point sources

Anat Bernstein

23. Epukarst – evaluation of nitrate behavior in 5 karst watersheds used for drinkable water production in Wallonia (South Belgium)

Amaël Poulain, Sofie De Volder

24. Emerging water quality challenges in large cities of Western-Central Africa, the need to build an integrated urban water management policy

Bertil Nlend

59. Qualitative impact incorporation into the drought indicators of a coastal aquifer. The Vall Baixa and Llobregat Delta aquifer case. Barcelona.

Vinyet Sola De Roa, Enric Queralt Creus, Jordi Massana Molera, Jose Luis Garcia Arostegui

96. Predicting vulnerability regions in urban aquifers under minimum data requirements

Karen Rojas-Gomez, Sifat Siddik, Peter Krebs

103. Urban Groundwater Contamination: Assessing Pfas and Nitrate From Sewage Sources

Elizabeth Naranjo, André Miranda, Willem Takiya, Neil Thomson, Juliana Gardenalli De Freitas, Ricardo Hirata

10h30-11h00: BREAK

MODELLING COMPLEX AND COUPLED PROCESSES

Chair: Henning Prommer and Patrick Höhener

11h00-12h15

45. MiBiPreT: A modelling framework in python for subsurface contaminant transport and microbial biodegradation

Alraune Zech, Jorrit Bakker, Jaro Camphuijsen, Robin Richardson, Sona Asseyednezhad, Johan Van Leeuwen

50. Modeling long-term trends in groundwater nitrate using machine learning to identify interlinked mechanisms

Gustavo Covatti, Joel Podgorski, Kai-Yun Li, Lenny Winkel, Michael Berg

81. Why, How, and When Complex Kinetics of Microbial Reactions Simplify to Apparent Zero-Order Rates of Dissolved Electron Acceptors

Vitor Cantarella, Adrian Mellage, Olaf Cirpka

126. Assessment of aquifer contamination persistence under linear source depletion

Seonggan Jang, Minjune Yang

140. Process-based non-isothermal reactive transport modeling of in situ bioremediation of chlorinated ethenes combined with low-temperature Aquifer Thermal Energy Storage

Henning Wienkenjohann, Klaus Mosthaf, Massimo Rolle

12h15-13h30: LUNCH BREAK

-- POSTERS --

TUESDAY AFTERNOON : POSTERS

EMERGING CHEMICALS: PFAS

34. Study of PFAS pollution affecting a groundwater pumping site in a fractured chalk aquifer (Mons – Belgium)

Anthony Mahieu, Tanguy Robert, Pascal Goderniaux, Guillaume De Schepper

39. An Investigation into the Modelling of Microplastic and Nano-plastic Transport in Porous Media Using Time-dependent Retention Profiles.

Liam Duncan, Abbas El-Zein, Surya Sujathan

40. Effects of microplastics on wheat performance in sewage sludge-amended soils.

Anna Charatzidou

43. Experimental determination of K_d values for PFAS in Flemish soils

Ward Swinnen, Ilse Van Keer, Joni Dehaspe, Jan Jordens, Ingeborg Joris, Stefan Voorspoels, Laetitia Six, Griet Van Gestel, Georgios Niarchos, Katrin Vorkamp, Valeria Dulio

53. Multicomponent and surface charge effects at the mineral-water interface: experimental evidence and reactive transport modeling of PFOS transport behavior in goethite-coated sand

Jacopo Cogorno, Massimo Rolle

72. Preliminary insights on PFAs contamination: the case of a deep multilayered alluvial aquifer, Parma, northern Italy

Laura Ducci, Riccardo Pinardi, Federica Di Francesco, Chiara Meo, Giulia Pari, Pietro Rizzo, Fulvio Celico

73. Interlaboratory comparison 24-hours batch test PFAS

Ilse Van Keer, Hendrik Van De Weghe, Liesbet Van Den Abeele, Ingeborg Joris, Joni Dehaspe, Dirk Dedecker, Katrien Monsieurs

85. PFAS in urban groundwater: Geochemical processes that control their fate

Carmen Saez, Arianna Bautista, Estanislao Pujades-Garnes, Marinella Farre, Anna Jurado

MUTIDISCIPLINARY APPROACHES

9. Metal pollution in water environment and the associated human health risk from drinking water: a case study of Ikire, Southwest, Nigeria.

Adebiyi Adebayo, Ayodele Olufemi

11. Well Water Quality Study: the case of Tanambao sotema, MAHAJANGA of MADAGASCAR

Ranjivah Frandley Randimbizaka, Esperence Ralantoherison

13. Evaluation of the Gumera Catchment's Mountain Hydrological Processes in Ethiopia

Tewele Haile

17. Impact of climate change on the water cycle: intensification of extreme events (floods and low flows) case of the high Inaouene watershed

Oumaima Ben Laghlagh, Jamal Naoura

29. Geochemical and Statistical Analysis of Groundwater Quality in the Context of Climate Change (Bou Omrane-Sabkhet Ennoual basin in the south of the Tunisian Atlas)

Ghaib Marwa, Tanfous Dorra, Dhahri Ferid, Walraevens Kristine

33. Understanding Groundwater Salinization and Water Quality Dynamics in Tunisia's Sahel Region

Khaoula Charrek, Mediha Arfaoui, Hakim Gabtni, Thomas Hermans, Kristine Walraevens

65. Typologie des eaux utilisées pour la production de l'eau potable. Cas de la région Fès-Meknès Maroc

Abdelaziz Zouhir

111. Using Nitrogen Isotopes and Other Environmental Tracers to Investigate Groundwater Pollution in Two Uncontrolled Dumpsites in Freetown, Sierra Leone

Ishmail Nashir Kamara, Ronnie A. D. Frazer-Williams, Viviana Re, Brunella Raco

134. Hydrogeochemical and isotopic investigations on transboundary groundwater of the North of the Central African Republic

Olivia Victoire Ngaïssona Namndouta, Frederic Huneau, Eric Foto, Thomas Leydier, Emilie Garel

DECISION-MAKING FOR SUSTAINABLE MANAGEMENT OF GROUNDWATER QUALITY

4. Spatial analysis for the development of water resources in the commune of Soavinandriana for the benefit of the population

Miora Harivony Rakotondrabe, Etienne Castiau, Felaniaina Rakotondrabe, Ononamandimby Antsonantenainarivony

62. Identification and Mapping of Groundwater Potential Recharge Areas in Dosso Region/Niger by Multicriteria Analysis Method

Ibrahim Abdou Ali, Moussa Konaté

90. Evaluation of Multiple High-Resolution Precipitation Products and Their Implications for Water Resources Management in the Douala Sedimentary Basin (Cameroon)

Emvoutou Huguette Christiane, Ndonang Tchiengue Lambert, Bell Jean-Pierre, Tchokouaha Tchagam Franklin Albert, Alassane Abdoukarim, Mvondo Owono Francois, Ndam Ngoupayou Jules Remy, Faye Serigne

95. Pilot test on mitigating the effects of extreme climate events by promoting the recharge of alluvial aquifers of the La Muga River (Catalonia, Spain).

Juan Rubilar, Diana Puigserver, Jose Maria Carmona, Salvado Humbert, Jose Francisco Garcia, Nuria Lopez

120. Recent developments in the Apsû method for processes-based groundwater vulnerability mapping

Victoria Collignon, Philippe Orban, Pol Magermans, Alain Dassargues, Serge Brouyere

152. Water Automation and AI Applications for Groundwater Resources

Meena Sankaran, Dan Erck

WEDNESDAY AFTERNOON : POSTERS

DIFFUSE GROUNDWATER POLLUTION FROM URBAN SOURCES AND AGRICULTURE

7. Integrated assessment of groundwater quality dynamics and Land use/land cover changes in rapidly urbanizing semi-arid region

Arif Ullah, Yicheng Wang, Sajjad Hussain

14. Use of Water Quality Indices, Principal Component Analysis, and Geostatistics for Groundwater Quality Assessment: A Case Study of the Thiaroye Quaternary Sand Aquifer in Senegal.

Edgar Yvon Terence Benam-Beltoungou, Isai Bassene, Huguette Christiane Envoutou, Venyo Akpataku, Djim Diongue, Serigne Faye

16. Assessment groundwater vulnerability to pollution using DRASTIC model in the LAI agricultural area, CHAD (Central Africa)

Tidjani Bahar, Mahamat Moussa

22. Protection of Fossil Groundwaters in the Albian Aquifer- Southern Algeria-

Hamida Diab

36. Comparing Groundwater Sampling Methods for Denitrification Assessment: A Focus on N₂ and Ar Measurements

Felix Fahrenbach, Thomas R. Rude

41. Groundwater quality challenges for the water supply system of Agadez, Sahara region of Niger

Manal Wannous, Illias Alhassane, Robert Kringel, Paul Koeniger, Dennis Krämer

60. Influences of Anthropogenic and Natural Factors on Groundwater Quality In Urban Area: The Case of Thiaroye Quaternary Sands Aquifer (Dakar, Senegal)

Mandiaye Diene, Abdoulaye Pouye, Viviana Re, Brunella Raco, Seynabou Cisse Faye

139. Assessing nitrogen pollution sources in urban groundwater using emerging compounds and isotopic tracers: A case study from the city of Bangui (Central African Republic)

Olivera Aude Bidakette Yandai, Frederic Huneau, Oscar Allahdin, Eric Foto, Thomas Leydier, Emilie Garel

149. Study of Nitrates Transfer in The Unsaturated Zone of The Recharge Area of Two Catchements in Ligaine (Deux-Sevres, France)

Fabrice Compere, Nicole Baran, Nicolas Surdyk, Wolfram Kloppmann, Jean Rillard

GROUNDWATER – SURFACE WATER INTERFACES AND INTERACTIONS

51. Study and modelling of groundwater-surface water exchanges in an alluvial aquifer under urban forcing: the case of Grenoble (France, Alps)

Nathan Minon, Hélène Castebrunet, Jeremy Panthou, Cédric Legout

97. Prohibited pesticide residues accumulation in freshwater, sediments, and fish in the Guiers Lake basin: Risks for Senegal's strategic water reservoir.

Alousseynou Bah

129. Evaluation of reasonable baseflow using multilateral tracing methods in a small watershed in South Korea

Seong-Sun Lee, Suh-Ho Lee, Hyeji Kim, In-Hee Cho, Ha-Yeong Seok, Kang-Kun Lee

155. Salinization of a coastal phreatic aquifer in a deltaic environment: Case of the Lower Valley of Medjerda Basin (Medjerda delta, Tunisia)

Mohsen Ben Alaya, Jean-Denis Taupin, Nicolas Patris, Eya Ben Saad, Mohamed Haythem Msaddek, Ines Ayari, Najet Chaabane, Baya Toumi, Fathedine Melki

159. Contribution of End Member Mixing Analysis Model to Characterize the Sources Responsible for Urban River Water Quality: Case of Houet River in Burkina Faso

Zacharie Dende Lushima, Élie Serge Gaëtan Sauret, Hillary Marie Michelle Compaore, August M. Abdon Kinglo, Mahamadou Koita, Yacouba Konate, Hela Karoui

165. Groundwater Quality of the Shallow Alluvial Aquifer in the Garonne Valley

Nazeer Asmael, Michel Franceschi, Alain Dupuy, François Larroque, Sophie Leleu, Nicolas Cardot

166. The use of strontium isotopes for investigation of the water balance at a riverbank filtration site (Śrem well-field, Poland)

Krzysztof Dragon Roksana Kruć-Fijałkowska and Marcin Siepak

GROUNDWATER QUALITY ACROSS SCALES: FROM LAB TO FIELD, FROM SITE TO MEGASITE

8. In Situ Remediation of a High-Concentration TCE Plume at a Former Chemical Works in the UK

Jack Shore

42. How to explain high fluoride, boron and vanadium contents in groundwater of the Cuvelai Etosha Basin in Namibia

Roland Bäuml, Georg Houben, Kevin De Vriendt

46. Dissolved Se in a depleted limestone aquifer in Jordan: occurrence and origin.

Frank Wagner, Mohammad Al-Hyari, Dennis Kraemer, Paul Koeniger

71. Assessment of the Quality of groundwater consumed by residents of the district of Saraba from of Darou khoudoss City (Thiès, Senegal).

Alassane Thiam, Fatou Cisse

84. Hydrochemical characterization of groundwater around a marble mine in Southwestern Nigeria

Kehinde Olojoku Ibrahim, Mumeen Adebayo Yusuf

154. Hydrogeochemistry of Shallow Groundwater and Suitability to Irrigation: The Case of the Karfiguéla Paddy Field in Burkina Faso

Compaore Hillary Marie Michelle

168. Seal integrity assessment of monitoring wells using fiber optic distributed temperature sensing

Mitchel Brown, Jonatan Kennel, Jonathan Munn, Carlos Maldaner, Beth Parker

THURSDAY AFTERNOON: POSTER

MODELLING GROUNDWATER QUALITY

12. The configuration of volcanic aquifers and the context of groundwater flow in the different massifs of the island of Grande Comore: use of 3D geological modelling and piezometry

Lhad Sosote Ibrahim, Moctar Diaw, Fatou Diop Ngom, Ibrahima Mall, Konstantinos Chalikakis, Remi Valois, Adriano Mayer

25. Predicting the occurrence of geogenic manganese in groundwater in Southeast Asia

Joel Podgorski, Michael Berg

32. Spatial Modeling of Geogenic Arsenic Hazards in Groundwater in Taiwan

Kai-Yun Li, Joel Podgorski, Ching-Ping Liang, Jui-Sheng Chen, Michael Berg

63. Mass balance: modelling to understand a complex site with a small source, a large LNAPL lens and a very small plume

Beatriz Coral, Olivier Atteia

87. Hydrogeochemical Characterization and Water Quality Evaluation in the Gilgel Gibe and Dhidhessa Watersheds, Southwestern Ethiopia.

Adisu Befekadu Kebede, Fayera Gudu Tufa, Wagari Mosisa Kitessa, Seifu Kebede Debela, Beekan Gurmessa Gudeta, Bekan Chelkeba Tumsa, Fekadu Fufa Feyessa, Thomas Hermans, Kristine Walraevens

92. Global Groundwater Heavy Metal Mapping: A Predictive Model for Pollution Assessment and Management

Ziwei Li, Zhanhua Zhang, Yaqi Liu, Tong Zhang, Yan Lin

124. Numerical Estimation of Back Diffusion in Low-Permeability Zones

Junyong Heo, Hyoun-Tae Hwang, Minjune Yang

160. Groundwater flow and nitrate transport model in Atlantic rural areas: the case study of Abelar pilot basin in Abegondo (A Coruña, Spain)

Javier Samper, Alba Mon, Antonio Paz, Bruno Pisani, Acacia Naves, Marcos Lado, Luis Montenegro, Brais Sobral, Aitor Garcia-Tomillo, Sara Martinez-Picado, Marta Garcia-Souto

164. An Analytical Solution for Groundwater Pollution Risk Assessment: Integrating Degradation By-Products and Mass Flux Continuity

Poncelet Antoine, Philippe Orban, Serge Brouyere

173. Integrating Electrostatic Coupling Effects in Multispecies Transport Simulations with MODFLOW

Rodrigo Pérez-Illanes, Christian D. Langevin, Muhammad Muniruzzaman, Massimo Rolle

EMERGING CHEMICALS (PFAS, MICRO-PLASTICS AND OTHERS)

113. Nile Red staining for mass-based quantification of microplastics via image analysis

Tae-Jung Ha, Minjune Yang

117. Fate and transport modelling of PFOS in groundwater in a site polluted by aqueous film forming foams

Laura Del Val Alonso, Johan Valstar, Sonia Jou-Claus, Carme Bosch, Manuel Martinez

118. Groundwater and mass FLUX for improved groundwater management and tackling emerging contaminants

Erik Bosmans, Goedele Verreydt

119. Spatial distribution and mass flux of PFASs in the Nakdong River and tributaries, South Korea

Chiheon Lee, Minjune Yang

123. Major parameters for PFAS up-washing with foam in the unsaturated zone, a modelling approach

Leonard Botella, Olivier Atteia

132. Présence, distribution et évaluation des risques des produits pharmaceutiques et de soins personnels dans l'aquifère de Djibouti

Abdillahi Elmi Adaneh, Moussa Mahdi Ahmed, Pascal Wong-Wah-Chung, Anne Piram

142. Marine plastic exposure triggers rapid recruitment of Exiguobacterium decomposers and accelerates polymer-specific transformations

Mohamed Rida Abelouah, Nisrine Nouj, Mohamed Idbella, Lhoussaine Bouchaou

145. Laboratory study on the physico-chemical behaviour of contaminants of emerging concern in airport runoff water during their infiltration into Hesbaye loess sediments, Belgium

Robin Glaude, Serge Brouyere, Silvia Lacorte, Anna Jurado, Estanislao Pujades

147. Microplastics in agricultural land – a carrier for pesticides to groundwater?

Swagatam Chakraborty, Philipp Wanner

POINT SOURCES (NAPL, SOLVENTS...) AND REMEDIATION STRATEGIES

5. Assessment of Groundwater Contamination and Quality Downstream of Modjo Leather Tanning Factory, Ethiopia: Geophysical and Hydrochemical Analysis

Yonatan Garkebo Doyoro, Samuel Kebede Gelena, Sirawdink Tesfaye Ersado

15. Assessing the risk of shallow groundwater contamination by solid waste and sanitation practices in a new urban area. A study from a low-income country

Brian Murove, Maideyi Meck

30. Assessing distribution and longevity of trichloroethylene source zone in unsaturated soils: effect of soil heterogeneity

Chiu-Shia Fen, Bowen Huang

99. Assessment on Water bodies Status near a Waste Dump Site in Abakaliki, Southeastern Nigeria.

Mkpuma Rock Onwe, Ngozi Blessing Iganga, Kingsley Chidozie Okoli, Ikechukwu Moses Onwe, Chizoba Joshua Chima, Ema Michael Abraham, Joseph Idu Amah, Chinyere Amadi