



Curriculum Vitae Europass



Personal information

Name / Surname **Palcu Marin**
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Nationality Romanian
Data of Birth 06 .04. 1956
Sex Male

Experience

Period	November 2014 - present
Occupation or position held	Associate professor – University of Bucharest, Faculty of Geology and Geophysics, Department of Geological Engineering
Activities and main responsibilities	<ul style="list-style-type: none">• Course and practical works concerning drainage and dewatering calculus for: mining or open pits works, construction foundations and other underground technical works, ground water supply works, etc. – in Master Program “Environmental Geological Engineering”• Course and practical works regarding the management and assessment of mineral and groundwater resources – in license program of Geological Engineering Department• Course and practical works concerning the Drilling and Wells Construction and Mining Works – in license program of Geological Engineering Department
Name and address of employer	UNIVERSITY OF BUCHAREST - Mihail Kogalniceanu av., 36 - 46, 050107 Bucharest, 5 District, Romania
Period	January 2005 - present
Occupation or position held	Director – S.C. Geo Aqua Consult Ltd.
Activities and main responsibilities	<ul style="list-style-type: none">• Society business administration• Geological, hydrogeological, hydrological and climatological works, feasibility studies• Hydrogeological studies, technical specifications and technical design for water production or exploratory wells• Hydrogeological consultancy for water supply• Prospecting and exploratory works for mineral waters• Mathematical modeling for groundwater flow and contaminant transport in porous or fissured media• Hydrogeological researches in national projects from “Partners” and “CEEX” programs• Hydrogeological studies and dewatering calculus in construction works zones

Name and address of employer	• Hydrogeological studies for to measure the sanitary protection zones and hydrogeological perimeters GEO AQUA CONSULT LTD. – Tutunari str., no. 15, 5 District Bucharest
Type of business or field of activity	Hydrogeological and geological researches, Consulting and engineering in groundwater, environment and mineral resources
Period	August 2004 – December 2004
Occupation or position held	Head office “geo – hidro – pedo”
Activities and main responsibilities	<ul style="list-style-type: none"> • Coordination of specific activity in geotechnical, hydrological, hydrogeological and work processing • Technical and scientifically analysis of elaborated studies • Participation in tendering and contracting of geotechnical and hydrogeological works
Name and address of employer	S.C. ISPIF S.A. Bucharest
Type of business or field of activity	Consulting and engineering in land reclamations field
Period	October 2003 – July 2004
Occupation or position held	Senior Hydrogeologist
Activities and main responsibilities	<ul style="list-style-type: none"> • Hydrogeological consultancy for General Water Authority of Libya • Specialized Consultant at Hill International ltd. – Great Britain – USA in project of Technical & Economic Study for Oil Transit Pipeline in Romania – Ro 586.04.08.04
Name and address of employer	Avalone ltd. Braila
Type of business or field of activity	Consultancy and engineering for General Water Authority of Libya Field hydrogeological works in Kufra area, in south eastern part of Libya
Period	July 2000 – October 2003
Occupation or position held	Design Head Office
Activities and main responsibilities	<ul style="list-style-type: none"> • Coordination of design activity in project of Water supply for Romanian Villages – Subcontractor of Mivan Kier (Great Britain) and Solel Boneh (Israel) • Technical specification for water production wells drawing up • Technical design writing for water production and exploratory wells • Hydrogeological studies concerning the optimization of groundwater exploitation from the wells • Hydrogeological studies elaboration
Name and address of employer	Foradex S.A. Bucharest, Milcov str., no. 5, District 1
Type of business or field of activity	Design and construction of water wells and special geological works
Period	August 1998 – March 2000
Occupation or position held	Hydrogeologist coordinator at SNC Lavalin International Inc., Montreal, Quebec, Canada in Great Man Made River Project, Tazerbo, Libya
Activities and main responsibilities	<ul style="list-style-type: none"> • Company hydrogeological activity coordination – exploratory and production water wells construction, development, steady and steady pumping test, long duration pumping test, wells sterilization and final wells integrity inspection • Construction water wells procedures and working instructions elaboration • Water wells and working equipment design • Hydrogeological reports and final reports concerning construction of water wells elaboration • Groundwater monitoring with special probes and Data Logger
Name and address of employer	Midrom Trading ltd. Timișoara
Type of business or field of activity	Consulting and engineering in groundwater field for SNC Lavalin
Period	October 1997 – August 1998
Occupation or position held	Hydrogeologist coordinator at SNC Lavalin International Inc., Montreal, Quebec, Canada in Great Man Made River Project, Tazerbo, Libya
Activities and main responsibilities	<ul style="list-style-type: none"> • Company hydrogeological activity coordination - exploratory and production water wells construction, development, steady and steady pumping test, long duration pumping test, wells sterilization and final wells integrity inspection • Construction water wells procedures and working instructions elaboration • Water wells and working equipment design • Hydrogeological reports and final reports concerning construction of water wells elaboration

Name and address of employer	<ul style="list-style-type: none"> Groundwater monitoring with special probes and Data Logger Foradex S.A. Bucharest, Milcov str., no. 5
Type of business or field of activity	Consulting and engineering in groundwater field for SNC Lavalin
Period	April 1996 – July 1997
Occupation or position held	Hydrogeologist in Great Man Made River Project, Contract 202, Libya
Activities and main responsibilities	<ul style="list-style-type: none"> Final reports of production water wells editing Coordination of pumping tests activity Coordination the development of water wells Hydrogeological exploration
Name and address of employer	Foradex International S. A. Vaduz, Liechtenstein
Type of business or field of activity	Consulting, engineering and water wells construction
Period	November 1986 – April 1996
Occupation or position held	Geologist engineer and Geologist coordinator of synthesis team for sedimentary rocks from Geological Prospecting Department
Activities and main responsibilities	<ul style="list-style-type: none"> Studies and synthesis for solid minerals and groundwater department coordination Studies and geological and hydrogeological synthesis in sedimentary basins Geological studies for coal ores, and other solid minerals Designing of mining dewatering using analytical and numerical solution Hydrogeological studies and synthesis concerning groundwater resources assessment Geological studies and synthesis regarding coal reserves assessment Mathematical modeling for groundwater flow and contaminant transport in porous media Technical designing of mining dewatering
Name and address of employer	Prospecting Company S.A. Bucharest, Caransebes str., no. 1., District no. 1.
Type of business or field of activity	Geological prospecting, geophysical survey and geological exploration for minerals
Period	July 1983 – November 1986
Occupation or position held	Geologist engineer
Activities and main responsibilities	<ul style="list-style-type: none"> Geological and hydrogeological design for coal ore exploration with boreholes and water wells Field hydrogeological works Geological reports with coal reserves assessment Dewatering systems design using analytical solutions
Name and address of employer	Oltenia Geological Prospecting and Exploration Enterprise, Craiova (act. Geasol S.A. Craiova)
Type of business or field of activity	Geological prospecting and exploration for minerals
Period	September 1981 – July 1983
Occupation or position held	Geologist engineer
Activities and main responsibilities	<ul style="list-style-type: none"> Field geological and hydrogeological works Experimental mining dewatering with water wells and penetrating filters in pilot mining pits Geological reports with coal reserves assessment
Name and address of employer	Drilling and Special Geological Works Enterprises (act. Foradex S.A. Bucharest), Milcov str., no. 5., District no. 1.
Type of business or field of activity	Geological prospecting and exploration for minerals with boreholes and mining works
EDUCATION AND TRAINING	
Period	<i>1993 - 2003</i>
Qualification / diploma	Phd. in Geology
Principal subjects / occupational skills	Phd. thesis with title “ Modeling of groundwater flow influenced by mining drainage and production of water supply wells in the main regional aquifer of Oltenia ” scientific coordinator: prof. dr. eng. Alexandru Gheorghe, public presentation in 27. 02. 2003
Name and type of education / training provider	<i>University of Bucharest, Geology and Geophysics Faculty</i>

Level in national or international classification	ISCED 6				
Period	1992 - 1994				
Qualification / diploma	MSc in water science				
Principal subjects / occupational skills	Science of Water and Environment — specialization in water resources engineering				
Name and type of education / training provider	Civil University of Bucharest – Post university High School TEMPUS DEA				
Level in national or international classification	ISCED 5				
Period	1976 - 1981				
Qualification / diploma	Geology and Geophysical Engineer				
Principal subjects / occupational skills	Hydrogeology, Underground Hydraulic, Physic and Chemical of Hydrocarbons Ore, Hydrocarbons Ores, Coal Ores, Ores Exploitation and Valorization, Exploration and Ores Assessment, Prospecting, Mineral Ores, General Geology, Stratigraphy, Mineralogy, Sedimentary Petrology, Magmatic and Metamorphic Petrology, Structural Geology, Geophysical Survey, Well Logging, Geological Interpretation of geophysical Data, Physic of Earth, Geomechanics, Geochemistry, Geological Engineering and Mathematical Geology, etc. Skills: - Prospection and Exploration of Minerals; - Prospection and Exploration of Hydrocarbon Ores; - Investigation and Groundwater Research; - Engineering Geology Studies; - Scientific coordination of geological research works (drillings and mining works); - Geophysical and Geochemical Works;				
Name and type of education / training provider	University of Bucharest, Geology and Geography Faculty, Department of Geology and Geophysics				
Level in national or international classification	ISCED 5				
Languages					
Self-assessment European level (*)	Understanding		Speaking		Writing
	Listening	Reading	Conversation	Spoken	
English	B 2 Independent User	C 1 Skilled User	B 2 Independent User	B 2 Independent User	B 2 Independent User
French	C 1 Skilled User	C 2 Skilled User	C 1 Skilled User	C 1 Skilled User	C 1 Skilled User
	(*) <u>Cadrului european comun de referință pentru limbi</u>				
Artistic skills and competences Music, Drawing, Painting, Literature etc.	<ul style="list-style-type: none"> • Painting • Drawing • Arts in general 				
Competence and social abilities	<p>Communication and networking: adapting to the new situations and unexpected, conflict mediation and negotiation, adaptation and suitability behavior the interlocutors</p> <p>Working Group: developing work in multidisciplinary teams, implementation of works and various extra-professional activities in multinational and multicultural teams</p> <p>Team management: leadership and coordination activities both in Romania and abroad - activity coordinator, senior geologist and hydrogeologist, head of design office, department head, director, coordinator hydrogeologist, etc.</p> <p>Associate Professor of Bucharest University, Faculty of Geology and Geophysics – Master Program of Ambient Geological Engineering – specialty of ground water drainage – water wells interference</p>				

	License program of geology and geophysics – specialty of drilling and wells construction and mineral and ground water resources management
Skills and computer use	Knowledge of PC operation: Operation in Windows 10, 7, XP, MS Office (Word, Excel, Power Point, Access), numerical modeling programs i.e. Groundwater Modelling System (GMS), MODFLOW, Visual Modflow, Aquifer Test, Groundwater Vistas, Infinite Extent, Step Master programs, AquaChem, Global Mapper, Surfer, programs drafting - AutoCAD, Visio Technical, and others
Driving license	Yes – B Category
Additional Information	Founding member of Romanian Association of Hydrogeologists (AHR). Vice President of Romanian Association of Hydrogeologists (AHR). Member of International Association of Hydrogeologists (IAH) Member of the Scientific Council of the Romanian Water Association (ARA).
Date	
01.02.2020	

Signature



LIST OF WORKS

1. Books,

1. 1989 – Coals in Actuality and Expectation. Ed. Tehnica Bucharest, 249 pages

Work in collaboration with M. Albu, A. Guran, L. Albu, C. Radulescu, and D. Enachescu

Contributions in the chapters:

- Natural conditions of the coals in terrestrial crust – 24 pages
- Investigation and determination of the resources – 13 pages
- Aquifers dewatering from coal resources formation – 61 pages

Short description:

This work has ten chapters, in which are presented the geological and hydrogeological conditions of coal resources, the coal ore exploration, coal ore quantitative assessment and economic quantification, coal ore exploitation, dewatering of the aquifers associated of coal formations, coal resources economic attracting, core exploitation and environment protection.

In the chapter of "Natural conditions of the coals in terrestrial crust" using the energetic process equation from terrestrial crust can be determined the quantitative degree of geological and hydrogeological difficulty concerning the possibility of coal exploitation.

In the "Investigation and determination of the resources" are presented the geological, hydrogeological and technological exploring techniques and the methodologies of coal resources assessment.

The "Aquifers dewatering from coal resources formation" comprises the dewatering process presentation function of local structural-tectonic and hydrogeological conditions, decision in applying of methods and dewatering schemes, analytical and numerical simulation of dewatering process.

2. 2012. - History of Hydrogeology. CRC Press, Taylor & Francis Group, 6000 Broken Parkway NW, Suite 300, Boca Raton, FL. 33487 – 2742 . IAH - International Contributions to Hydrogeology

Edited by Nicholas Howden; John Mather

Short description:

Contributions in the chapter: A brief history of Romanian hydrogeology in collaboration with P. Enciu, H. Mitrofan, A. Feru, I. Oraseanu & A. Tenu
The History of Hydrogeology, is a first attempt to bring the story of the evolution of the science of hydrogeology together from a country or region specific viewpoint. It does not cover history to the present day, nor does it deal with all countries involved in groundwater studies, but rather takes the story for specific key countries up and until about the period 1975 to 1980. This is when hydrogeology was still evolving and developing, and in some areas doing so quite rapidly.

The book has been written not only for practitioners of hydrogeology and hydrology but also for teachers and students to see the context of the evolution of the science around the globe. The History of Hydrogeology will also be of interest to science historians and all those interested in the role that individuals, institutes and nations have played over the years in defining modern day studies of groundwater.

2. Articles in journals and books dedicated to scientific events

1. **1986 - Possibilitate d' assechement par des forages de surface de l'aquifer du toit d'une couche de charbon exploitable dans la zone Pietris du sud de la Depression Getique. (Dewatering possibilities of an aquifer from the top of exploitable coal bed in Pietris area from southern part of Getic Depression). Vol. Applied and Fundamental Researches for to Increase the Reserves of Mineral Substances. Special Volume of Bucharest University Annals. (in French)**

Short description:

After unsteady pumping tests, in Pietris mining pit area was calculated the wells dewatering system of aquifer from upper part of coal bed. The new aspects consist in the application with good results of interference analytical solutions for leaky unsteady flow.

Possibilities of drying the aquifer from the roof of an exploitable coal layer in the Pietris area south of the Getic Depression
Dewatering possibilities of an aquifer from the top of exploitable coal bed in Pietris area from southern part of Getic Depression
2. 1987 - Aquifers recharge during exploitation. The volume – Achievements and expectation in water supply development and water quality and environment protection. Hydrogeology section – Volume of Research and Design for Management and Houses Systematization Institute of Bucharest (in Romanian)

Work in collaboration with M. Albu

Short description:

During the aquifer exploitation, in initial phase the pumped water proceeds from aquifer storage, and in the next phase the water proceeds both aquifer storage and other hydrodynamic subordinated water resources, and in the final stage the water flux is coming from hydrodynamic subordinated water resources. This is a theoretical work with quantitative implication of aquifers recharge.

3. 1995 – Reconstructing Fluvial Paleomorphology: Upper Neogene Coal Bearing Deposits of Northwestern Dacic Basin. IUBS, UNESCO 4th Workshop of IGCP – 329 Project, 1995 Bucharest – Curtea de Arges (in English)

Work in collaboration with D. Jipa, E. Gheorghe, I. Benciu

Short description:

Using the sand body map analysis was reconstituted in northwestern part of Dacic Basin the direction and the morphology of old rivers.

4. 1995 – Sedimentology of westernmost part of the Dacic Basin as Resulting From the Well Logging Analysis. IUBS, UNESCO 4th Workshop of IGCP – 329 Project, 1995 Bucharest – Curtea de Arges (in English)

Work in collaboration with: N. Marinescu, Gabriela Niculae, Paula Egyed and I. Benciu

Short description:

According with geophysical well logging analysis, was determined the sedimentary conditions from the westernmost part of Dacic Basin.

1996 – L'Impact du drainage minier sur l'aquifer Dacien inferieur en departement Gorj, Roumanie (Mining drainage impact on the Lower Dacian Aquifer in Gorj County, Romania). Impact of Industrial Activities on Groundwater, Bucharest. University Press (in French)

Work in collaboration with Cătălina Botnarencu

Short description:

Mining industry development on Gorj County had negative impact on ground water resources. The mining drainage have a negative impact on the deep aquifers, like on the aquifer from Lower Dacian sands. Using the Finite Element Method to simulate the ground water flow was determined the quantitative and qualitative impact of mining dewatering on ground water resources.

5. 2000 – 50 years of hydrogeology in Prospecting S.A. Company. 100 years of modern hydrogeology in Romania. Volume of Romanian Association of Hydrogeologists, under International Association of Hydrogeologists; National Symposium 2000, may 24 –26 Bucharest (in Romanian)

Work in collaboration with: Cornelia Maieru and I. Orășanu

Short description:

This paper present history of hydrogeological works in Prospecting S. A. Company. The hydrogeological activities consist in: water inventory, prospecting, hydrogeological exploring, mining hydrogeology, mineral and thermal water investigations, karstic and urban hydrogeology, contaminant hydrogeology etc.

6. 2001 – Assessment and Management of Groundwater Resources. Hydraulic Days Volume, third Edition, Groundwater Resources Engineering. Civil Technical University of Bucharest, Environment Protection and Hydraulic Department, June 2001. Ed. Conspress. (In English)

Work in collaboration with M. Albu and I. Popa

Short description:

Ground water resources and reserves assessment is too difficult to assess. There are necessary many field hydrogeological works, ground water monitoring, laboratory analysis, and numerical simulation of ground water flow. This paper presents the assembly of ground water reserves and resources and the mathematical assessment algorithm. The final target of this assessment is to have a good groundwater management, protection and preservation.

7. 2001 – Analytical solutions concerning the exploitation of ground water by wells system in leaky unsteady flow. Volume Hydraulic days, third edition, Ground water resources engineering. Technical Civil University of Bucharest, Hydraulic and Environmental Protection Department, June 2001. Ed. Conspress (in Romanian)

Short description:

This paper presents analytical solutions of hydraulic diffusivity equation in general case of Leaky Unsteady Flow of groundwater toward water wells system – Ones of these solutions for interference case are presented for the first time.

8. 2001 - Shallow Aquifer Remediation in Ploiesti Area: a Challenge for the Coming Generation. International Workshop Hydrocarbon (and other pollutants) Groundwater and Soil Contamination, Bucharest, Romania, October 2001 – Center of Excellence Geo – Ecology of Fluvial Deltaic and Marine System. (In English)

Work in collaboration with: M. Albu, Mihaela Stănciucu și Irina Dinu

Short description:

In Ploiesti area the phreatic aquifer was polluted with immiscible and miscible oil product. For to solve the complicate problem of Ploiesti area pollution, there are necessary many field and laboratory works. Using the actual data in this work was presented one part of solutions concerning the remediation.

9. 2002 – Somme Aspects of Romanian Mining Hydrogeology. Selected papers on Romanian Hydrogeology, volume issued for Special Meeting of IAH Council held at Stana de Vale, Romania 23-28 May 2002, Edited by Romanian Association of Hydrogeologists, sponsored by European Drinks (in English)

Work in collaboration with: Al. Gheorghe and Corneliu Rădulescu

Short description:

In this paper are presented the principal aspects regarding the Romanian mining hydrogeology, including the first field hydrogeological investigations and finally the great dewatering works for lignite ores from Romania.

10. Regional aquifers coal exploitation impact in Oltenia. Environmental and Progress, 2003 Cluj Napoca, pg. 475 – 479 (in Romanian)

Work in collaboration with: D. Scărădeanu, C. Pene, I. Stoican, G. Toma, E. Mălcu, M. Pagnejer, M. Andrei, Roxana Popa, I. Popa

Short description:

The exploitation of energetic coal from Oltenia has implications in quantitative and qualitative of ground water resources. In this paper was quantified the impact classes of coal mining industry on regional aquifers.

12. Coal exploitation impact of regional aquifers in Oltenia Region. 50 years University of mining and Geology, St. Ivan Rilski – Annual volume 46, part 2 Mining and mineral Processing Sofia 2003 pg. 247 – 250 (in English)

Work in collaboration with D. Scărădeanu

In this paper was developed the classes of impact on regional aquifers in southwestern part of Romania.

13. D.Scrădeanu, Marin Palcu (2003), Impact on regional aquifers of coal exploitation in Oltenia, Annual of the Univ.of Mining and Geology “St.Ivan Rilski”, Sofia, vol46, 4p.

14. Preliminary Inventory of aquifer structures in the southern part of Romania

Work in collaboration with Carmen Mihaela Melinte, Adrian Jurkiewicz, George Witek and Aurel Rotaru - **published in GEO-ECO-MARINA no. 14/2008 - Supplement No. 1. Earth Sciences, Knowledge and Environment pp. 7-16 - Annual Scientific Session**

Short description:

In southern part of Romania, the regional aquifers are presented and tectonic and sediment -genetic factors that contributed to the originate of these aquifers. The paper mainly analyzes the aquifers that occur in Neogene formations, from Upper Miocene, Pliocene and Pleistocene and continuing, within which, geologically formed part of the Dacic Basin (Oriental Paratethys). There are briefly analyzed the local aquifers from Oltenia Plain Plain Romanian Central Plain and Eastern Romania Plain.

15. Marin Palcu, Gheorghe Witek, Andrei Briceag, Mihaela Melinte, “Lignite exploitation impact on groundwater resources in SW Romania”. International Geological Congress, Oslo, 6-14 august 2008.

16. Enciu Petru, Marin Palcu, Mariana Enciu, “Groundwater resources in the Carpathian mountains”. International Geological Congress, Oslo, 6-14 august 2008

17. Elements concerning groundwater resources management (Case study around Timisoara Coca Cola Plant) collaboration with Gh. Witek and Al. Fonoca – published in RomAqua, no. 6, 2009).

Short description:

The groundwater needs serious knowledge with special referring to geology, hydraulics, physics, chemistry, biologic and economic aspects. The management elements are simplified by groundwater state modeling, reserves and resources assessment, by knowledge and application of actions for groundwater protection and conservation, action planning and application, equipment acquisition and costs estimation.

18. Theoretical aspects concerning groundwater reserves and resources assessment and administration in collaboration with Marius ALBU, Gheorghe WITEK (2009) - published in GEO-ECO-MARINA nr. 15/2009, Sedimentary Processes and Deposits within River-Sea Systems pg. 89 – 95.

Short description:

A great part of human domestic activities, agriculture and industrial water supply use groundwater. Overexploitation and other forms of quantitative and qualitative human impact have negative consequence in the protection and conservation of groundwater resources. Increasing investigation degrees in groundwater resources research, offering new detailed information allow transposition in numerical models for quantitative assessment of water reserves and resources. A correct groundwater assessment and administration is based on certain major concepts concerning resource establishment, water storage in rocks of the terrestrial crust, hydraulic properties, groundwater investigation methods and reserve and resource types.

19. Sedimentary Media Modelling Platform for Groundwater Management in Urban Areas

Radu Constantin Gogu (1,2), Dragos Gaitanaru (1), Zenaida Chitu (1), Angela Ionita (2), Marin Palcu (1), Violeta Velasco (3), Enric Vasquez-Sune (4), Loretta Batali (1), and Ioan Bica (1)

Geophysical Research Abstracts Vol. 13, EGU2011-12498, 2011 EGU General Assembly 2011 © Author(s) 2011

Short description:

A reliable management of the hydraulic resources in urban areas can be performed only by using modeling. The models can provide accurate results if they correctly reproduce the hydrogeological processes.

Within this project is developed a software platform containing methodologies and tools that facilitate the integration of the 3D geological models in sedimentary media into the hydrogeological modeling of flow and contaminant transport. This is composed by a geospatial database and a set of tools allowing accurate stratigraphical analysis.

20. Groundwater research in the southern Suhard Mountains, Romania in collaboration with Valentin Boian, Gheorghe Witek, Iulian Popa and Daniel Scradeanu. – published in Proceedings of the 2nd IAH Central European Groundwater Conference (2015) “Groundwater risk assessment in urban areas”, Bucharest 2016 pg. 1 - 6

Short description:

In this paper are presented the complex researches (climatological, geomorphological, hydrological, geological, geophysical survey, hydrogeological and hydrochemical analysis) including groundwater modeling for still mineral water resources.

21. Using analytical solution related to groundwater flow and the propagation of heat in the earth’s crust to assess the impact on groundwater of geothermal exchange wells in Magurele area, Ilfov District, Romania in collaboration with Daniel Scradeanu, Dumitru Neagu, Gheorghe Witek, Dan Stochita, Mihaela Scradeanu and Mihaela Alexandru - published in Proceedings of the 2nd IAH Central European Groundwater Conference (2015) “Groundwater risk assessment in urban areas”, Bucharest 2016 pg. 89 - 97

Short description:

Following the field activities, a complex hydrogeological and thermal model was developed, having as main goals the simulation of the groundwater flow conditions and the influence of the geoexchange wells on the groundwater bodies.

22. The interference conditions assessment in north-western part of Timisoara Town, in case of operating the production wells variable flow rates in collaboration with Gheorghe Witek and Mihaela Alexandru - published in Proceedings of the 2nd IAH Central European Groundwater Conference (2015) “Groundwater risk assessment in urban areas”, Bucharest 2016 pg. 98 - 104

Short description:

The considered hydrodynamic calculations have shown that the applied methodology is providing accurate results for both the production and observation wells of the cluster. The differences between the measured and calculated drawdown are small. According to the hydraulic calculus method, efficient prediction in support to optimal and safe exploitation of the groundwater resources can be performed.

23. The origin of ammonium in carbonated mineral waters and its underground transport to one production well in Middle Ciuc Depression from Eastern Carpathians. SIMI Proceedings Book National Research and Development Institute for Industrial Ecology – ECOIND, Bucharest 26 – 27 September 2019. International Symposium “The Environment and the Industry” ISSN-L: 1843 – 5831, DOI: <http://doi.org/10.21698/simi.2019>

Work in collaboration with Andra Olariu

Short description:

In many cases the mineral carbonated waters, especially in Neogene Volcanic area have ammonium in concentration over 0.5 mg/l. Correlating the surface data, the geological, hydrogeological and hydrochemical information, the deep ammonium were confirmed. After groundwater flow modelling and ammonium transport simulation, the ammonium plume size and preferential transport directions have been finally elucidated.