

International Symposium on Isotope Hydrology:

**Sustainable Water Resources in a
Changing World**

3–7 July 2023

PROGRAMME

Organized by the
International Atomic Energy Agency (IAEA)

In cooperation with the
UNESCO Intergovernmental Hydrological Programme
World Meteorological Organization
International Association of Hydrogeologists

IAEA Headquarters Vienna, Austria

Programme Committee:

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Location of the Event:

International Atomic Energy Agency
Vienna International Centre (VIC)
Building C, BR C

Wagramer Strasse 5
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Working Language:	English
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Resolutions:	No resolutions may be submitted for consideration on any subject; no votes will be taken.
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Read abstracts and full-papers of speakers



Participate in voting during sessions



Raise questions to speakers during session



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TIMETABLE

Monday, 3 July 2023

Time	Session No.	Session Title / Break	Venue
10:00–12:00		Registration	Gate 1
12:00–14:00		Opening Session	BR C
14:00–14:30		<i>Coffee/Tea Break</i>	
14:30–16:00	1	Isotopes in Hydrosphere-Atmosphere Interactions I	
16:00–16:30		<i>Coffee/Tea Break</i>	
16:30–18:00	2	Application of Isotope Age Tracers to Evaluate Water Residence Time	
18:00–18:30		Isotope Hydrology Laboratory Tour	G-1, IHL
18:00–20:00		Workshop 1: Conceptual Model Development for Isotope Hydrology and Water Resource Management	C0739
		Workshop 2: Nitrate Isotopes as Tracers of N-pollution and Cycling in Aquatic Systems	M2

Tuesday, 4 July 2023

Time	Session No.	Session Title / Break	Venue
08:45–10:30	3	Isotopes in Water Quality Studies I	BR C
10:30–11:00		<i>Coffee/Tea Break</i>	
11:00–12:45	4	Revisiting the Role of Tritium as a Tracer of Hydrological Processes	
12:45–14:00		<i>Lunch Break</i>	
14:00–16:00	5	Advances in Noble Gas Applications for Groundwater Dating	
16:00–16:30		<i>Coffee/Tea Break</i>	
16:30–17:45	6	Developments in Isotope Analytical Techniques	
18:00–20:00		<i>Welcome Reception & GloWAL Presentation</i>	<i>Rotunda</i>

Wednesday, 5 July 2023

Time	Session No.	Session Title / Break	Venue
08:45–10:30	7	Isotopes in Water Quality Studies II	BR C
10:30–11:00		<i>Coffee/Tea Break</i>	
11:00–12:45	8	Isotopes in Groundwater Hydrology	
12:45–14:00		<i>Lunch Break</i>	
12:50–13:20		Isotope Hydrology Laboratory Tour	G-1, IHL

Time	Session No.	Session Title / Break	Venue
14:00–16:00	9	Integrating Isotope Techniques and Advanced Modelling Approaches	
16:00–16:30		<i>Coffee/Tea Break</i>	<i>Rotunda</i>
16:30–18:00		Poster Session I	Rotunda
18:00–20:00		Workshop 3: Innovative Devices for Gas Measurement Applications in Isotope Hydrology	G-1, IHL
		Workshop 4: Isotope-Enabled Modelling with JAMS/J2000iso, Demo for IAEA Training Workshop	C0739

Thursday, 6 July 2023

Time	Session No.	Session Title / Break	Venue
08:45–10:30	10	Understanding Surface Water – Groundwater Interaction Using Isotope Tracers	BR C
10:30–11:00		<i>Coffee/Tea Break</i>	
11:00–12:45	11	Isotopes in Hydrosphere-Atmosphere Interactions II	
12:45–14:00		<i>Lunch Break</i>	
14:00–16:00	12	Applications of Isotopes in Climate Change Studies	
16:00–16:30		<i>Coffee/Tea Break</i>	<i>Rotunda</i>
16:30–18:00		Poster Session II	Rotunda
18:00–20:00		Workshop 5: New Developments in Tritium (³ H) Analysis by Electrolytic Enrichment and Liquid Scintillation Counting (LSC)	G-1, IHL
CANCELLED		<i>Workshop 6: Introducing a Comprehensive Modular Laboratory Information Management System for Isotope Analyses (IsoWorks)</i>	<i>C0739</i>

Friday, 7 July 2023

Time	Session No.	Session Title / Break	Venue
08:45–11:00	13	Role of Isotope Hydrology in Water Resources Management	BR C
11:00–11:30		<i>Coffee/Tea Break</i>	
11:30–13:25		Symposium Discussion, Outcomes & Closing Session	BR C
14:00–14:30		Isotope Hydrology Laboratory Tour	G-1, IHL

MONDAY, 3 JULY 2023

12:00–14:00 OPENING SESSION

BR-C

Time	Name	Designating Member State/Organization	Title of Presentation
12:00–12:30	R.M. Grossi	IAEA	Welcome and Opening Statement by the Director General
	H. Liu	IAEA	Opening Remarks by the Deputy Director General, Department of Technical Cooperation
	M. Denecke	IAEA	Opening Remarks by the Director, Division of Physical and Chemical Sciences, Department of Nuclear Sciences and Applications
	J. Miller	IAEA	Administrative Remarks by the Symposium Scientific Secretary
12:30–13:00	J. Cullmann	World Meteorological Organization (WMO)	<i>Keynote:</i> Water Resources in a Changing World: Perspectives from UN Water
13:00–13:30	C. Stumpp	Germany	<i>Keynote:</i> Securing Water Resources for the Future – Opportunities and Challenges in the Use of Isotopes for Sustainable Water Management
13:30–14:00	Y. Wada	Saudi Arabia	<i>Keynote:</i> Opportunities and Constraints for Improved Water Resources Management Using Different Lenses and Scales
14:00–14:30	<i>Coffee/Tea Break</i>		

MONDAY, 3 JULY 2023

14:30–16:00 **Session 1:**
Isotopes in Hydrosphere-Atmosphere
Interactions I

BR-C

Chairpersons: **C. Hughes, Australia**
 L. Araguás Araguás, IAEA

Time	Paper No.	Name	Designating Member State/Organization	Title of Presentation
14:30–15:00	380	A. Cauquoin	Japan	<i>Keynote:</i> Implementation of Tritium in the Atmospheric General Circulation Model (AGCM) MIROC5-Iso to Investigate the Dynamics of the Hydrological Cycle
15:00–15:15	367	R. Sánchez-Murillo	USA	Isotope Network of Tropical Tempestology (STORM): The Genesis and Development of a Collaborative Research Effort across the Intra-Americas Seas and the Eastern Pacific Ocean
15:15–15:30	489	D. Wang	China	What Controls the 3D Distribution of Atmospheric Vapor Isotopes in East Asia
15:30–15:45	533	H. Bong	Japan	Process-based Quantification of Uncertainty in Water Isotope Models
15:45–16:00	482	S. Chakraborty	India	Association of Precipitation Isotopes and the Tropospheric Heating Over the Indian Monsoon Domain
<i>16:00–16:30</i>		<i>Coffee/Tea Break</i>		

TUESDAY, 4 JULY 2023

08:45–10:30 **Session 3:**
Isotopes in Water Quality Studies I

BR-C

Chairpersons: **F. Huneau, France**
 Y. Vystavna, IAEA

Time	Paper No.	Name	Designating Member State/Organization	Title of Presentation
08:45–09:15	619	V. Re	Italy	<i>Keynote:</i> Fingerprinting Human Impact on Groundwater Resources: How to Integrate Isotope Hydrology and Socio-hydrogeology
09:15–09:30	500	M. Caschetto	Italy	Groundwater Ages Distribution Along an Alluvial Basin Aquifer: How Age Estimates can Guide Nitrate Mitigation in Groundwater?
09:30–09:45	611	S. Kebede Gurmessa	South Africa	Tracing Urban Pipe Water Residence Time and Movement Using Environmental Isotopes ($\delta^{18}\text{O}$ - $\delta^2\text{H}$, ^{222}Rn) and Electrical Conductivity – A New Frontier for Urban Water Supply Risk Mapping
09:45–10:00	353	D. Gooddy	United Kingdom	Phosphate Oxygen Isotopes are Pivotal in Multi-isotope Advances for Diagnosing Nutrient Cycling and Sources
10:00–10:15	498	I. Vadillo	Spain	Use of Environmental Isotopes ($\delta^{18}\text{O}_{\text{H}_2\text{O}}$, $\delta^2\text{H}_{\text{H}_2\text{O}}$ and $\delta^{13}\text{C}_{\text{DIC}}$) to Understand the Fate of Emerging Organic Contaminants and Other Organic Contaminants in Water Resources (Case Studies from Southern Spain)
10:15–10:30	586	B. Mayer	Canada	Isotopic Tracing of Sources and Fate of Nitrate, Methane and Ethane in Groundwater in Alberta, Canada
10:30–11:00		<i>Coffee/Tea Break</i>		

TUESDAY, 4 JULY 2023

11:00–12:45 **Session 4:**
Revisiting the Role of Tritium as a Tracer
of Hydrological Processes

BR-C

Chairpersons: **A. Lamb, United Kingdom**
 L. Copia, IAEA

Time	Paper No.	Name	Designating Member State/Organization	Title of Presentation
11:00–11:30	625	I. Cartwright	Australia	<i>Keynote:</i> Determining Transit Times in Dynamic Environments using Tritium
11:30–11:45	493	U.G. Morgenstern	New Zealand	Tritium as Tracer in a Post-Bomb Hydrologic Cycle – Complex Groundwater Age Distributions and Dating of Stream and River Water
11:45–12:00	477	H.P. Broers	Netherlands	Tritium Based Travel Time Distributions and Nitrate Forecasts in Dutch Chalk Springs
12:00–12:15	561	M. Gusyev	Japan	Using Environmental Isotopes to Understand Hydrological Processes in the Naymant Valley and Balgas Red Lake Depressions of Mongolia Gobi Region
12:15–12:30	524	L. Palcsu	Hungary	Preliminary Results of the Tritium Profile at Glacier Colle Gnifetti, Swiss-Italian Alps: Link to the Solar Cycle
12:30–12:45		J. Miller S. Terzer-Wassmuth	IAEA	Upgrading of the IAEA's Water Isotope System for Electronic Retrieval (WISER)
12:45–14:00		<i>Lunch Break</i>		

TUESDAY, 4 JULY 2023

14:00–16:00 **Session 5:**
Advances in Noble Gas Applications for
Groundwater Dating

BR-C

Chairpersons: **D.K. Solomon, USA**
 I. Kuhn, IAEA

Time	Paper No.	Name	Designating Member State/Organization	Title of Presentation
14:00–14:30	576	D. Pinti	Canada	<i>Keynote:</i> Multi-isotopic Approach for Dating Groundwater in the Laurentides, Southern Quebec, Canada
14:30–14:45	562	T. Chambers	Australia	Radiokrypton Measurements at the Australian Atom Trap Trace Analysis Facility
14:45–15:00	588	A. Seltzer	USA	High-precision dissolved noble gas isotopes: A window into physical processes at the water table
15:00–15:15	465	C. Wilske	Australia	Noble Gas Analyses of Fluid Inclusions in the Deep Hiltaba Suite Granite (South Australia) Point towards Fluid Circulation on the Billion Year Time Scale
15:15–15:30	391	D.E. Martínez	Argentina	Dating Old Groundwater with Kr-81 and C-14 in Deep Aquifers in Argentina as a Contribution to Constrain the He-4 Application for Determining Residence Time
15:30–15:45	430	F. Meienburg	Australia	Update on Argon Trap Trace Analysis – Value of Ar-39 Measurements in Various Environmental Systems
15:45–16:00				Roundtable Discussion
16:00–16:30				<i>Coffee/Tea Break</i>

TUESDAY, 4 JULY 2023

16:30–17:45 **Session 6:**
Developments in Isotope Analytical
Techniques

BR-C

Chairpersons: **L. Copia, IAEA**
 M. Vital, IAEA

Time	Paper No.	Name	Designating Member State/Organization	Title of Presentation
16:30–17:00	409	A. Lamb	United Kingdom	<i>Keynote:</i> Advances in Sulfur Isotope Measurements – Progress and Applications for Hydrological Science
17:00–17:15	374	N. Williams	United Kingdom	Unravelling Isotopologue Ratios with the New Orbitrap Exploris™ Isotope Solutions
17:15–17:30	575	O. Schilling	Switzerland	The Potential of Combining Isotope Analyses with Online Noble Gas and Microbial Tracer Methods for Hydrogeological Investigations
17:30–17:45	481	D.K. Solomon	USA	Cosmogenic Production of ³ He during Ultra-Low-Level Tritium Measurements by ³ He Ingrowth

18:00–20:00 **Welcome Reception & GloWAL Presentation** **Rotunda**

WEDNESDAY, 5 JULY 2023

08:45–10:30 **Session 7:**
Isotopes in Water Quality Studies II

BR-C

Chairpersons: **S. Kebede Gurmessa, South Africa**
M. Vital, IAEA

Time	Paper No.	Name	Designating Member State/Organization	Title of Presentation
08:45–09:15	628	F. Huneau	France	<i>Keynote:</i> Combining Multi-isotope Tracing with Organic Compounds to Improve Pollution-sources Tracking of Groundwater Resources in Africa and the Mediterranean, Impact on Aquifer Management Strategies
09:15–09:30	337	D. Pant	India	Impact of High Agricultural Activity on the Groundwater Quality of Southwest Punjab, India
09:30–09:45	442	M. Manzano	Spain	Tracking Contaminant Sources in Groundwater Discharging to the Mar Menor Coastal Lagoon (SE Spain)
09:45–10:00	508	D. Jogee	Mauritius	Major Ion Chemistry and Isotope Hydrology of Surface Waters in the Grand River North West Catchment, Mauritius
10:00–10:15	559	L. Bouchaou	Morocco	Understanding Groundwater Salinization and Recharge Processes in the Essaouira Coastal Aquifer, Morocco
10:15–10:30	375	J. Ikonen	Finland	Behavior of Li, S and Sr Isotopes in the Subterranean Estuary and Seafloor Pockmarks of the Hanko Submarine Groundwater Discharge Site in Finland, Northern Baltic Sea
10:30–11:00	<i>Coffee/Tea Break</i>			

WEDNESDAY, 5 JULY 2023

14:00–16:00 **Session 9:
Integrating Isotope Techniques and
Advanced Modelling Approaches**

BR-C and Rotunda

Chairpersons: **J. Podgorski, Switzerland
A. Harjung, IAEA**

Time	Paper No.	Name	Designating Member State/Organization	Title of Presentation
14:00–14:30	620	I. Ouedraogo	Burkina Faso	<i>Keynote:</i> Exploring Machine Learning Techniques to Identify Nitrate Sources in Groundwater in National Mouhoun Basin in Burkina Faso: The Case of the Kou Watershed
14:30–14:45	579	J. Podgorski	Switzerland	Aquifer Vulnerability Assessment Using Tritium and Machine Learning
14:45–15:00	504	I. Kuhn	Brazil	Groundwater Level Time-Series and its Correlation to Stable Isotopes at Southern Outcrop Area of Guarani Aquifer System
15:00–15:15	530	M. Tanoue	Japan	Global Cloud-system-resolving Model Equipped with Stable Water Isotopes (NICAM-WISO)
15:15–15:30	595	G.J. Bowen	USA	Isotopic Heterogeneity in U.S. Urban Supply Systems Reflects Climatic, Environmental, and Sociodemographic Factors
15:30–15:45	609	A. Watson	South Africa	Developing a Water and Isotope Flux Module for the JAMS/J2000iso Model
15:45–16:00	349	E. Adar	Israel	Assessing the Spatial Distribution of an Aquifer's Transmissivity and Storativity from Isotopes and Hydrochemistry Using a Mixing Cells Modeling Approach
16:00–16:30		<i>Coffee/Tea Break</i>		<i>Rotunda</i>

16:30–18:00 **Poster Session I**

Rotunda

18:00–20:00 **Workshop 3:
Innovative Devices for Gas
Measurement Applications in
Isotope Hydrology**

G-1, IHL
(Meeting Point:
IAEA stand, Rotunda)

Time	Paper No.	Name	Designating Member State/Organization	Title of Presentation
		Workshop 4: Isotope-Enabled Modelling with JAMS/J2000iso, Demo for IAEA Training Workshop		C0739

THURSDAY, 6 JULY 2023

08:45–10:30 **Session 10:**
Understanding Surface Water –
Groundwater Interaction Using Isotope
Tracers

BR-C

Chairpersons: **V. Re, Italy**
 U. Saravana Kumar, IAEA

Time	Paper No.	Name	Designating Member State/Organization	Title of Presentation
08:45–09:15	616	L. Ortega	IAEA	<i>Keynote:</i> Isotopes Key to Unravelling Groundwater-Surface Water Interactions in the Esteros del Iberá Wetland Area, Argentina
09:15–09:30	571	C.N. Wacuka	Kenya	Evaluation of Surface-Groundwater Interaction using Stable Isotopes in Kinale, Loromo and Kikuyu Areas of Kiambu County, Kenya
09:30–09:45	419	P.E. Lartsey	Ghana	Application of Isotope Techniques to Groundwater Resources Management in the North-Western Part of the Volta-River Basin of Ghana
09:45–10:00	505	M. Beyer	Germany	Vegetation Controls Spatial Patterns of Soil Water Isotopes in a Tropical Dry Forest and UAV's Can Help to Predict Them
10:00–10:15	416	O. Bogdevici	Republic of Moldova	Source, Age and Recharge Patterns of Groundwater in SE Europe
10:15–10:30		Roundtable Discussion		
10:30–11:00		<i>Coffee/Tea Break</i>		

THURSDAY, 6 JULY 2023

11:00–12:45 **Session 11:**
Isotopes in Hydrosphere-Atmosphere
Interactions II

BR-C

Chairpersons: **R. Sánchez-Murillo, USA**
 M. Vital, IAEA

Time	Paper No.	Name	Designating Member State/Organization	Title of Presentation
11:00–11:30	395	A.M. Durán-Quesada	Costa Rica	<i>Keynote: Stable Isotope Composition of Rainfall: Insights of Extreme Events</i>
11:30–11:45	510	C. Gerber	Australia	Up-cycling Isotope Data Sets to Improve and Verify Multiple Isoscapes in Australia
11:45–12:00	583	J.D. Van Rooyen	South Africa	Stable and Radiogenic Isotopes in Southern Mozambique: A Window into Groundwater Mixing and Vulnerability
12:00–12:15	332	M. Ramos	Brazil	Water Stable Isotopes Tracking Flowpaths in the Headwaters of São Francisco River, Minas Gerais, Brazil
12:15–12:30	573	C. Müller	Germany	Drought Impacts on the Nitrogen Dynamics in a Mesoscale Watershed in Central Europe – Insights from Stable Isotope Investigations
12:30–12:45	457	C. Voigt	Spain	Disentangling Hydrological and Climatological Controls of Ephemeral Lakes in Southern Spain Using Triple Oxygen Isotopes
12:45–14:00		<i>Lunch Break</i>		

THURSDAY, 6 JULY 2023

14:00–16:00 **Session 12:**
Applications of Isotopes in Climate
Change Studies

BR-C and Rotunda

Chairpersons: **P. Lartsey, Ghana**
O. Kracht, IAEA

Time	Paper No.	Name	Designating Member State/Organization	Title of Presentation
14:00–14:30	631	T. Vennemann	Switzerland	<i>Keynote:</i> Whole wood H- and O-isotope Compositions of Trees Proximal to Rivers Draining Alpine Catchments Provide Evidence of Increased Glacial Melt Water Proportions due to Global Climate Change
14:30–14:45	343	J.A. Corcho Alvarado	Switzerland	Anthropogenic Radionuclides to Study the Age of the Ice in Two Swiss Glaciers
14:45–15:00	502	C. Ditlevsen	Finland	Understanding the Role of Snowmelt Water in a Changing Climate with Isotope Hydrology
15:00–15:15	564	I. Fórizs	Hungary	Application of Stable Water Isotopes on the Kis-Balaton Water Protection System, Hungary
15:15–15:30	439	S.C. Faye	Senegal	Groundwater Recharge and the Intensification of Rainfall under Climate Change: Evidence from an Urban Groundwater Observatory in Dakar, Senegal
15:30–15:45	444	T. Marković	Croatia	Isotope Fingerprint Change in Precipitation and Groundwater due to Climate Change
15:45–16:00		Roundtable Discussion		
16:00–16:30		<i>Coffee/Tea Break</i>		<i>Rotunda</i>
16:30–18:00		Poster Session II		Rotunda
18:00–20:00		Workshop 5: New Developments in Tritium (³H) Analysis by Electrolytic Enrichment and Liquid Scintillation Counting (LSC)		G-1, IHL (Meeting Point: IAEA booth, Rotunda)
CANCELLED		<i>Workshop 6:</i> <i>Introducing a Comprehensive Modular Laboratory Information Management System for Isotope Analyses (IsoWorks)</i>		

FRIDAY, 7 JULY 2023

08:45–10:45 **Session 13:**
Role of Isotope Hydrology in Water
Resources Management

BR-C

Chairpersons: **HE J.F. Facetti, Paraguay**
 J. Miller, IAEA

Time	Paper No.	Name	Designating Member State/Organization	Title of Presentation
08:45–09:15	629	T. Stadnyk	Canada	<i>Keynote:</i> From Threats to Opportunity: Towards Science-informed Policy for Addressing Earth's Grand Challenges
09:15–09:30	371	Y. Llerena Padrón	Cuba	Cuban Experience in the Use of Isotope Hydrology as a Scientific-Technical Tool for the Evaluation of the Water Resources Sustainability
09:30–09:45	463	Z. Rafiei-Sarmazdeh	Iran, Islamic Republic of	Essential of Isotope Hydrology Policy-making in Iran's Water Resource Management Issue
09:45–10:00	592	R. Kirchheim	Brazil	New Findings using Noble Gases Isotopes in the Guarani Aquifer System in South America
10:00–10:15	551	C. Hughes	Australia	Precipitation and Groundwater d2H and d18O Isoscapes to Support Water Management in NSW, Australia
10:15–11:00		Statements and Discussion		
11:00–11:30		<i>Coffee/Tea Break</i>		

FRIDAY, 7 JULY 2023

11:30–13:25 SYMPOSIUM DISCUSSION OUTCOMES & CLOSING SESSION

BR-C

Time	Name	Designating Member State/Organization	Title of Presentation
11:30–12:00	N. Raasakka	United Nations Environment Programme (UNEP)	<i>Keynote:</i> The Importance of Water Quality for National Water Management
12:00–12:30	J. Miller	IAEA	<i>Keynote:</i> The Isotope Hydrology Section at the IAEA: What Does the Future Hold?
12:30–13:00		Discussion	
13:00–13:15	J. Miller	IAEA	Symposium Outcomes by the Scientific Secretary
13:15–13:25	N. Jarvis	IAEA	Closing Remarks by the Section Head, Division for Africa, Department of Technical Cooperation
	J. Miller	IAEA	Closing Remarks by the Scientific Secretary

14:00–14:30

Isotope Hydrology Laboratory Tour

G-1, IHL

(Meeting Point:
IAEA stand, Rotunda)

Poster

WEDNESDAY, 5 JULY 2023

16:30–18:00 POSTER SESSION I:

Rotunda

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
314	V. Zupanc	Slovenia	Evaluation of the Sources and Transport Pathway of Agro-Contaminants in Shallow Aquifers
316	A. Ioannidou	Greece	Seasonal Variations of Tritium and Stable Isotopes in Spring Waters of Simonos Petra Monastery, Mount Athos
322	A. Koroša	Slovenia	Identification of Presence and Sources of Emerging Contaminants in Urban Aquifers
323	M. Zabala	Argentina	Isotopic Variability of Rainfall in a Large Sub-Humid Continental Plain
324	M. Souta	Zimbabwe	Distribution of Isotope Composition in Harare and Bulawayo Precipitation
325	I. Hatvani	Hungary	Tritium Isoscape of the Adriatic–Pannonian Precipitation (1976 – 2017) AP3H_V1 Database
326	I. Hatvani	Hungary	Predicting the Spatial Distribution of Stable Isotopes in Precipitation Using Machine Learning Approaches
328	V. Santos	Brazil	Changes in Isotopic Composition of Mixed Rainfall Events in Southern Brazil
330	M. Yongprawat	Thailand	Temporal and Spatial Variations of Tritium Background Levels in Thailand
333	C. Quaggio	Brazil	Tritium Ages in Groundwater as a Tool to Long-Term Water Resources Management
336	F. Raibi	Morocco	Development and Application of Isotope Techniques for Efficient Water Resources Management in the Kettara Abandoned Mine (Morocco)
338	N. Mujahid	Pakistan	Study of Groundwater Pollution and its Sources Using Isotope/Chemical Techniques in District Kasur, Punjab, Pakistan
342	M.D. Moniruzzaman	Bangladesh	Isotopic and Hydrogeochemical Evolution of Groundwater in Southcentral Part of Bangladesh:

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
			Implications for Vulnerability of Aquifers
344	O. Quiroz	Argentina	Stable Isotope Data and Origin of Daily Rainfall During 2020 – 2022 at the Middle Latitude in the Southwestern Atlantic Region
350	J. Klistinec	Slovakia	Tracking Source of the Nitrogen Pollution in the Groundwater of Slovakia and its Isotopic Composition: Monitoring, Challenges and Possible Solutions
356	M. Vital	IAEA	Factors Affecting the Radon (^{222}Rn) Emanation from Aquifer Rock Materials: Implications for Radiological and Groundwater Tracer Studies
357	M. Qurtobi	Morocco	Use of Environmental Isotopes to Assess Coastal Groundwater Salinization of Akermoud Coastal Plain in Central of Morocco
358	R. Oyarzun	Chile	Isotopic-Geochemical Study of Hydrological Dynamics in Andean Basins, North-Central Chile
359	M. Bellarbi	Morocco	Assessment of Groundwater Quality in Urban and Peri-Urban Fez (Morocco)
362	A. García-Moya	Cuba	Stable Isotopes Signature of Dissolved Nitrate in Rainfall Events in the Caribbean Coast of Cienfuegos, Cuba to Address Atmospheric Nitrogen Sources and Transformation Processes
373	A. Babre	Latvia	Stable Isotope Perspective of Terminal Lake Water Balance in Light of Climate Change in Latvia
377	R. Sánchez-Murillo	USA	Convective Storms, Urban Water Sources, and Runoff Generation in a Highly Altered Urban Center of North-Central Texas, USA
381	D. Das	India	Stable Isotope Assessment of Elevated Groundwater Uranium Contamination Aquifers System in Alluvium Plan Punjab, India
383	S. Bhattacharaya	India	Vapor Isotope Variation in the Taiwan Region Due to Typhoons in 2016
384	K.A. Kpegli	Benin	Level and Sources of Nitrate Pollution Across the Kandi Basin in

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
			Benin (West Africa): Insights from Hydrochemistry and Isotopes
385	K. Zouari	Tunisia	Groundwater Quality Evaluation for Agriculture Purpose: A Case Study from Kasserine Province in Central West Tunisia
387	Z. Skuratovic	Lithuania	Natural (Background) and Anthropogenic Levels of Tritium in the Surface Water of Lithuania Related to Operation of Belarusian NPP
389	A. Perşoiu	Romania	Impacts of Large-Scale Atmospheric Circulation Patterns and Moisture Track Histories on the Stable Isotope Composition of Local Precipitation in SE Europe
390	H. Emvoutou	Cameroon	Occurrence and Residence Time of Groundwaters in the Sahelo-Saharan Area: Chad and Mauritania
392	D. Martínez	Argentina	Tritium as a Tracer in Post-Bomb Hydrological Cycle Processes and Groundwater Systems in the Province of Buenos Aires, Argentina
400	M. Khouatmia	Tunisia	Removal of Oxytetracycline an Emerging Pollutant from Aqueous Solution by Electrocoagulation
408	K. Ichianagi	Japan	Estimating Groundwater Age Using Environmental Tritium Around Lake Ezu, Kumamoto City, Japan
410	R. Balestrini	Italy	Sources of Atmospheric Nitrogen Deposition in an Alpine Tundra Environment (Italy)
414	J. Samaniego	Philippines	Environmental Isotopes Investigation of Groundwater in the Abandoned Mercury Mine in Palawan, Philippines
415	E. Sacchi	Italy	Isotopic Tracing of the Nitrate Input to Water Resources in a Highly Impacted Area of the Po Plain (Northern Italy)
417	N. Sekhon	USA	Insights into Tropical Hydroclimate Using Cave Dripwater and Modern Calcite Geochemistry from Multiple Caves in the Philippines
421	J. Perez Quezadas	Mexico	Implementation of Isotope Tracing at the Basin and Sub-Basin Scales Within a Semi-Arid Region of Northwestern Mexico: From

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
			Precipitation to Groundwater Recharge Processes
423	V. Re	Italy	Ammonium Isotope: A Potential Tracer of Leachate Contamination in Groundwater
426	I. Matiatos	Greece	Preliminary Assessment of Nitrogen Origin in the Pinios River Basin
427	I. Matiatos	Greece	Insights on Nitrogen Dynamics in the Evrotas River Basin – Preliminary Results
428	M. Souta	Zimbabwe	Assessing Groundwater Flow in an Acid Mine Drainage Environment
436	R. Vaikmäe	Estonia	Multi-Tracer Approach to Understand Nitrate Contamination in Estonian Groundwater Under Agricultural Area
438	T. Yu	China	Using Radium Isotopes to Trace the Seasonal Variation of the Submarine Groundwater Discharge in a Shallow Semi-Enclosed Bay of Taiwan Strait
440	T. Chambers	Australia	Groundwater Dating at the Australian Atom Trap Trace Analysis (ATTA) Facility
441	N. Novotni-Horcicka	Croatia	Application of Stable Isotopes and Chemical Parameters to Determine Water Portions at Exits of the Bartolovec Well Filed Site
443	F. Zhang	China	Submarine Fresh Groundwater Discharge as a Major Source of ⁹⁰ Sr to the Coastal Ocean
446	A.B. Abakar	Chad	Tritium Contents in the Multilayer Aquifer System of the Batha Region, Eastern Chad
447	E. Gibert-Brunet	France	Isotope Variability of Rain Assessing Climate Change in Northern France (Renoir Station at Orsay - Paris Basin)
448	M. Guo	Canada	Climate Information Recorded in ¹⁷ O-Excess of Naturally Grown North American Grass Phytoliths
451	C. Hadjer	Algeria	Groundwater Vulnerability and Risk Models Mapping in the Semi-Arid Zone of El Abiod Sidi Cheikh by Using Stable Isotopes and Irrigation Water Quality Indices
454	R. Mokua	South Africa	Storm Event Runoff Generating Process Using Tracer-Based

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
			Hydrograph Separation Methods in Two Headwater Sub-Catchments
455	F. Huneau	France	Precipitation Isoscapes in Areas with Complex Topography and Mediterranean Conditions: Influence of Large-Scale Atmospheric Dynamics versus Microclimatic Phenomena
458	R. Abdelouahab	Algeria	Noble Gases Age Refining of the Deep Continental Intercalaire Aquifer in North-Western Algerian Sahara
459	A. Herczeg	Australia	222Rn _{xs} as a Tracer of Groundwater – Surface Water Interactions
460	R. Trabelsi	Tunisia	Deciphering Geochemical Processes in the Shared Groundwater Resources of the Taoudeni Aquifer System (Sahel Region)
470	L. Bouchaou	Morocco	Identification of Nitrate Contamination Sources Using Isotopic Tracers ($\delta^{15}\text{N}$ and $\delta^{18}\text{O}$): Case of the Souss-Massa Aquifer (Morocco)
475	V. Barros Grace	Brazil	Granite Quarry Mining Effect on Isotopic Leave Composition of Wood Tropical Plants
478	F. Huneau	France	Hydrogeological Functioning and Tracing Pollution Sources of the Regional Quaternary Aquifer in the Lake Chad
479	P. Koeniger	Germany	Comparison of High-Resolution Rainfall and Vapor Stable Isotope Patterns for a Six-Week Period in Hannover, Germany
480	R. Meigikos dos Anjos	Brazil	Fluvial Transport and Fate of Contaminants Released by Mining Dam Collapse
484	S. Musy	Switzerland	Biases of 39Ar Groundwater Ages at Low Infiltration Rates Assessed by Numerical Modeling and 37Ar/39Ar Ratios
486	C. Carton	Canada	Origin and Quantification of the Precipitation Isotopic Signal Heterogeneity in Urban Areas
488	V. Raidla	Estonia	Mixing Processes in the Cambrian–Vendian (Cm-V) Aquifer System in Estonia Influenced by Glacial Meltwater in the Pleistocene

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
495	S. Kassar	Tunisia	Use of Isotopic and Chemical Tracers to Tracking Contribution of Irrigation with Treated Waste Water to Salinization and Pollution of Groundwater in Coastal Area: Thyna Case Study (Sfax-Tunis)
506	M. Marchesi	Italy	The Use of Compound-Specific Isotope Analysis (CSIA) to Allocate the Potential Sources of Dissolved Chlorinated Solvents Contaminant in Large Urban Areas: Lessons Learned from Few Case Studies
509	I. Fórizs	Hungary	Role of Isotope Tools in Monitoring of the Groundwater Nitrate Pollution Caused by Agriculture
512	N. Kabeya	Japan	Transit Time Estimation of Baseflow from a Crystalline Schist Forested Watershed
515	J. Gunasekara	Sri Lanka	Investigation of Isotopes to Identify Nitrogen Pollution and Eutrophication of Lake Gregory Under Stressed Conditions
519	M. Faye	France	Synthesis of Isotopic Data for a Better Understanding of the Functioning of the Maastrichtian Aquifer
520	E. Sacchi	Italy	Assessing the Origin and Migration of Potentially Toxic Elements in Water Resources from the Former Balangero Asbestos Mine Using Stable Isotopes: Preliminary Results
522	A. Stroj	Croatia	The Importance of Considering Local and Effective Precipitation in Hydrogeological Studies: Preliminary Results of the Study of Lička Jesenica Springs in the Dinaric Karst of Croatia
526	B. Nyilyitya	Kenya	Anthropogenic Activities Control Rainfall Nitrate in The Lake Victoria Basin, Kenya
531	F. Raibi	Morocco	Water Source Identification and Circulation Characteristics of Middle Atlas Karst Springs Based on Hydrochemistry and Stable Isotope (Morocco)
532	C. Vallet-Coulomb	France	The ^{17}O -Excess, D-Excess and $\delta^{18}\text{O}$ Composition of Precipitation in Northern Benin
534	G. Czuppon	Hungary	Stable Isotope Composition of 10 Year Precipitation from Hungary (Central Europe): Spatial and Temporal Variabilities
536	D. Jogee	Mauritius	Hydrogeochemistry and Isotope Hydrology of Surface Waters in the

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
			Forested Pristine Watershed of Black River (Mauritius)
537	S. Contreras Acho	Peru	Separation of Base Flow Using Stable Isotopes and Analytical Methods in Glacially Influenced Basin Headwaters, Cordillera Blanca
538	S. Jimenez Oyola	Ecuador	Hydrochemical and Isotopic Evaluation of the Water Resources in the Santa Rosa River Basin, Southern Ecuador
540	S. Ben Ammar	Tunisia	Water Stable Isotopes of Daily Precipitation in Tunisia – New Data
542	W. Ben Nasr	Tunisia	Groundwater Vulnerability to Man-Made Impacts in a Rapidly Expanding Urban Context: Case of Grand-Sfax Urban Agglomeration (Tunisia)
544	M. Kralik	Austria	Helium-Isotope Data of 650 Mainly Shallow and Deep Groundwater in and Around the Easter Alps (Austria, Europe)
549	M. Gusyev	Japan	Environmental Tritium Radioisotope in Japan and China Sites to Understand Hydrological Processes
553	H. Emvoutou	Cameroon	A Gradual Decadence of Tritium - A Study Case of Chad Basin and Douala City/Cameroon
554	M. Czuppon-Lazar	Hungary	Spatial and Temporal Variation of the Chemical and Isotopic Composition of the Springs in Aggtelek Karst
557	L. Bouchaou	Morocco	Tracing the Source of Mineralization and Groundwater Recharge in a Semi-Arid Coastal Region in Morocco
567	R. Völpe	Germany	Tritium – A Radioactive Substance as a Tracer for Dispersion Experiments
568	L. Bouchaou	Morocco	Precipitation Isotopes to Elucidate Moisture Sources in the Western Mediterranean: Case of the Middle Atlas Mountains, Morocco
570	I. Matiatos	Greece	Groundwater Dating of Spring Waters Using Tritium and Lumped Parameter Models
574	G.D. Lorenz	Germany	Groundwater Age Determination (81Kr, 14C etc.) From an Interval in the Beggingen Member of the Calcareous Staffelegg Formation of Mont Terri Rock Laboratory
578	B. Gralher	Germany	Tracking the Evaporation Front with Stable Isotopes of Water in a Drying Sand Column
580	M. Heidinger	Germany	Groundwater Dating With 81Kr/85Kr in the Framework of Nagra's Exploratory Boreholes for a Deep Geological Repository - Highlights and Lessons Learned
585	A. Seltzer	USA	New Insights into Groundwater Dating from Paired ¹⁴ C, ⁴ He, and High-

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
			Precision ⁴⁰ Ar Measurements in a Columbia River Basalt Aquifers
589	R. Purtschert	Switzerland	New Radionoblegas, U-Isotopes and ³⁶ Cl Data from the Milk River Aquifer
590	R. Purtschert	Switzerland	Regional Tritium Input in River Water Determined by High-Resolution Temporal Monitoring
599	C. Avalos de Enciso	Paraguay	Rainwater Contamination in The Urban Area
608	J. Zambrano-Anchundia	Ecuador	Combined Evaluation of Stable Isotopes and Contaminants of Emerging Concern, Santa Elena Peninsula, Ecuador
613	P. Chantzi	Greece	Stable Isotopes of Hydrogen and Oxygen in Milk Casein Samples from Naxos Island, South Aegean, Greece
621	S. Merchel	Austria	Access to VERACore for Applications in Earth and Environmental Sciences: From Be-10 to Actinides
623	A. Zerouali	Morocco	Use of Isotopic Techniques for Understanding the Functioning of the Surface Water Groundwater Interaction Downstream of the Mohammed V Dam in the Lower Moulouya Basin
624	M.D. Hasnaoui	Morocco	Contribution to the Refinement of the Balance Sheet of the Souss Aquifer by the Use of Isotopic Techniques
626	L. Chavanne	IAEA	Engaging Students in Citizen Science: A Collaborative Isotope Hydrology Sampling Campaign of the Danube River
632	J. Williams	IAEA	Deciphering Controls on the Isotopic Signature of UK Precipitation: A Keyworth Case Study

Poster

THURSDAY, 6 JULY 2023

16:30–18:00 POSTER SESSION II:

Rotunda

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
310	A. Phiri	Zambia	Nuclear Techniques in Climate Change and Water Resources
311	B. Nlend	Cameroon	Hydroclimatic Diversity of Cameroon and Consequences on the Isotopic Signature of Water Bodies. Framework for an Efficient National Water Management Strategy
312	L. Gourcy	France	$\delta^{18}\text{O}/\delta^2\text{H}$ and $87\text{Sr}/86\text{Sr}$ in Supporting Understanding a Complex Karstic System Linked to Surface Water – The Loiret System, France
315	D. Trinh	Viet Nam	Computation of Kinetic Fractionation Factors in Descicating Reservoirs
318	C. Nonterah	Ghana	Application of Stable Isotopes and Bayesian Model to Assess Quality, Sources and Age of Groundwater
319	K. Kamdee	Thailand	Estimation of Groundwater Recharge and Recharge Zone Delineation Using Various Methods for Sustainable Groundwater Resource Management: A Case Study in Shallow Unconsolidated Aquifers, Bang Rakam Area, Central Thailand
320	A. AlSaidi	Oman	Using of Environmental Isotopes to Improve Understanding of Wadi Samail and Alkhawd Catchment Hydrogeology, Oman.
334	A. Al Maliki	Iraq	Flood Susceptibility Mapping of Erbil Area, Northern Iraq, Using Morphometric Analysis and Principal Component Analysis (PCA)
335	C. Racadio	Philippines	Environmental Isotopes and Tritium as Tracers of Pollution in the Neritic Zone of Boracay Island, Philippines

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
340	M. Abu Iqrayn	Libya	Studying and Tracking Nitrate Pollution in Groundwater by Using Isotopes $^{15}\text{N}+^{18}\text{O}$ Case Study: JHWF – Libya 3D Essential Conceptual Model
341	D. Khouss	Algeria	Climate Impact on Surface and Groundwater in Reghaia's Wetland (Algiers–Algeria): Geochemical and Isotopic Approach
351	D. Gastmans	Brazil	Groundwater Isotopic Composition Inferring Recharge and Circulation Patterns in Two Sedimentary Aquifers from Semi Arid Region in Brazil
352	D. Gastmans	Brazil	Estimation of Groundwater Discharge Contribution to River Flow in a Pristine Watershed in the Central Amazon Using Water Stable Isotopes
364	M. Mathuthu	South Africa	Investigating the Connection Between the Global Meteoric Water Line and the Local Meteoric Water Line Within the Gauteng and North West Provinces in South Africa
365	M. Vital	Austria	Factors Affecting the Radon (^{222}Rn) Emanation from Aquifer Rock Materials: Implications for Radiological and Groundwater Tracer Studies.
376	A. Ajay	India	Uncovering the Influence of Evapotranspired Recycled Moisture on Global Precipitation: A Stable Isotope Perspective
378	M. Gillon	France	Isotopic Fractionation Mechanism: A Key to Interpretating Isotopic Composition of Calcite at Aquifer Outlet as Hydrosystem Dynamic
382	M. Shamsuddin	Malaysia	Environmental Isotope, Hydrogeochemistry, Groundwater Quality and Numerical Modeling Assessment of The Multiaquifer in Muda River Basin, Kedah and Penang, Malaysia
386	K. Zouari	Tunisia	The Use of Geochemical Tracers for Groundwater Quality and Recharge Processesassessment in the Shared lullemeden Aquifer System (Sahel Region)

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
394	M. Ben Hamouda	Tunisia	Geochemical and Isotopic Characterization of the Groundwater Quality in the Jeffara Coastal Aquifer, Tunisia
397	A.M. Durán-Quesada	Costa Rica	Introducing Water Stables Isotopes in an Interdisciplinary Framework to Study the Impacts of Climate Variability and Change on Coffee Production in Costa Rica
399	D.M. Saeed	Sudan	Assessment of Drinking Groundwater Quality Index in Elfasher, Sudan
401	B. Goumpoukini	Togo	The Use of Hydrogeochemistry and Stable Isotopes to Characterize Water Resources in Volta Basin in the Northern of Togo.
402	M. Warter	Germany	Spatio-Temporal Variations in Stable Water Isotopes Reveal How Hydrological Connectivity Affects the Ecology of Urban Water Bodies
403	W. Darling	United Kingdom	Carbon-14 Activity of Trace Dissolved Methane in Groundwater: Sampling and Initial Findings
404	A. Bleza	Togo	Isotope Investigation on Groundwater Recharge and Dynamics in Aquifers of Savannah Region in Northern Togo
405	F. Barbecot	Canada	Isoscape for Groundwater Recharge Assessment of the Continental Terminal Shallow Aquifer of the Togo Coastal Sedimentary Basin (CSB)
406	K. Miglioranza	Argentina	Climate Change and Persistent Organic Pollutants in Rainfall: Use of Isotopic Tracers to Validate Atmospheric Circulation Models
412	U. Pavlič	Slovenia	Exploring the Dynamics of Aquifer Recharge Using Stable Isotopes
413	M. Souta	Zimbabwe	Analysis of Wetland Functions Using Hydrochemistry Complemented by Water Isotopes
422	V. Re	Italy	Preliminary Characterization of $\delta^2\text{H}$ and $\delta^{18}\text{O}$ Composition of Water Resources in Santa Cruz Island (Galapagos, Ecuador)

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
425	L. Bouchaou	Morocco	Isotopic Technics and Age Dating for Groundwater Sustainability and Climate Change in the Saharan Context (Morocco)
429	F. Meienburg	Australia	A New Fully Automated Noble Gas Extraction and Purification Setup for ATTA Measurements Designed for Small Samples
433	A. Valdes Duran	Chile	The Urgent Need to Apply Nuclear Technologies in the Study of the Aquifer Recharge in the High Cordillera of Central Chile
445	M. Nigro	Italy	A Simple Water Samples Storage Test for Water Isotope Analysis
456	A. Picard	France	The Potential of Isotopic Tracers for Streams Discharge Measurements
461	R. Trabelsi	Tunisia	Recharge Conditions and He Sources in the Djeffara Paleogroundwater: The Use of Environmental Isotopes and Noble Gas (Southern Tunisia)
462	J.M. Ávila	Spain	Combining Different Tracers (CFC-12, 3H, 3He, 4He) to Understand the Hydrogeological Functioning of a Semiconfined Aquifer
464	W. Larbkich	Thailand	Isotope for SDG 6 Acceleration for Thailand
466	A. Mahamat Nour	Chad	Highlighting Groundwater Resilience to Climate Change in the Shallow Quaternary Aquifer of the Lake Chad Basin Using Isotopic and Geochemical Tools
467	S. Santoni	France	Mediterranean Peatlands Hydrogeology and Carbon Balance Revealed by Isotope Geochemistry
468	S. Santoni	France	Isotope Hydrology Tools Reveal the Role and Seasonality of Groundwater Inputs to Mediterranean Small Lagoons Functioning
474	G. Türk	Luxembourg	Reconstructing the History of Flowing Waters from Freshwater Mussels in the Context of Interdecadal Climate Variability

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
483	K. Kuehnhammer	Germany	In Situ Isotope Methods Reveal Dynamics of Water Uptake Depths, Storage and Transport of Tropical Trees
485	D. Wang	China	Unmanned-Aerial-Vehicle-Based Tropospheric Vertical Profiles of Atmospheric Vapor Isotopes in the Southeastern Tibetan Plateau
487	J. Pärn	Estonia	Using Stable Isotope Mass-Balance to Assess the Impact of Future Mining Activities on the Status of Lake Uljaste, Estonia
492	S. Wang	China	Performance of Isotope-Enabled Climate Models for Daily Surface Water Vapor in East Asia
494	M. Heidinger	Germany	⁸⁷ Sr/ ⁸⁶ Sr and $\delta^{11}\text{B}$ Analyses Highlight the Transformational Origin of Geothermal Fluids in the South German Molasse Basin
497	I. Vadillo	Spain	Use of Environmental Isotopes (d18O and d2H) as a Tool to Assess the Quantitative and Chemical Status of Several Groundwater Bodies in Southern Spain According to the Criteria of the Water Framework Directive
511	C. Gerber	Australia	The Effect of CO ₂ in Groundwater Samples on the Measurement of Stable Noble Gases
513	A. Pandey	India	A Seasonal $\delta^{18}\text{O}$ Isoscape for the Shallow Groundwater in India and Underlying Hydrogeological Processes
517	J. Chavez Espinoza	France	Tracer-Aided Hydrological Modeling in the Upper Ouémé Basin, Benin
521	R. Abdelouahab	Algeria	Groundwater Geochemistry of the Transboundary Basins in the Extreme South of Algeria
535	A. Mahamat Nour	Chad	Assessment of the Relationship Between Surface Water and Groundwater in the Lake Fitri Basin, Eastern Lake Chad. Use of Isotopes ($\delta^{18}\text{O}$ and $\delta^2\text{H}$)
539	J. Fanola Paredes	Peru	Identification of the Main Water Sources in Glacier Watershed: The Cordillera Blanca

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
543	D. Burghardt	Germany	Investigations on Well Water Composition at the Bank Filtration Site Görlitz by $\delta^{18}\text{O}$ and $\delta^2\text{H}$ Analysis
556	M. Kalpage	Sri Lanka	Isotopic Variations in Shallow Coastal Aquifer System in the Western Part of Sri Lanka
560	L. Bouchaou	Morocco	A Comprehensive Approach Using Isotopic Tracers for Efficient Water Management in Morocco
577	B. Herbristrit	Germany	Discrete in Situ Vapor Sampling for Measurements of Matrix-Bound Water Stable Isotopes ($\delta^{18}\text{O}$, $\delta^2\text{H}$)
581	R. van Geldern	Germany	The Unusual Carbon Cycle Budget of the Gravona (Corsica) - A Small Stream in a Mountain Silicate Terrain
582	R. van Geldern	Germany	Source and Sink Terms of DO via Stable Isotopes in Lentic Water Bodies: An Example from the Rappbode Reservoir
584	T. Contreras	Honduras	Using the Stable Isotopes ^{18}O and ^2H to Compare the Water Inside and Downstream El Cajon Dam, Honduras
587	R. van Geldern	Germany	Groundwater Isoscapes for Germany: Water Isotopes as an Innovative Tool for Sustainable Water Management
591	R. Kirchheim	Brazil	National Rain Isotopic Monitoring Network in Brazil? Yes, We Do!
593	N. Michelsen	Germany	Do-It-Yourself Cumulative Rain Collectors for Isotope Studies in Hot and Arid Climates
596	F. Mvoufo	Cameroon	Implication of Women in the Management of Water Resources: Case Study of a Uranium-Bearing Area from the Faro Division in the Northern Region, Cameroon.
597	D. Garces Leon	Ecuador	Groundwater – Stream Water Interactions in the Ponce Enríquez Mining Area (Ecuador)
598	M. Mbaye	Senegal	Advanced Modelling Approach for Hydrological Application Under Climate Change Based on Nuclear Related Techniques and Remote Sensing

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
600	D.Garces Leon	Ecuador	Groundwater Recharge Dynamics in a Semi-Arid Irrigation Zone (Santa Elena Province, Ecuador)
602	Y. Han	Korea, Rep. of	Continuous Measurement of Water Vapor Isotopes in the Marine Boundary Layer Using Cavity Ring-Down Spectrometry: A Case Study in the Southern Ocean.
604	L. Santana de Faria Almeida	Brazil	An Appraisal of Brazilian Mineral Waters as In-House Standards for 2H and 18O Isotopic Ratio Determination
610	F. Barbecot	Canada	Riverbank Filtration as a Climate Change Adaption Solution for Drinking Water Supply
612	E. Garel	France	Isotope Characterisation of Thermo-Mineral Springs of Corsica Island: A Groundwater Singularity
618	B. Stenni	Italy	Oxygen and Hydrogen Isotope Records from Antarctic Ice Cores: A Window into the Climate of the Past
633	L. C. Banda	Malawi	Isotopic Insights into the Water Cycle: Decoding Isotopic Signatures of Rain and Water Sources for Sustainable Management, Lake Malawi Basin

Poster

VIRTUAL, 5–6 JULY 2023

16:30–18:00 POSTER SESSION VIRTUAL

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
321	F. Al-Menshed	Iraq	3D Electrical Resistivity Imaging Technique for Environmental Impact: Case Study for Detecting Seawater Intrusion in Dibdibba Aquifer at Basrah Governorate South of Iraq
346	B. Dasgupta	India	Atmosphere-Cryosphere Coupling Processes: A Closer Look into High Mountain Hydrology
348	G. Ekong	Nigeria	Natural Radioactivity Levels and Human Exposure Assessments in Surface Waters in Itu, Southern Nigeria
366	M. Wannous	Germany	Reducing the Gap on Groundwater Knowledge in the Sahel Region Using Isotopic Techniques Applied by Young Hydrogeologists to Map Groundwater Resources
393	P. Sánchez Proaño	Argentina	Use of Environmental Isotopes in the Development of a Hydrogeological Conceptual Model in an Atomic Centre
434	M. Bin Mustafa	Malaysia	Investigating Groundwater and Surface Water Interactions Using Environmental Isotopes and Hydrochemistry in the Sungai Muda Basin
490	F. Becher Quinodoz	Argentina	Stable Isotopes (2H, 18O) and Numerical Modeling: Evaluation of Mixing Processes Between Surface and Groundwater in the Inter-County Quinto River Basin, Argentina
501	D. Giacobone	Argentina	Groundwater Characterization of Aquifer Layers Using Multiple Isotopes Approach in the Pampa Plain
525	F. Roig	Argentina	Nuclear and Isotope-Based Techniques to Study the Impact of Climate Change in the Central Andes of Argentina

Paper No.	Presenting Author	Designating Member State/Organization	Title of Paper
550	G. Wijesooriya	Sri Lanka	Isotopic Characterization of Selected Bottled Water Sources in Sri Lanka – A Pilot Study
527	A. Cane	Argentina	Use of Isotopes for Environmental Management: Development of a Hydrogeological Conceptual Model of a Mining Site - San Rafael, Mendoza, Argentina
563	A. Kimtai	Kenya	Determination of Groundwater Movement in a Fractured Aquifer System Using Isotope Hydrology Techniques. A Case Study of Kiambu Area, Kenya
565	M. Pascuini	Argentina	Surface Water-Groundwater Relationships in a Poorly Drained Region in the Pampa Plain, Argentina
566	V. Lutri	Argentina	Stable Isotopes to Enhance the Hydrogeological Model in Las Peñas Mountains, its Oriental Piedmont and the Associated Sedimentary Plain (Córdoba, Argentina)

IAEA PUBLICATIONS RELATED TO THE SUBJECT OF THE EVENT

Title	Year of Publication	Link
Towards Best Practices in Isotope-Enabled Hydrological Modelling Applications	2022	Towards Best Practices in Isotope-Enabled Hydrological Modelling Applications IAEA
Using Isotopes for Design and Monitoring of Artificial Recharge Systems	2013	Using Isotopes for Design and Monitoring of Artificial Recharge Systems IAEA
Isotope Methods for Dating Old Groundwater	2013	Isotope Methods for Dating Old Groundwater IAEA
Application of Isotope Techniques for Assessing Nutrient Dynamics in River Basins	2013	Application of Isotope Techniques for Assessing Nutrient Dynamics in River Basins IAEA
Isotopes in Hydrology, Marine Ecosystems and Climate Change Studies	2013	Isotopes in Hydrology, Marine Ecosystems and Climate Change Studies IAEA
Managing Irrigation Water to Enhance Crop Productivity under Water-limiting Conditions: A Role for Isotopic Techniques	2017	Managing Irrigation Water to Enhance Crop Productivity under Water-limiting Conditions: A Role for Isotopic Techniques IAEA
Guidelines for Using Fallout Radionuclides to Assess Erosion and Effectiveness of Soil Conservation Strategies	2014	Guidelines for Using Fallout Radionuclides to Assess Erosion and Effectiveness of Soil Conservation Strategies IAEA
Landscape Salinity and Water Management for Improving Agricultural Productivity	2020	Landscape Salinity and Water Management for Improving Agricultural Productivity IAEA
Use of Phosphorus Isotopes for Improving Phosphorus Management in Agricultural Systems	2016	Use of Phosphorus Isotopes for Improving Phosphorus Management in Agricultural Systems IAEA
Use of Radiotracers to Study Surface Water Processes	2015	Use of Radiotracers to Study Surface Water Processes IAEA

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9-13 October, Vienna, Austria

29th IAEA Fusion Energy Conference (CN-316)
16-21 October, London, United Kingdom

International Conference on Waste and Environmental Safety: Integrated Approach to
Strengthening Sustainable Development (CN-318)
6-10 November, Vienna, Austria

International Symposium on the Deployment of Floating Nuclear Power Plants (CN-330)
14-15 November 2023, Vienna, Austria

International Conference on Research Reactors: Achievements, Experience and the Way to a
Sustainable Future (CN-319)
27-30 November, Dead Sea, Jordan

2024

International Conference on Enhancing Operational Safety of Nuclear Power Plants (CN-284)
15 – 19 April 2024, Beijing, China

International Conference on Nuclear Security ICONS 2024 (CN-321)
20 – 24 May 2024, Vienna, Austria

International Symposium on Food Safety and Quality Assurance (CN-322)
27 – 31 May 2024, Vienna, Austria

International Conference on the Management of Spent Fuel from Nuclear Power Reactors (CN-
323)
10 – 14 June 2024, Vienna, Austria

International Conference on Nuclear Knowledge Management and Human Resources
Development: Challenges and Opportunities (CN-324)
2 – 5 July 2024, TBC

International Conference on Hybrid Imaging (IPET 2024) (CN-326)
7 – 11 October 2024, Vienna, Austria

International Conference on Small Modular Reactors and their Applications (CN-327)
28 – 31 October 2024, Vienna, Austria

Ministerial Conference on Nuclear Science and Technology for Development (CN-328)
12 – 14 November 2024, Vienna, Austria

International Conference on Challenges Faced by Technical and Scientific Support Organizations
(TSO) in Enhancing Nuclear Safety and Security: Enhancing science and adaptability in a changing
world and creating perspective for a young generation (CN-329)
2 – 6 December 2024, Vienna, Austria

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