

# **International Symposium on Isotope Hydrology:**

**Advancing the Understanding of  
Water Cycle Processes**

20–24 May 2019

## **PROGRAMME**

Organized by the  
International Atomic Energy Agency (IAEA)

IAEA Headquarters Vienna, Austria

**IAEA Secretariat:**

Scientific Secretary: L. Araguás Araguás, NAPC

Scientific Support: O. Kracht, NAPC  
I. Matiatos, NAPC  
L. Wassenaar, NAPC

Administrative Support: R. Rizaldi, NAPC

Event Organizer: M. Khaelss, MTCD

Exhibition Organizer: S. Padmanabhan, MTCD

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**Location of the Event:**

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

Wagramer Strasse 5  
A-1400 Vienna, Austria  
Tel.: (+43 1) 2600 21315

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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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# IAEA Mobile Conference Application



International Symposium on Isotope Hydrology: Advancing the Understanding of Water Cycle Processes will be using application (App) for smartphones and tablets for various purposes during the conference. Participants are encouraged to download “IAEA Conference and Meetings” App available at Google Play and the iTunes Store.

## Android



## iPhone



Functions and features of the App shown below will be used throughout the Symposium. Please fill in the participant survey at the end of the event.



View on up-to-date programme



Check floor map of the sessions and exhibitors



Read abstracts and full-papers of speakers



Participate in polling during sessions



Raise questions to speakers during session



Send message to other participants



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If you have questions or require assistance on the App, please contact the Registration Desk.

## TIMETABLE

### Monday, 20 May 2019

Time	Session No.	Session Title / Break	Venue
12:45–14:45		Opening session	Board Room C
14:45–15:15		<i>Coffee/tea break</i>	
15:15–16:15	1	Isotopes in precipitation and atmospheric processes	
16:15–16:45		<i>Coffee/tea break</i>	
16:45–18:00	1	Isotopes in precipitation and atmospheric processes (continued)	
18:00–20:00		<i>Welcome reception</i>	C04

### Tuesday, 21 May 2019

Time	Session No.	Session Title / Break	Venue
08:30–10:00	2	Isotopes in water quality studies	Board Room C
10:00–10:30		<i>Coffee/tea break</i>	
10:30–12:30	2	Isotopes in water quality studies (continued)	
12:30–14:00		<i>Lunch break</i>	
14:00–14:45	2	Isotopes in water quality studies (continued)	
14:45–17:30	P1	Poster session 1	C04
15:00–17:00		<i>Refreshments</i>	
17:30–18:00		Isotope Hydrology Laboratory Tour	
18:00–20:00		Workshop: Introduction to Groundwater Age Dating by Noble Gas Isotopes ( <i>for pre-registered participants only</i> )	C0440

### Wednesday, 22 May 2019

Time	Session No.	Session Title / Break	Venue
08:30–10:00	3	Isotopes in groundwater age dating	Board Room C
10:00–10:30		<i>Coffee/tea break</i>	
10:30–12:30	3	Isotopes in groundwater age dating (continued)	
12:30–14:00		<i>Lunch break</i>	
14:00–14:45	3	Isotopes in groundwater age dating (continued)	
14:45–17:30	P2	Poster session 2	C04
15:00–17:00		<i>Refreshments</i>	

Time	Session No.	Session Title / Break	Venue
17:30–18:00		Isotope Hydrology Laboratory Tour	
18:00-20:00		Workshop: Introduction to USGS TracerLPM Software ( <i>for pre-registered participants only</i> )	C0440

### Thursday, 23 May 2019

Time	Session No.	Session Title / Break	Venue
08:30–10:00	4	Noble gas isotope studies	Board Room C
10:00–10:30		<i>Coffee/tea break</i>	
10:30–12:30	5	Isotopes in surface water systems and catchment hydrology	
12:30–14:00		<i>Lunch Break</i>	
14:00–14:45	5	Isotopes in surface water systems and catchment hydrology (continued)	
14:45–17:30	P3	Poster session 3	C04
15:00-17:00		<i>Refreshments</i>	
17:30–18:00		Isotope Hydrology Laboratory Tour	
18:00-20:00		Workshop: Introduction to USGS TracerLPM Software ( <i>for pre-registered participants only</i> )	C0440

### Friday, 24 May 2019

Time	Session No.	Session Title / Break	Venue
08:30–10:00	6	Isotopes in water balance modelling and mapping	Board Room C
10:00–10:30		<i>Coffee/tea break</i>	
10:30–12:00	7	Frontiers in isotope hydrology	
12:00-12:30		Closing session	

## MONDAY, 20 MAY 2019

12:45–14:45 OPENING SESSION

Chairpersons: C.J. Ballentine, UK  
A. Visser, USA

Time	Name	Designating Member State/Organization	Title
12:45–13:15	<b>N. Mokhtar</b>	Deputy Director General, Head of Department of Nuclear Sciences and Applications, IAEA	Opening remarks
13:15–13:45	<b>J. Famiglietti</b>	USA	A map of the future of water
13:45–14:15	<b>J.A. Miller</b>	South Africa	The 2014-2018 Cape Town water crisis: Mistakes made, lessons learned and knowledge gained
14:15–14:45	<b>E. Fourré</b>	France	Water isotopes recorded in Antarctica ice cores: beyond past climatic reconstructions, tracers of hydrosphere- atmosphere interactions
<hr/> <i>14:45–15:15 Coffee/Tea Break</i> <hr/>			

## MONDAY, 20 MAY 2019

15:15–16:15     **SESSION 1:**  
**Isotopes in precipitation and atmospheric processes**

**Chairpersons:** E. Fourré, France  
J.A. Miller, South Africa

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
15:15–15:30	135	<b>C.E. Hughes</b>	Australia	Spatial datasets of $\delta^2\text{H}$ and $\delta^{18}\text{O}$ in precipitation, vapour and tapwater to underpin isotope hydrology and provenance applications in Australia
15:30–15:45	105	<b>R.A. Sanchez-Murillo</b>	Costa Rica	High frequency stable isotope tempestology of Hurricane Otto
15:45–16:00	303	<b>S. Terzer-Wassmuth</b>	IAEA	GNIP in the 21 <sup>st</sup> century: A foundational global isotope data network for water, climate and environment
16:00–16:15	219	<b>A. Visser</b>	USA	Atmospheric circulation and tritium in precipitation
<i>16:15–16:45 Coffee/Tea Break</i>				

## MONDAY, 20 MAY 2019

**16:45–18:00**      **SESSION 1 (continued):**  
**Isotopes in precipitation and atmospheric processes**

**Chairpersons:**    **J.A. Miller, South Africa**  
                          **U.D. Saravana Kumar, IAEA**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
16:45–17:15	285	<b>C.J. Ballentine</b>	UK	Identifying anthropogenic from natural hydrocarbon contamination of aquifers using noble gas isotopes and other tracers
17:15–17:30	223	<b>M. Werner</b>	Germany	Decoding the isotopic fingerprint of water vapour over the Atlantic and Arctic Ocean
17:30–17:45	138	<b>H.J. Oza</b>	India	Revelation of hydrometeorological processes affecting precipitation in different climatic zones of Indian sub-continent
17:45–18:00	83	<b>N. Ahmed</b>	Bangladesh	Atmospheric controls on the precipitation isotopes over Bangladesh
<i>18:00–20:00 Welcome Reception</i>				



## TUESDAY, 21 MAY 2019

**08:30–10:00**      **SESSION 2:**  
**Isotopes in water quality studies**

**Chairpersons:**   **M.J. Hendry, Canada**  
                          **F. Huneau, France**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
08:30–09:00	294	<b>P. Boeckx</b>	Belgium	An (e)valuation of nitrate isotope monitoring for improving nutrient management in complex catchments
09:00–09:30	61	<b>M. Altabet</b>	USA	The new titanium method: a simple, one-step reduction of aqueous NO <sub>3</sub> <sup>-</sup> to N <sub>2</sub> O for IRMS or laser-based analysis of δ <sup>15</sup> N, δ <sup>18</sup> O, and δ <sup>17</sup> O
09:30–09:45	143	<b>K.V. Akpataku</b>	Togo	Groundwater recharge and nitrate contamination sources in the Plateaux Region of Togo
09:45–10:00	248	<b>S. Cisse Ep Faye</b>	Senegal	Isotopic and geochemical evidence of anthropogenic recharge in the Thiaroye urban aquifer of Dakar, Senegal
<i>10:00–10:30 Coffee/Tea Break</i>				

## TUESDAY, 21 MAY 2019

**10:30–12:30**     **SESSION 2 (continued):**  
**Isotopes in water quality studies**

**Chairpersons:**   **M. Altabet, USA**  
                          **P. Boeckx, Belgium**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:30–10:45	262	<b>M. Marchesi</b>	Italy	Assessment of sources and fate of contaminants in groundwater: the case of Milan Metropolitan area
10:45–11:00	216	<b>J.O.Y. Fanny</b>	Mauritius	Application of hydrochemical and isotope techniques to investigate nitrogen pollution in Mauritius
11:00–11:15	23	<b>D.C. Goody</b>	UK	Recent advances and challenges in nutrient source apportionment using phosphate oxygen isotopes
11:15–11:45	300	<b>F. Huneau</b>	France	Filling the hydrogeological gaps for an improved management of shared groundwater resources in the Sahel Region: main outcomes from the RAF/7/011 project
11:45–12:00	236	<b>V. Delgado Quezada</b>	Nicaragua	Use of isotopes and conventional methods to update hydrogeological information of the Sebaco Valley aquifer, Nicaragua
12:00–12:15	123	<b>V. Re</b>	Italy	Socio-Hydrogeology: coupling isotope geochemistry and public engagement to constrain nitrate pollution. The case of Grombalia (Tunisia)
12:15–12:30	136	<b>L. Gourcy</b>	France	Vulnerability assessment of hard-rock aquifers in the Upper-Volta-Gourma-Liptako area using chemical and isotope methods
<i>12:30–14:00 Lunch Break</i>				

## TUESDAY, 21 MAY 2019

**14:00–14:45**     **SESSION 2 (continued):**  
**Isotopes in water quality studies**

**Chairpersons:**   **M.J. Hendry, Canada**  
                          **F. Huneau, France**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00-14:15	222	<b>I. Vadillo</b>	Spain	Application of isotopic techniques for the determination of water sources in the intensive agriculture area of Guadalhorce detrital aquifers (south of Spain)
14:15-14:30	302	<b>B. Herbstritt</b>	Germany	Continuous real-Time analysis of water stable isotopes in ecohydrology
14:30-14:45	172	<b>D. Cicerone</b>	Argentina	Use of isotopes for environmental management. Case study: Hydrogeological conceptual model of a mining site under remediation

**14:45–17:30**     **Poster Session 1:**  
**Isotopes in the assessment of groundwater systems**

**15.00-17:00**     **Refreshments**

*For pre-registered participants only:*

**17:30–18:00**     **Isotope Hydrology Laboratory Tour**  
*(meeting point at C04 Coffee Corner)*

**18:00–20:00**     **Workshop:**  
**Introduction to Groundwater Age Dating by Noble Gas Isotopes**  
*(Room C0440)*

## WEDNESDAY, 22 MAY 2019

**08:30–10:00**      **SESSION 3:**  
**Isotopes in groundwater age dating**

**Chairpersons:** Y. Travi, France  
L. Copia, IAEA

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
08:30-09:00	164	<b>Z. Lu</b>	China	Radio-krypton and radio-argon dating of groundwater
09:00-09:15	207	<b>C. Gerber</b>	Australia	A multi-tracer study on groundwater flow and impacts from changes in paleoclimate and regional development: Peel Area, Western Australia
09:15-09:30	71	<b>H.P. Broers</b>	Netherlands	The $^3\text{H}/^3\text{He}$ groundwater dataset of the Netherlands: Assessing hydrochemical trends and subsurface processes in the Rhine and Meuse River basins
09:30-09:45	189	<b>R.J. Purtschert</b>	Switzerland	$^{81}\text{Kr}$ groundwater dating in rocks with high uranium content
09:45-10:00	261	<b>U. Morgenstern</b>	New Zealand	Groundwater dynamics in the coastal Wairau Plain aquifer
<i>10:00–10:30 Coffee/Tea Break</i>				

## WEDNESDAY, 22 MAY 2019

10:30–12:30 **SESSION 3 (continued):  
Isotopes in groundwater age dating**

Chairpersons: **Z. Lu, China**  
**T. Matsumoto, IAEA**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:30-10:45	194	<b>N. Weber</b>	Israel	$^{14}\text{C}$ and $^{81}\text{Kr}$ age model for the Dead Sea hot-saline springs
10:45-11:00	253	<b>Y. Travi</b>	France	New radiocarbon and stable isotope data from the Senegalese deep aquifer system: hydrogeological modelling and palaeohydrological implications
11:00-11:15	182	<b>C. Wilske</b>	Germany	Estimating mean residence Times and flow velocities to quantify recharge to the western Dead Sea Aquifer System using multiple environmental tracers
11:15-11:30	197	<b>D.O.V. Kotchoni</b>	Benin	Understanding recharge processes in weathered and fissured zones of basement aquifers in Benin
11:30-11:45	233	<b>R.E. Kirchheim</b>	Brazil	Isotope assessments in the Guarani Aquifer System, Brazil: From stable isotopes to noble gases
11:45-12:00	287	<b>R. Karolyte</b>	Lithuania	Mineral springs in South-East Australia reveal the mechanisms of mantle $\text{CO}_2$ migration to shallow aquifers
12:00-12:15	137	<b>K. Kamdee</b>	Thailand	Application of isotope techniques to study groundwater in the unconsolidated aquifer along the Ping River (Thailand)
12:15-12:30	208	<b>A. Suckow</b>	Australia	Investigating recharge and inter-aquifer connectivity at the eastern intake beds of the Great Artesian Basin using multi-isotope studies
12:30–14:00 <i>Lunch Break</i>				

## WEDNESDAY, 22 MAY 2019

**14:00–14:45**     **SESSION 3 (continued):**  
**Isotopes in groundwater age dating**

**Chairpersons:** Y. Travi, France  
O. Kracht, IAEA

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00-14:15	215	<b>N.R. Samuda</b>	Jamaica	Assessment of the water resources in the Kingston hydrologic basin, Jamaica, using isotope techniques
14:15-14:30	179	<b>E. Adar</b>	Israel	Dynamic hydrological cycle in the alleged fossil Nubian Sandstone Aquifer as revealed by <sup>81</sup> Kr versus <sup>14</sup> C isotopes in the Sinai-Negev deserts
14:30-14:45	87	<b>J. Pärn</b>	Estonia	Hydrochemical patterns established in the Pleistocene preserved in the Ordovician-Cambrian aquifer system, northern Baltic Artesian Basin

**14:45–17:30**     **Poster Session 2:**  
**Isotopes in groundwater age dating and paleohydrology**

**15:00-17:00**     **Refreshments**

*For pre-registered participants only:*

**17:30–18:00**     **Isotope Hydrology Laboratory Tour**  
*(meeting point at C04 Coffee Corner)*

**18:00–20:00**     **Workshop:**  
**Introduction to USGS TracerLPM Software**  
*(C0440)*

## THURSDAY, 23 MAY 2019

**08:30–10:00**      **SESSION 4:**  
**Noble gas isotope studies**

**Chairpersons:**   **K. Rozanski, Poland**  
                          **I. Matiatos, IAEA**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
08:30-09:00	299	<b>M.J. Hendry</b>	Canada	The importance of environmental isotopes in understanding aquitard hydrogeology
09:00-09:15	151	<b>L. Davidge</b>	USA	Continuous, high-resolution measurement of $\Delta^{17}O$ from ice cores
09:15-09:30	221	<b>W. Kloppmann</b>	France	Recommendations for integrating isotope fingerprinting in Environmental Baseline Assessment as part of regulation on unconventional gas exploration and exploitation
09:30-09:45	245	<b>L.P. Gumm</b>	UK	Shale gas exploration in the United Kingdom - site characterisation and baseline monitoring using geochemical and isotope tracers
09:45-10:00	286	<b>R.L. Tyne</b>	UK	Noble gases: A tool for tracing enhanced oil recovery signatures in produced waters from the Fruitvale, Lost Hills and Orcutt Oil Fields, CA, USA
<i>10:00–10:30 Coffee/Tea Break</i>				

## THURSDAY, 23 MAY 2019

**10:30–12:30**    **SESSION 5:**  
**Isotopes in surface water systems and catchment hydrology**

**Chairpersons:**   **C. Stumpp, Germany**  
                          **L. Ortega, IAEA**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:30-11:00	306	<b>C. Stumpp</b>	Germany	Isotopes in the unsaturated zone: new opportunities and challenges
11:00-11:15	81	<b>S.P. Rai</b>	India	Temporal variability of snow melt, ice melt and direct runoff in Bhagirathi River (a tributary of River Ganga), Western Himalayan region, India, using stable isotope ( $\delta^2\text{H}$ & $\delta^{18}\text{O}$ )
11:15-11:30	142	<b>M. Lanzoni</b>	USA	Changes to snowmelt-driven recharge in a high-elevation desert valley
11:30-11:45	251	<b>C. Voigt</b>	Germany	Triple oxygen isotope systematics in evaporitic lake settings
11:45-12:00	54	<b>M. Stockinger</b>	Austria	Time-variability of the fraction of young water in a small headwater catchment
12:00-12:15	260	<b>L. Welp-Smith</b>	USA	Relating estimated watershed residence Times and nutrient concentrations in artificially-drained landscapes using stable isotope variability
12:15-12:30	157	<b>M. Beyer</b>	Germany	A novel combined method for high-resolution measurements of water stable isotopes in trees and soils – the stem borehole equilibration
<i>12:30–14:00 Lunch Break</i>				



## THURSDAY, 23 MAY 2019

**14:00–14:45**     **SESSION 5 (continued):**  
**Isotopes in surface water systems and catchment hydrology**

**Chairpersons:**   **K. Rozanski, Poland**  
                          **L. Araguás Araguás, IAEA**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
14:00-14:30	291	<b>R. Gonfiantini</b>	Italy	Hydrogen and oxygen isotopic fractionation in water evaporation: new experiments and equations to describe the isotopic behavior
14:30-14:45	292	<b>A.D. Trinh</b>	Viet Nam	Assessing human impacts on the Red River Delta, Vietnam, to enable sustainable hydrological management

**14:45–17:30**     **Poster Session 3:**  
**Isotopes in precipitation**  
**Isotopes in water balance modelling and mapping**  
**Analytical methods**

**15:00-17:00**     **Refreshments**

*For pre-registered participants only:*

**17:30–18:00**     **Isotope Hydrology Laboratory Tour**  
*(meeting point at C04 Coffee Corner)*

**18:00–20:00**     **Workshop:**  
**Introduction to USGS TracerLPM Software**  
*(C0440)*

## FRIDAY, 24 MAY 2019

**08:30–10:00**      **SESSION 6:**  
**Isotopes in water balance modelling and mapping**

**Chairpersons:** **R. Kipfer, Switzerland**  
**D. Belachew, IAEA**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
08:30-09:00	293	<b>T. Stadnyk</b>	Canada	What value do we gain from isotope-abled simulation of the water cycle?
09:00-09:15	186	<b>C. Vallet-Coulomb</b>	France	Water balance estimates using isotope-enabled rainfall-runoff modelling in the Ouémé catchment (Benin)
09:15-09:30	30	<b>Y. Vystavna</b>	Czech Republic	Isotope-based water balance modelling in a small mountain catchment recovering after deforestation (Czech Republic)
09:30-09:45	97	<b>G.M. Mosquera Rojas</b>	Ecuador	Water storage of tropical alpine catchments at the top of the Andes
09:45-10:00	304	<b>I. Matiatos</b>	IAEA	A predictive model of the stable isotopic composition of groundwater in Greece
<i>10:00–10:30 Coffee/Tea Break</i>				

## FRIDAY, 24 MAY 2019

**10:30–12:00**      **SESSION 7:**  
**Frontiers in isotope hydrology**

**Chairpersons:**    **T. Stadnyk, Canada**  
                          **L. Wassenaar, IAEA**

Time	Paper No.	Name	Designating Member State/Organization	Title of Paper
10:30-11:00	284	<b>R. Kipfer</b>	Switzerland	Landing (noble) gas analytics in the field - towards real Time insitu gas determination (or how mini-Ruedi Ruessel sniffs the World)
11:00-11:30	133	<b>W. Aeschbach</b>	Germany	New perspectives for <sup>39</sup> Ar-dating in the hydrosphere
11:30-12:00	298	<b>G. Blöschl</b>	Austria	23 unsolved problems in hydrology (and how isotopes may help)

**12:00–12:30**      **CLOSING SESSION**

**Chairperson:**    **L. Wassenaar, IAEA**

**M. Denecke**  
**Director, Division of Physical and Chemical Sciences**  
**Department of Nuclear Sciences and Applications, IAEA**

## Poster

**TUESDAY, 21 MAY 2019**

**14:45–17:30 POSTER SESSION 1:  
Isotopes in the assessment of groundwater systems**

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[5] Use of isotope hydrology in groundwater conceptualization for modeling flow and contaminant transport at northwestern Sinai, Egypt	HAMED, Kamilia Hamed Hagagg	Egypt
[10] Isotope tracers in investigating the effect of water pre-treatment on the decomposition of organic matter in managed aquifer recharge	NIINIKOSKI-FUSSWINKEL, Paula Iris Adalmina	Finland
[21] Origin of nitrogen at two drinking water reservoirs in Cienfuegos, Cuba. Preliminary results from a stable isotopes perspective.	GARCIA-MOYA, Alejandro	Cuba
[27] Investigating the seasonal dynamics of anaerobic methane oxidation coupled to nitrate reduction using stable isotope technique	PENA SANCHEZ, Alejandra Gisela	Germany
[31] Assessing the potential of triple isotope analyses of water in groundwater hydrology: examples from Poland	ROZANSKI, Kazimierz	Poland
[36] Determination of recharge by means of stable isotopes in the Groundwater from North-Eastern Aquifer of the West Bank/Palestine	KHAYAT, Saed K K	Palestine
[40] The role of isotope hydrology for understanding groundwater dynamics and recharge mechanisms of a hard-rock aquifer in a uranium mining area	RAMALHO FRANKLIN, Mariza	Brazil
[42] Use of hydrogeochemical and isotopic tools to evaluate the impact of the agricultural activities in the groundwaters of the Taiguaiğüay lagoon basin, Zamora municipality, Aragua state, Venezuela	MONTERO MUDARRA, Ramón Luis	Venezuela
[44] Isotopic fingerprinting of nitrate pollution sources in shallow boreholes using stable isotopes technologies	NADIA BABIKER IBRAHIM SHAKAK	Sudan
[56] Isotope monitoring of dangerous water inflows to the Wieliczka salt mine, southern Poland	DULINSKI, Marek	Poland
[58] Stable isotope compositions of surface waters in Jamaica: Case studies from Rio Cobre and the Milk River watersheds	GORDON-SMITH, Debbie-Ann Denise Shantie	Jamaica

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[63] Identifying geochemical processes and recharge in Infra Cambrian and Continental Terminal zone of Burkina Faso and Mali: A combined hydrochemistry and water isotopes approaches	KOUANDA, Bouraima	Burkina Faso
[65] Groundwater quality assessment in Grombalia basin: application of chemical and isotopic ( $^{15}\text{N}$ , $^{18}\text{O}$ , $^2\text{H}$ , $^3\text{H}$ , $^{14}\text{C}$ , $^{13}\text{C}$ ) approaches	KAMMOUN, Siwar	Tunisia
[68] Use of water ( $\delta^{18}\text{O}$ , $\delta^2\text{H}$ ) and nitrate ( $\delta^{15}\text{N}$ , $\delta^{18}\text{O}$ ) isotopes for the evaluation of urban and agricultural activities on groundwater in the plain of Azua (Dominican Republic)	RODRÍGUEZ DE ESTEPAN, Yenny	Dominican Republic
[74] Application of isotope techniques to evaluate nitrate contamination in groundwater in Rio Cuarto city (Argentina)	GIULIANO ALBO, María Jesica	Argentina
[76] Isotopic and hydrochemical investigation of the basement aquifer in the north of Togo	BOGUIDO, Goumpoukini	Togo
[78] Isotope geochemical and molecular biological evidence for chemo-litho-autotrophic microbial denitrification in a fractured rock aquifer	OSENBRÜCK, Karsten	Germany
[84] Assessment and study of groundwater contamination in the Zarati River watershed, Cocle Province, Panama	FABREGA DUQUE, Jose Rogelio	Panama
[89] Using $^{15}\text{N}$ , $^{17}\text{O}$ , and $^{18}\text{O}$ to determine nitrate sources and fate in wetlands – case study of the Auzon Oxbow, fluvial annex of the Allier River, France	CELLE-JEANTON, Hélène	France
[91] Isotopic and hydro-chemical assessment of the Gwandu Formation aquifer, NW Nigeria	ETTE, Ogechukwu Jennifer	Nigeria
[94] Intrusion of saline water into a coastal aquifer containing palaeogroundwater in Estonia	RAIDLA, Valle	Estonia
[99] Using water chemistry and O-H-N stable isotopes patterns to trace contaminant sources in the Olt River, Romania	IONETE, Roxana Elena	Romania
[104] Improving water quality in vulnerable and shallow aquifers under two intensive fruit and vegetable production	CURK, Miha	Slovenia
[106] Iron and carbon isotopes in landfill areas	BARROS, Virginia Grace	Brazil

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[111] Isotope and hydro-geochemical assessment in Jaffna peninsula in northern Sri Lanka for groundwater development aspects	KARUNARATNE, Galapitagedara Ranjan Ratnapriya	Sri Lanka
[124] Dual geochemical and isotopic approach to study the functioning of the Gabes South phreatic aquifer (south-eastern Tunisia)	BEN ALAYA, Mohsen	Tunisia
[126] Evaluation of surface and groundwater interaction of the Kilimanjaro Aquifer in the south-western part of Kenya, applying isotope techniques	MBUGUA, Agnes Wanjiru	Kenya
[127] The Continental Intercalaire groundwaters of the Tidikelt (In-Salah region). Hydrochemical and isotopic features.	ABDELOUAHAB, Rachid	Algeria
[132] An integrative understanding of Mediterranean coastal aquifers based on geochemical and isotopic tracers: the carbonate aquifer of Bonifacio (Corsica Island, France)	SANTONI, Sébastien	France
[134] Use of environmental isotopes and hydrogeochemistry to assess the effects of pollution caused by agricultural and domestic activities on the quality of groundwater.	ESCUDERO VARGAS, Manuel Alexis	Chile
[148] Use of isotopic and chemical tracers to evaluate the impacts of irrigation by treated waste water on groundwater quality in coastal areas: Thyna case study (Sfax-Tunis)	KASSAR, Siwar	Tunisia
[150] Seasonal change in the origin of terrestrial dissolved nutrients to a pristine micro-estuary (Corsica Island, France)	GAREL, Emilie	France
[154] Isotope geochemistry as management tools for hydraulic barriers effectiveness in tailings dams	QUINTANA SOTOMAYOR, Carlos Felipe	Chile
[161] Evaluation of water quality pollution Indices for heavy metal contamination in the water of Sokoto basin, NW Nigeria.	ETTE, Ogechukwu Jennifer	Nigeria
[162] Geochemical and isotopic characterization of groundwater from the Zaccar karst system (Northern Algeria)	ABDELOUAHAB, Rachid	Algeria
[168] The importance of $^{18}\text{O}$ and $^2\text{H}$ isotope data to better understand the hydrogeological conceptual model of a waste rock dump	FLEMING, Peter Marshall	Brazil

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[169] Regional and vertical trends in the isotopic composition of groundwater in Alberta, Canada	BECKER, Veith	Canada
[171] The influence of the South Atlantic Convergence Zone on groundwater levels and isotope ratios in the Bauru and Guarani Aquifer Systems in the southern-east region of Brazil	KIRCHHEIM, Roberto Eduardo	Brazil
[173] Evaluation of the contamination of the Purapurani aquifer by means of isotopic tools	ALANOCA CHOQUE, Daniela	Bolivia
[174] Strontium isotopic signature of groundwater from aquifers of a semi-arid region in Brazil: Pandeiros River watershed	CARVALHO FILHO, Carlos Alberto	Brazil
[175] Measurements and comparison of uranium and radium isotopes activities and activity ratios in some natural water sources in Morocco.	CHOUKRI, Abdelmajid	Morocco
[177] The IAEA Coordinated Research Project on isotopes to study nitrogen pollution and eutrophication of rivers and lakes	MATIATOS, Ioannis	IAEA
[193] Isotopic and hydrogeochemical studies for evaluating aquifer vulnerability to saline water intrusion and groundwater quality of the Western Sundarbans Delta Complex, India	DAS, Debabrata	India
[198] The stable isotope composition of soil moisture at the radioactive waste repository site, Lithuania	MAŽEIKA, Jonas	Lithuania
[203] Recharge estimation of the Purapurani aquifer through isotopic and conventional techniques	ALANOCA CHOQUE, Daniela	Bolivia
[206] Baseline groundwater quality prior to shale gas development: analysis of multiple environmental isotopes ( $^2\text{H}$ , $^{18}\text{O}$ , $^{13}\text{C}$ , $^{15}\text{N}$ , $^{87}\text{Sr}/^{86}\text{Sr}$ , $^{11}\text{B}$ , $^3\text{He}$ )	LI, Zhenbin	China
[224] Tracer experiments to forecast the soluble pollutants transport in rivers	VÖLPEL, Rike	Germany
[247] Formation of hypersaline groundwater in temperate-climate coastal zones: insights from stable isotopes	POST, Vincent	Germany
[249] Geochemical and isotopic characterization of groundwater in the coastal zone of Nouakchott, Mauritania	TEISS, Bacar	Mauritania
[269] Fluxes, processes, and mechanisms driving nitrogen transport in urban coastal waters	TOOR, Gurpal	USA

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[281] Using stable isotope tools for the assessment of karstic water origin and source in Georgia	MELIKADZE, George	Georgia
[283] Investigation of ground water quality changes using isotope data and water chemistry (case study: East coast of Lake Urmia, Iran)	BALDERER, Werner	Switzerland
[288] An alluvial aquifer as an archive of the Danube River water for the last century	PALCSU, Laszlo	Hungary



**WEDNESDAY, 22 MAY 2019****14:45–17:30 POSTER SESSION 2:  
Isotopes in groundwater age dating and paleohydrology**

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[12] Advances in isotope hydrology and its role in sustainable water management in Cuba (Project CUB/7/009)	ALONSO-HERNANDEZ, Carlos	Cuba
[14] Seasonal variations of tritium, uranium and stable isotopes in groundwater and spring waters in the Anthemountas Basin, Northern Greece	IOANNIDOU, Alexandra	Greece
[17] Isotope Hydrology: A tool for a better understanding of the hydrological processes of groundwater systems in the coastal basin of Akermoud (North of Essaouira city, Morocco)	QURTOBI, Mohamed	Morocco
[20] Application of isotope hydrology in groundwater resources management in Myanmar	KHIN CHO CHO	Myanmar
[26] Dating very old groundwaters in thermal aquifers of the province of Buenos Aires, Argentina, through $^{14}\text{C}$ and noble gases measurements	MARTÍNEZ, Daniel Emilio	Argentina
[34] Hydrogeochemistry and isotope studies of groundwater in the Ga West Municipal Area, Ghana	SAKA, David	Ghana
[41] The IWAVE project in Latin America in support of SDG 6.5: Integrated water resources management	BOCANEGRA, Emilia	Argentina
[43] The use of krypton-81, noble gases and environmental isotopes to characterize and to date Continental Intercalaire paleogroundwater (southern Tunisia)	ZOUARI, Kamel	Tunisia
[45] Spatial distribution of both groundwater recharge and withdrawals in the Nubian Sandstone Transboundary Aquifer using isotope hydrology tools, Lower Nile Basin	NADIA BABIKER IBRAHIM SHAKAK	Sudan
[47] Isotopic data for inferring groundwater dynamics in Cagayan de Oro city, Philippines	RACADIO, Charles Darwin	Philippines
[49] Factors controlling the radon distribution in groundwater of a small tropical mountainous river basin, southwest India	SABU JOSEPH	India

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[50] Using isotope hydrology tools to assess both groundwater recharge and withdrawals in the Nubian Sandstone Aquifer	NADIA BABIKER IBRAHIM SHAKAK	Sudan
[51] Isotope hydrology and chemical study of water resources management in Myanmar	THIN, Aye Aye	Myanmar
[52] Identification of He sources in the Complexe Terminal paleogroundwater (southern Tunisia)	TRABELSI EP GDOURA, Rim	Tunisia
[55] Assessing the hydrogeological functioning of an evaporite karst system coupling tritium and physico-chemical data	GIL MÁRQUEZ, José Manuel	Spain
[59] The CorsicArchive Project: Integrating isotope hydrology, climatology, and tree rings to improve climate record interpretation	JUHLKE, Tobias	Germany
[64] Use of noble gases to investigate unconsolidated aquifers along the Ping River, Thailand	CORCHO, José	Switzerland
[66] The contribution of geochemistry and environmental isotopes to the underground water resources assessment in the Great Algiers District (Algeria)	KHOUS, Dalele	Algeria
[67] The use of isotopic tracers for integrated and sustainable management of shared groundwater resources of the lullemeden aquifer systems (Sahel region)	ZOUARI, Kamel	Tunisia
[70] The stable isotope characteristics of groundwater in the Sokoto Basin	ETTE, Ogechukwu Jennifer	Nigeria
[72] Contribution of environmental isotopes ( $^2\text{H}$ , $^{18}\text{O}$ , $^{13}\text{C}$ , $^{14}\text{C}$ ) in the development of a conceptual hydrogeological model of the Complex Terminal Aquifer in the Kebili Basin	TRIGUI, Mohamed Rafaa	Tunisia
[73] Application of geochemical and isotopic techniques in the study of groundwater in Sidi Merzoug-Sbiba basin, central Tunisia	KHMILA, Khaoula	Tunisia
[75] Inaccurate application of isotope hydrology techniques to the Nubian Sandstone Aquifer (NSA) in Sinai and the Western Sahara Aquifer System (NWSAS)	ELGAMAL, Samir Anwar Mahmoud	Egypt

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[80] Preliminary isotopic assessment of the Douarah Basins' aquifers in central Tunisia	KHALED, Samah	Tunisia
[86] Evaluation of drinking water sources of a small Romanian urban community using isotopic techniques - Preliminary results	VARLAM, Carmen	Romania
[90] A multi-isotope approach to trace salinisation in the lower valley of Wadi Medjerda, northern Tunisia	BEN HAMOUDA, Mohamed Fathi	Tunisia
[96] Advances in the hydrological understanding of the Actopan Basin, Veracruz, Mexico, using a multi-tracer approach	PEREZ QUEZADAS, Juan	Mexico
[109] Transit Time distribution function based on tritium data from the Cauê aquifer, Iron Quadrangle, Minas Gerais, Brazil	SILVA, Aurelio	Brazil
[112] Isotopic and geochemical composition of water and gaseous phases associated to Sandim-CO <sub>2</sub> rich hydromineral system - NE-Portugal	CARREIRA PAQUETE, Paula	Portugal
[113] Integrated studies of <sup>4</sup> He and <sup>81</sup> Kr noble gas ages of the deep aquifers with coupled particles track modeling in the Baltic Artesian Basin	MOKRIK, Robert	Lithuania
[114] Conventional tritium method calibration with <sup>3</sup> H/ <sup>3</sup> He ratio in Eastern Lithuania groundwater	SAMALAVIČIUS, Vytautas	Lithuania
[125] Multi-tracer groundwater study including <sup>39</sup> Ar in the Salalah Plain, Dhofar, Oman	RAEDLE, Viola	Germany
[129] Noble gas and radiocarbon constraints on the residence Time of groundwater in the Table Mountain Group (TMG) Aquifer, South Africa	HARILALL, Zita Michele	South Africa
[130] Isotope hydrology to evaluate long term impact of groundwater exploitation under arid climate. Case of the Djibouti coastal basalt aquifers	KADAR MOHAMED HASSAN	Djibouti
[131] Application of <sup>222</sup> Rn in distinguishing groundwater mixing relationships in the Table Mountain Group aquifer, Western Cape, South Africa	AGYARE-DWOMOH, Yaa	South Africa
[144] The impact of water and land use on nitrate contamination and groundwater residence Time in a	SACCHI, Elisa	Italy

[Paper No.] Title	Presenting Author	Designating Member State/Organization
densely populated area: the Lombardy Plain (N Italy)		
[146] Ten years of isotope hydrology in the Central African Republic	DJEBEBE NDJIGUIM, Chantal Laure	Central African Republic
[149] Testing <sup>14</sup> C-DOC dating in aquifers of the London Basin, UK	DARLING, William	UK
[166] <sup>14</sup> C and <sup>4</sup> He isotopes for groundwater dating of the Tubarão aquifer system, central portion of the Paraná basin in the State of São Paulo, Brazil	GASTMANS, Didier	Brazil
[167] Application of stable isotope and groundwater dating techniques in the confined aquifers of Rio Cuarto River Basin, Cordoba, Argentina	MALDONADO, Marina Luciana	Argentina
[180] Evaluation of the meteoric Cl <sup>-</sup> input for calibration of <sup>36</sup> Cl dating with <sup>81</sup> Kr ages in the brackish Nubian Sandstone Aquifer of the Negev Desert, Israel	RAM, Roi	Israel
[181] Assess impact of climate change on water resources of the Pamir	FINAEVA, Elena	Tajikistan
[192] Recent seawater intrusion into deep aquifers determined by the radioactive noble-gas isotopes <sup>81</sup> Kr and <sup>39</sup> Ar	YECHIELI, Yoseph	Israel
[196] Tritium and stable isotopes in waters of Baltic Sea in 2016-2017	JEFANOVA, Olga	Lithuania
[214] Identification of recharge processes by means of environmental isotopes in the Lake Chad basin	VASSOLO, Sara	Germany
[228] Water resources management and inventory in Azerbaijan Republic	ABDIYEVA-ALIYEVA, Gunay	Azerbaijan
[231] Application of quantum technology for radio-argon dating of glacier ice	FENG, Zhongyi	Germany
[234] Improving shallow groundwater resources management in the Lake Chad basin through isotope hydrology: Outcomes from the IAEA RAF/7/011 project	HUNEAU, Frederic	France
[237] Understanding Kr-81 abundances in the atmosphere for improved accuracy in groundwater dating	ZAPPALA, Jake	USA
[238] Recharge mechanisms in the shallow groundwater of the coastal Golfo de Uraba from a stable and radioactive isotope study	CAMPILLO PEREZ, Ana Karina	Colombia

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[239] Synthesis of isotopic studies in the Senegal Maastrichtian aquifer: Lessons learned and perspectives	FAYE, Serigne	Senegal
[241] Isotopic investigation ( $\delta^2\text{H}$ , $^3\text{H}$ , $\delta^{18}\text{O}$ , $\delta^{13}\text{C}$ and $^{14}\text{C}$ ) on recharge, origin, residence Time and dynamics in the Douala/Cameroon aquifer system	EMVOUTOU, Huguette Christiane	Cameroon
[250] Understanding water circulation with tritium-tracer measurements in selected catchments across Japan	GUSYEV, Maxim	Japan
[264] 55 years of isotope investigations to unravel the groundwater cycles in the Southern Vienna Basin	KRALIK, Martin	Austria
[270] Krypton-81 feasibility study on deep thermal groundwaters in the karstified Upper Jurassic limestone of the Molasse basin (Germany-Austria)	HEIDINGER, Michael	Germany
[271] Using of environmental isotopes to improve the understanding of Wadi Samail Catchment hydrogeology: a pilot study within the framework of the IWAVE project	AL SA IDI, Ahmed Salim Mohammed	Oman
[272] Investigation of recharge sources of groundwater its residence Time and quality through entire area of Bari Doab for sustainable management through the utilization of isotope and chemical techniques	BUTT, Saira	Pakistan
[282] Water resources management using isotope techniques. Case study of Nakhlak-Anarak lead mine, Iran	KHALAJ AMIRHOSSEINI, Yousef	Iran, Islamic Rep of
[308] IWAVE-The IAEA water availability enhancement approach	KRACHT, Oliver	IAEA

## THURSDAY, 23 MAY 2019

### 14:45–17:30 POSTER SESSION 3: Isotopes in precipitation Isotopes in water balance modelling and mapping Analytical methods

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[1] Stable water isotopes in precipitation across the Himalayas: constraints on sources of moisture	JEELANI, Ghulam	India
[6] Relationship between precipitation and groundwater in the Guarani Aquifer System recharge areas revealed by stable isotopes	GASTMANS, Didier	Brazil
[7] Surface water and groundwater interaction inferred by isoscapes in Sao Paulo state watersheds, Brazil	SANTAROSA, Lucas Vituri	Brazil
[8] Groundwater and surface water interaction in a recharge area of the Guarani Aquifer System (GAS)	BATISTA, Ludmila	Brazil
[9] Climatic controls over the isotopic composition of precipitation in Rio Claro (SP), Brazil	DOS SANTOS, Vinicius	Brazil
[16] Environmental isotope applications in Mediterranean coastal plains of Turkey: effects of irrigation	AVCI, Pinar	Turkey
[18] Using stable isotopes to conceptualize groundwater flow system in a tropical wetland	NONTERAH, Cynthia	Ghana
[29] The latitude effect on the stable isotopic composition of precipitation across Thailand	LAONAMSAI, Jeerapong	Thailand
[32] Triple isotope analyses ( $\delta^2\text{H}$ , $\delta^{18}\text{O}$ , $\delta^{17}\text{O}$ ) of water with the aid of laser spectroscopy: analytical performance of Picarro L2140-i spectrometer	PIERCHALA, Anna Magdalena	Poland
[33] Spatial and temporal variability of stable isotopes in precipitation in Kumamoto, southern Japan	ICHIYANAGI, Kimpei	Japan
[37] Spatial and temporal isotopic characterization ( $^2\text{H}/^1\text{H}$ and $^{18}\text{O}/^{16}\text{O}$ ) of modern day precipitation in the Bale Mountains, Ethiopia	DEBEBE, Bruk Lemma	Ethiopia
[38] Stable isotopic composition of precipitation and the environmental controls in Bangladesh	KARIM, Mohammad Masud	Bangladesh
[48] Stable isotopes for estimation of urban groundwater balance in the Kharkiv city, East Ukraine	DIADIN, Dmytro	Ukraine

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[60] Carbon dioxide degassing along a high-relief headwater stream inferred from seasonal variability of the gas exchange between water and atmosphere	VAN GELDERN, Robert	Germany
[62] Hydrochemical and isotopic characterization of the Mampostón-Jaruco Basin as a contribution to the sustainable management of its water resources	GARCIA-MOYA, Alejandro	Cuba
[69] On combining stable and radioactive water isotopes to estimate the transit Time distribution in heterogeneous aquifers	FARLIN, Julien Albert	Luxembourg
[77] Determining the origin of leakage water in El Cajon dam, using stable isotopes	CONTRERAS GALEANO, Tirza Carolina	Honduras
[79] Groundwater isoscapes in the southeastern region of Buenos Aires Province - Argentina	MARTINEZ, Daniel Emilio	Argentina
[85] Isotopic composition of precipitation at two stations in Antananarivo: a comparative study	RAMAROSON, Voahirana	Madagascar
[88] Illustrating the role of isotopes to understand hydrologic processes in large-plain environments	ZABALA, María Emilia	Argentina
[98] High-resolution modeling of flow partitioning using water isotopes and electrical conductivity for model calibration	MOSQUERA ROJAS, Giovanni Mauricio	Ecuador
[100] Spatial variability of tritium in precipitation during single storm events and its bearing on hydrological studies	VAN ROOYEN, Jared	South Africa
[108] Numerical groundwater modeling of the ex industrial mining complex Los Gigantes, Cordoba, Argentina	CICERONE, Daniel	Argentina
[117] Variation in tritium activity in rainfall in Paarl, South Africa and its bearing on understanding groundwater recharge processes	MILLER, Jodie Ann	South Africa
[118] Middle Earth – Stable isotope investigation of precipitation sources in Romania, eastern Europe	PERȘOIU, Aurel	Romania
[121] Development of a conceptual groundwater model in an intermountain Andean aquifer with the support of water stable isotopes: Uspallata valley, Argentina	LANA, Nerina Belen	Argentina

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[128] Study of springs and karst springs using environmental isotopes $^2\text{H}$ and $^{18}\text{O}$ in the Lagoa Santa karst region, Brazil	RIBEIRO, Carolina Gomes	Brazil
[139] Isotope and chemical characteristics of natural waters in the Lower Mahaweli Basin, Sri Lanka	GUNASEKARA, Jasinhage Dona Chaturangi	Sri Lanka
[145] Isotopic composition of monsoon rain in the Salalah area, southern Oman	MÜLLER, Thomas Harald	Germany
[147] Tracing surface water dynamics and groundwater recharge at Inle Lake (Southern Shan State, Myanmar) using stable water isotopes	RE, Viviana	Italy
[152] Analysis of groundwater recharge from isoscapes of precipitation and shallow groundwater in the Northwest of Colombia	BETANCUR, Teresita	Colombia
[153] Seasonal variation of the latitude effect in a mid-latitude region	TANOUE, Masahiro	Japan
[155] Groundwater dynamics of the Murunkan sedimentary basin in Northern Sri Lanka: an environmental isotope study	KARUNADHIPATHIGE, Mahinda Premathilake	Sri Lanka
[159] Mapping environmental tritium activity concentration in recent precipitation in Spain to trace moisture sources in the hydrological cycle	RODRÍGUEZ ARÉVALO, Javier	Spain
[163] Groundwater isotope ratios reflecting convective and stratiform palaeoprecipitation fractions in Bauru aquifer system, Brazil	CHANG, Hung Kiang	Brazil
[165] Ten years of operation of the Belo Horizonte-CDTN GNIP station, Brazil	NONATO KNUPP, Eliana Aparecida	Brazil
[170] New in-situ samplers for Krypton-85 for groundwater dating	MUSY, Stéphanie	Switzerland
[176] Environmental isotopes for assessing water resources in a semiarid biome in Brazil	FERREIRA, Vinicius	Brazil
[183] Exploring the use of water isotopes to investigate fast-forming rain events at a mid-latitude site in Southern Italy	STELLATO, Luisa	Italy
[185] Assessing the tritium levels in the laboratory atmosphere to avoid contamination in ultra-low level analysis	NONATO KNUPP, Eliana Aparecida	Brazil



[Paper No.] Title	Presenting Author	Designating Member State/Organization
[187] First application of a newly developed field gas extraction device to date old groundwater	BÄUMLE, Roland	Germany
[188] Stable isotope composition ( $\delta^2\text{H}$ , $\delta^{18}\text{O}$ and $\delta^{17}\text{O}$ ) of rainfall in Benin, West Africa	VALLET-COULOMB, Christine	France
[190] Piston flow vs. preferential flow in loess aquifer: evidence from multiple environmental tracers (H, O, C, N, Sr)	HUANG, Tianming	China
[201] Persistent organic compounds and water stable isotopes in rain in Buenos Aires City, Argentina	MIGLIORANZA, Karina Silvia Beatriz	Argentina
[204] New noble gas analytical capabilities at the CSIRO Environmental Tracer Laboratory, Australia	GERBER, Christoph	Australia
[209] Water isotopes in precipitation in Turkey	OZYURT, Naciye Nur	Turkey
[210] Geochemical monitoring and flow rates of glacial drainages in the Bayelva catchment (Ny-Ålesund area, Svalbard)	BANESCHI, Ilaria	Italy
[211] Boron isotope analyses in fluid samples: PTIMS versus MC-ICP-MS (Neptune Plus)	PENNISI, Maddalena	Italy
[212] Boron isotopic composition in fluvial and rain water from the Adige basin (Northern Italy)	PENNISI, Maddalena	Italy
[213] Comparison of isotope hydrological patterns of large rivers in Germany (Weser and Rhine Basin)	KOENIGER, Paul	Germany
[217] Hydrogeological responses in tropical mountainous springs	ROJAS-JIMENEZ, Luis Daniel	Costa Rica
[218] Modeling of snowmelt water from a snow pit in Tibetan Plateau	WANG, Ke	China
[220] Water isotopes in Beijing Basin: Monitoring for climate and water changes in a monsoon affected arid region	PANG, Zhonghe	China
[225] Temporal variation of stable water isotope ratios at Neumayer-III station, East Antarctica	BAGHERI DASTGERDI, Saeid	Germany
[227] Spatio-temporal patterns of stream hydrochemistry in a glacierized alpine catchment	ENGEL, Michael	Italy
[230] Filling white spots in Central Asia – a Tajik network of isotopes in precipitation	WEISE, Stephan Matthias	Germany

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[232] The new GNIP network in Brazil: an example of sound institutional arrangements	FRANZINI, Andrea	Brazil
[235] Measuring water stable isotopes in tree xylem in situ: The stem borehole equilibration method	KÜHNHAMMER, Kathrin	Germany
[240] Isotope and geochemical tracers for delineating the hydrogeological functioning of a low altitude Mediterranean peat bog (Corsica Island, France)	SANTONI, Sébastien	France
[243] Real-Time observations of water stable isotope dynamics during rainfall and throughfall events	HERBSTTRITT, Barbara	Germany
[244] Identifying and correcting the gas matrix effects on a cavity ring-down water stable isotope analyzer	GRALHER, Benjamin	Germany
[252] Relation between the water isotopic composition in the North Atlantic marine boundary layer and the boundary layer dynamics	SVEINBJÖRNSDÓTTIR, Árný Erla	Iceland
[256] Isotopic and hydrochemical assessment of groundwater on the Santa Elena Peninsula (Ecuador): implications for artificial recharge	GARCES LEON, Daniel Omar	Ecuador
[258] Trace isotope detection of Cl, I, and Cs at the Vienna Environmental Research Accelerator - routine & ventures	LACHNER, Johannes	Austria
[259] Chlorine isotope analysis of chloride solution using UV-FSLA-MC-ICP-MS	MUSASHI, Masaaki	Japan
[265] Hydro-chemical detection and quantification of permafrost degradation in the Eastern European Alps	KRAUSHAAR, Sabine	Austria
[266] Meteoric water lines with an interval of 27 years, São Paulo, Brazil	MARTINS, Veridiana	Brazil
[267] Regional stable isotope signatures in precipitation and river runoff in Switzerland	SCHOTTERER, Ulrich	Switzerland
[273] The interesting information of oxygen and hydrogen isotopes carried by groundwater: a case from five identical simulated catchments with different land uses from the Shawan Test Site, Southwest China	HU, Yundi	China

[Paper No.] Title	Presenting Author	Designating Member State/Organization
[274] Spatial and temporal variabilities in stable isotope and hydrochemistry to determine flow paths in the Jonkershoek catchment	MOKUA, Retang Anna Lapalemabu	South Africa
[289] Tritium Information Management System (TRIMS): New software to improve performance outcomes of low-level liquid scintillation counting laboratories	BELACHEW, Dagnachew Legesse	IAEA
[307] Maintaining the VPDB scale for $\delta^{13}\text{C}$ : reference materials at the IAEA	ASSONOV, Sergey	IAEA

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International Conference on the Management of Used Fuel from Nuclear Power Reactors, (CN-272), 24–28 June, Vienna, Austria

Scientific Forum, (CN-274), September; Vienna, Austria

International Conference on Climate Change and the Role of Nuclear Power (CN-275), 7–11 October; Vienna, Austria

International Symposium on Trends in Radiopharmaceuticals (ISTR-2019) (CN-276), 28 October–1 November; Vienna, Austria

International Conference on Effective Regulatory Systems for Nuclear and Radiation Safety (CN-270), 4-7 November, The Hague, Netherlands

International Conference on Research Reactors: (CN-277), 25–29 November, Buenos Aires, Argentina

### **2020**

International Conference on Nuclear Security (ICONS-2020) (CN-278), 10-14 February, Vienna, Austria

International Conference on Operational Safety of Nuclear Power Plants (CN-284), 11-15 May, TBC

International Conference on Knowledge Management and Human Resources Development: Challenges and Opportunities (CN-282), 15-19 June, Moscow, Russia

International Symposium on Sustainable Animal Production and Health – Current Status and Way Forward (CN-281), 22-26 June, Vienna, Austria

International Conference on the Safe Transport of Radioactive Material (CN-280), 29 June to 3 July, Vienna, Austria

Scientific Forum (CN-283), September, Vienna, Austria

International Conference on Molecular Imaging and Clinical PET-CT: Paving the Way Towards Personalized Medicine and Theranostics (IPET-2020) (CN-285), 5-9 October, Vienna, Austria

28th IAEA Fusion Energy Conference (FEC2020) (CN-286), 12-17 October, Nice, France

International Conference on the Management of Naturally Occurring Radioactive Materials (NORM) in Industry (CN-287), 19-23 October, Vienna, Austria

International Conference on Radiation Safety (CN-279), 9-13 November, Vienna, Austria

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