

ESIR ISOTOPE WORKSHOP XV

JUNE 23-27, 2019, LUBLIN, POLAND

PROGRAMME

June 23, 2019 (Sunday)

17:00-19:00 *Registration*

19:00-22:00 *Ice breaking party – barbecue (roof of the Victoria Hotel)*

June 24, 2019 (Monday)

8:00-9:15 *Registration*

9:15-9:45 *Opening ceremony*

HYDRO(GEO)LOGY

Chairpersons: Kazimierz Różański and Grzegorz Skrzypek

9:45-10:30 **0-1** *Grzegorz Skrzypek*

Invited lecture **This is what stable isotopes can do for you in water studies**

10:30-10:50 **0-2** *Kazimierz Rozanski, Anna Pierchala, Marek Dulinski,
Zbigniew Gorczyca, Robert Czub, Michał Marzec*

**Triple isotope analyses of water: emerging applications
in hydrology**

10:50-11:20 *Coffee break*

- 11:20-11:40 **0-3** *Carmen Varlam, Roxana-Elena Ionete, Octavian Gheorghe Dului, Ionut Faurescu, Diana Costinel, Irina Vagner, Denisa Faurescu*
Tritium and stable isotopes in precipitation of Rm. Valcea – Romania
- 11:40-12:00 **0-4** *Irina Vagner, Carmen Varlam, Ionut Faurescu, Denisa Faurescu, Mihaela Iordache*
Assessment of tritium and hydrochemistry of surface water and groundwater in Babeni-Valea Mare area – preliminary results
- 12:00-12:20 **0-5** *Rein Vaikmäe*
Groundwater flow history in the Baltic Artesian Basin (BAB) a synthesis of numerical models and hydrogeochemical data
- 12:20-12:40 **0-6** *István Fórizs, József Deák, Stanisław Hałas+, Andrzej Pelc, Viktória Szabó, Árpád Lorberer*
Oxygen isotope exchange rate between bisulphate and H₂O below 100 °C: case study of the Buda Thermal Karst, Hungary
- 12:40-13:00 **0-7** *László Palcsu, Árpád Bihari, Anita Puskás-Preszner, László Rinyu, István Futó*
³⁹Ar dating of groundwater: still hardly available
- 13:00-15:00 *Lunch*
- 15:00-16:00 *ESIR assembly*
- 16:00-16:30 *Coffee break*
- 16:30-18:00 *Poster session*

June 25, 2019 (Tuesday)

8:30-9:00 *Registration*

SESSION OF THE POLISH GEOLOGICAL INSTITUTE

Chairpersons: Robert Anczkiewicz and Daniel J. Dunkley

- 9:00-9:45 **0-8** *Hubert Wierzbowski, Błażej Błażejowski, Daniel Tyborowski*
Invited lecture **Palaeoenvironmental reconstructions based on high-resolution oxygen isotope profiles of uppermost Jurassic vertebrate teeth and oyster shells**
- 9:45-10:30 **0-9** *Robert Anczkiewicz*
Invited lecture **High resolution isotope tracing of geo- and archeo-logical processes by laser ablation MC ICP-MS**

- 10:30-10:50 **O-10** *Zbigniew Czupyt, Hubert Wierzbowski*
Calcite standard for micro-area analysis on SHRIMP IIe/MC
- 10:50-11:15 *Coffee break*
- 11:15-11:35 **O-11** *Andrzej Wilamowski, Paweł M. Leśniak*
Laser-based stable isotope measurements of groundwater in PGI-NRI (Polish Geological Institute)
- 11:35-11:55 **O-12** *Hubert Wierzbowski, Hubert Szaniawski, Błażej Błażejowski*
Isotope and chemical evidence for secondary phosphate mineralization of grasping spines of Lower Palaeozoic Chaetognatha
- 11:55-12:40 **O-13** *Daniel J. Dunkley, Monika A. Kusiak, Martin J. Whitehouse, Simon A. Wilde*
Barcoding the early Earth: potential correlates in polar regions from zircon geochronology
- 12:40-13:00 **O-14** *Ewa Krzemińska, Leszek Krzemiński, Jolanta Paczeńska*
Lublin region through Proterozoic time - an overview of U-Pb isotope zircon data
- 13:00-15:00 *Lunch*
- 15:00-18:00 *City sightseeing*

June 26, 2019 (Wednesday)

8:30-9:00 *Registration*

GEOLOGY AND PALEOCLIMATOLOGY

Chairpersons: Christophe Lécuyer and Ana-Voica Bojar

- 9:00-9:45 **O-15** *Christophe Lécuyer, Serge Legendre, Ana-Voica Bojar, Valérie Daux*
Geographic variations in the slope of the δD - $\delta^{18}O$ meteoric water line over Europe: A record of increasing continentality
- 9:45-10:05 **O-16** *Sarkar Ashish*
 $\delta^{13}C$ vis-à-vis $\delta^{18}O$ of select planktonic foraminiferal species and of organic matter: a possible indicator to discriminate rainfall from the south-west monsoon

- 10:05-10:25 **0-17** *Ana-Voica Bojar, Christophe Lécuyer, Octavian Gheorghe Dului, Hans-Peter Bojar, François Fourel*
Isotopic and time series investigations of recent stalagmites (1945-2018), Schloßberg Tunnels, Graz, Austria: implications for climatic fluctuations
- 10:25-10:55 **0-18** *Vasyl N. Guliy*
Stable isotopic composition of magnesites and dolomites from the Precambrian evaporate-bearing formations of Asia
- 10:55-11:25 *Coffee break*

OTHER APPLICATIONS OF ISOTOPES

Chairpersons: Zdzisław M. Migaszewski and Roxana-Elena Ionete

- 11:25-11:45 **0-19** *Raminta Skipitytė, Kerstin Lidén, Gunilla Eriksson, Rimantas Jankauskas*
Subsistence strategies in late Medieval to early Modern coastal and inland communities in Lithuania revealed by stable isotope data
- 11:45-12:05 **0-20** *Zdzisław M. Migaszewski, Agnieszka Gałuszka*
Isotope geochemistry of acid mine drainage: Lessons from the Wiśniówka area (south-central Poland)
- 12:05-12:25 **0-21** *Roxana-Elena Ionete, Diana Costinel, Oana-Romina Botoran*
Stable O-H-C isotopes and ¹H- and ¹³C-NMR spectroscopic data for differentiation of fruits – A preliminary study
- 0-22** *Adam Porowski, Anastasia Romanova, Beata Gebus-Czupyt, Magdalena Radzikowska*
- 12:25-12:45 **Isotopic composition of mineral bottled waters in Poland: implications for the origin, authentication studies and quality assessment**
- 12:45-13:05 **0-23** *Maciej J. Kotarba, Krzysztof Jurek, Tomasz Romanowski*
Origin of hydrocarbon gases and carbon dioxide in Devonian-Carboniferous strata of the Upper Silesian and Lublin regions: isotopic, hydrous pyrolysis and geological approach
- 13:05-15:00 *Lunch*

ECOLOGY AND ENVIRONMENTAL RESEARCH

Chairpersons: Barbara Sensuła and Agnieszka Gałuszka

- 15:00-15:20 **0-24** *Andrius Garbaras, Raminta Skipitytė, Justina Šapolaitė, Žilvinas Ežerinskis, Vidmantas Remeikis*
Seasonal variation of oxygen, carbon and nitrogen isotope ratios of cow milk in Lithuania

- 15:20-15:40 **0-25** *Barbara Sensuła, Nathalie Fagel, Joël Otten, Nadine Mattielli*
Trace heavy metal and Pb isotopic composition in Scots pine needles in the area near chemical factories in Kędzierzyn-Koźle (Poland)
- 15:40-16:00 **0-26** *Agne Masalaite, Vidmantas Remeikis*
The $\delta^{13}\text{C}$ of carbonaceous aerosol as identifier of main pollution sources
- 16:00-16:30 *Coffee break*
- 16:30-16:50 **0-27** *Agnieszka Gałuszka, Zdzisław M. Migaszewski, Andrzej Pelc, Andrzej Trembaczowski, Sabina Dołęgowska, Artur Michalik*
Diversity in sulfur contents and stable sulfur isotope ratios in samples of plant species collected in the acid mine drainage-impacted area
- 16:50-17:10 **0-28** *Maciej Górka, Elżbieta Kosztowniak, Anita Lewandowska*
Determination of environmental anthropogenic pressure in Lower Silesia (SW Poland) based on carbon isotopic and TC/OC/EC ratio approach in atmospheric PM10
- 17:10-17:30 **0-29** *Jarosław Grodowski*
Cavity ring-down spectroscopy (CRDS)
- 19:00-22:00 *Conference dinner (the Victoria hotel)*

June 27, 2019 (Thursday)

OTHER APPLICATIONS OF ISOTOPES

Chairpersons: Andrzej Pelc and Hans G.M. Eggenkamp

- 9:00-9:45 **0-30** *Hans G.M. Eggenkamp*
 Invited lecture **Halogen stable isotope evolution during experimental evaporation of seawater-type brines**
- 9:45-10:05 **0-31** *Natalia Malygina, Alla Eirikh, Tatiana Papina*
Seasonal stable isotope composition of atmospheric precipitation in South Western Siberia (Russia)
- 10:05-10:45 *Coffee break*

- 10:45-11:05 **0-32** *Maciej Sykut, Sławomira Pawełczyk, Bogumiła Jędrzejewska, Magdalena Niedziałkowska,*
Variability in stable carbon ($\delta^{13}\text{C}$) and nitrogen ($\delta^{15}\text{N}$) isotope ratios at the interindividual and intrapopulation level in red deer (*Cervus elaphus*)
- 11:05-11:25 **0-33** *Oliver Kracht, Christopher Brodie*
Optimizing EA-IRMS: Getting more for less by ultra-high sensitivity
- 11:25-11:40 *Closing ceremony*
- 12:00-13:00 *Lunch*

Posters

- P-1** *Anna Pierchala, Maria Dudek, Kazimierz Rozanski, Marek Dulinski, Zbigniew Gorczyca, Robert Czub, Michal Marzec*
Triple isotope effects accompanying evaporation of water: new insights from dedicated laboratory experiments
- P-2** *Beata Gebus-Czupyt, Stanisław Chmiel, Andrzej Trembaczowski, Bartosz Wach*
The possibilities of P sources identification based on chemical and isotopic analyses on the example of Zakrzówek reservoir - preliminary studies
- P-3** *Katja Koren, Nina Rman, Mitja Janža*
Natural chemical and isotopic groundwater characteristics in Urbas landslide recharge area in the Karavanke Mts. (NW Slovenia)
- P-4** *Nina Rman, Katja Koren, Andrej Lapanje*
Characterization of geothermal resources in Slovenia based on newest monitoring results
- P-5** *Rūta Barisevičiūtė, Evaldas Maceika, Žilvinas Ežerinskis, Justina Šapolaitė, Laurynas Butkus, Andrius Garbaras, Vidmantas Remeikis, Jonas Mažeika, Jūratė Karosienė*
Carbon isotope variations in Lake Tapeliai sediments caused by environmental factors
- P-6** *Daniela Maria Llanos-Campaña, István Gábor Hatvani, Zoltán Kern*
Seasonal changes of leaf cellulose $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ in co-occurring deciduous oak species
- P-7** *Justina Šapolaitė, Žilvinas Ežerinskis, Rūta Barisevičiūtė, Vytautas Rakauskas, Laurynas Butkus, Andrius Garbaras, Tomas Virbickas, Evaldas Maceika, Vidmantas Remeikis*
Application of radiocarbon measurements to freshwater ecosystem food web analysis

P-8 *Algirdas Pabedinskas, Evaldas Maceika, Žilvinas Ežerinskas, Justina Šapolaitė, Vida Juzikienė, Laurynas Butkus, Laurynas Bučinskas and Vidmantas Remeikis*
Prevailing wind direction impact on radiocarbon accumulation in biosphere near NPP

P-9 *Agnieszka Stojanowska, Maciej Górka and Anita Lewandowska*
Air quality assessment in Świętokrzyski National Park (Poland) based on OC/EC concentration and carbon isotopic composition of atmospheric dust and bio-passive indicator *Abies alba* needles

P-10 *Marta Jakubiak, Adriana Trojanowska-Olichwer, Aleksandra Bałuszańska, Mateusz Błoński*
Participation of tributaries to the Oder in the forming of the quality of its waters in the area of Wrocław during the reconstruction of the Wrocław Water Knot

P-11 *Diana Costinel, Roxana-Elena Ionete, Oana-Romina Botoran*
Aspects on plant development in different growth conditions - the variation in H-O isotopes signature

P-12 *Bartosz Wach, Anastasia Romanova, Adam Porowski, Paweł Zawidzki, Beata Gebus-Czupyt*
The isotopic composition of H and O in body water - comparison of the results obtained by use of equilibration and high temperature conversion in CF-IRMS techniques

P-13 *Michał Bucha, Anna Detman, Aleksandra Chojnacka, Łukasz Pleśniak, Mariusz Orion Jędrysek, Anna Sikora*
Processing of lactate, butyrate, propionate and acetate by methane-yielding microbial communities: insight from stable carbon isotopes

P-14 *Maja M. Lojović, Biljana V. Marošanić, Aleksandra Bauer, Strahinja Z. Kovačević, Sanja O. Podunavac-Kuzmanović, Lidija R. Jevrić*
Assessment of authenticity of plum spirits in Serbia applying chemometric tools

P-15 *Maciej Górka, Sławomir Czabaj*
Monitoring of food adulteration - quality control of bee honeys

P-16 *Maciej Górka, Justyna Ciesielczuk, Monika J. Fabiańska, Magdalena Misz-Kennan, Dominik Jura*
The influence of temperature on carbon isotope composition and organic geochemistry of coal from Upper Silesian Coal Basin: an experimental study

P-17 *Sławomira Pawełczyk*
Carbon isotopes as an indicator of air pollution by sulfur – case study for Sudeten and Suwałki region in Poland

P-18 *Natalia Piotrowska, Sławomira Pawełczyk, Jacek Tomczyk, Łukasz M. Stanaszek*
Radiocarbon AMS dating and stable CN isotope composition of Mesolithic human remains from Poland

- P-19** *Barbara Sensuła, Bartłomiej Toroń*
Bio-monitoring of the industrial forest area nearby Łaziska Power Station (Poland): distribution of the contamination on the surface of the Scots pine needles
- P-20** *Barbara Sensuła, Sławomir Wilczyński*
Climate signal in the ring width and stable isotopic composition of Scots pine in Silesia
- P-21** *Tatiana Blyakharchuk, Natalia Malygina*
Reconstruction of the climate and vegetation in Kuznetski Alatau mountains (northern Altai) in Late Glacial and Holocene according to isotope $\delta^{18}\text{O}$ and pollen data from high-mountain mire Chudnoe
- P-22** *Miłosz Huber, Tamara Bayanova, Wiesław Gruszecki, Paweł Serov, Wojciech Grudziński, Andrzej Trembaczowski, Sebastian Skupiński*
Stable isotope and geochemistry study on the Murmansk-Oleniegorsk gneisses, as a possibilities of determining the contribution of cosmic material - preliminary study
- P-23** *Miłosz Huber, Tamara Bayanova, Paweł Serov, Alex Rocholl, Artem Mokrushin, Juri Neradovski, Andrzej Trembaczowski, Sebastian Skupiński*
Evolution of Paleoproterozoic PGE Layered Intrusion on the NE Fennoscandian Shield - stable isotope and geochemistry study
- P-24** *Miłosz Huber, Stanisław Chmiel, Paweł Kramarz*
Surface water from selected regions of the Kola Peninsula as an indicator of the Arctic environment - preliminary study
- P-25** *Cezary Polakowski, Anna Pytlak, Anna Szafranek-Nakonieczna, Yanhong Zheng, Mirosław Słowakiewicz, Adam Kubaczyński, Andrzej Bieganowski, Artur Banach, Agnieszka Wolińska, Zofia Stępniewska*
Stable carbon isotope and biomarker analyses of CH_4 in Miocene lignites, Poland
- P-26** *Marek Janiga, Małgorzata Kania, Irena Matyasik*
Repeatability evaluation of on-line set of pyrolyser, gas chromatograph and isotope ratio mass spectrometer (Py-GC-IRMS)
- P-27** *Karolina Marciszuk, Tomasz Pieńkos, Andrzej Pelc*
Preliminary results of the analysis of stable sulphur isotope in SO_2 gas by negative ion mass spectrometry
- P-28** *Karolina Marciszuk, Tomasz Pieńkos, Artur Wójtowicz, Andrzej Pelc*
Studies of the chlorine stable isotope ratio in the water samples
- P-29** *Adrian Pacek, Tomasz Pieńkos, Andrzej Pelc*
New concept of triple filament ion source for TIMS
- P-30** *Andrzej Trembaczowski*
An example of the impact of fish food preferences on the diversity of the isotopic composition of fish scales