



## Personal information

Name: László, Elemér  
Date of birth: 09 May 1987  
Citizenship: Hungarian  
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## Education

2022-2024 PGD in Hydrology, Faculty of Science, Eötvös Loránd University, Hungary  
2018-2021 PGD in English-Hungarian Translator, University of Debrecen, Hungary  
2015-2018 MSc in Meteorology, Faculty of Science, Eötvös Loránd University, Hungary  
2017 PhD in Earth Sciences, University of Debrecen, Hungary  
2009-2010 MEd in History, Ferenc Rákóczi II. Transcarpathian Hungarian College, Ukraine  
2008-2009 MEd in Geography, Ternopil National Pedagogical University (TNPU), Ternopil, Ukraine  
2004-2009 BEd in History, Ferenc Rákóczi II. Transcarpathian Hungarian College, Ukraine  
2004-2008 BEd in Geography, Ferenc Rákóczi II. Transcarpathian Hungarian College, Ukraine

## Current position

From 2018 Researcher, HUN-REN Institute for Nuclear Research, Hungary

## Previous positions

2015-2017 Research Assistant, HUN-REN Institute for Nuclear Research, Hungary  
2013-2014 Assistant researcher, Department of Meteorology, University of Debrecen, Hungary  
2009-2012 PhD scholarship, Department of Meteorology, University of Debrecen, Hungary

## Research interests

- Isotope hydrology, hydrometeorology, groundwater hydrology
- noble gas and stable isotope analysis using mass and laser spectroscopy
- transport processes in the atmosphere
- water isotopes in the hydrology cycle
- hydrologic modelling
- time-series and wavelet analysis

## **Communication skills**

**I have participated in many international conferences, workshops, and further training**

### **Presentations**

- European Society for Isotope Research Meeting XVI (ESIR), Gratz, 2023, Cloud formation in different scales and their impact on water isotope signature (presentation)
- 6th International Congress on Water, Waste and Energy Management, Rome, 2022, Relationship between precipitation and wine tritium concentrations, Tokaj, Hungary (presentation)
- European Research Course on Atmospheres - ERCA 2013 5th of January-13th of February, Urban heat island in the medium-sized city, Debrecen (presentation)

## **Professional skills**

### **Programming**

Python, R, Matlab, FORTRAN, Grads, AWK, Panoply- IDL

### **Software**

Windows, Linux, MacOS, MS-Office, SPSS, Origin, CDO, Shell, EcCodes

### **Scientific modelling**

QGIS, ArcGIS, Surfer, WRF-ARW, HYSPLIT, FLEXPART

### **Equipment used**

Mass spectrometers (VG5400, Helix-SFT), Cavity Ring-Down Spectroscopy (Picarro, Los Gatos)

## **Language skills**

Hungarian: mother tongue

English: Fluent

Ukrainian: Fluent

Russian: Intermediate

## **Organisational and managerial skills**

**I have been working on the following projects and programs:**

- |           |   |
|-----------|---|
| 2022-2025 | Principal Investigator (PI), Investigation of spatial and temporal changes of tritium in precipitation in the Carpathian Basin, with special regard to the characterization of stratiform and convective precipitation, NKFIH, 2020-2.1.1-ED-2021-00172 |
| 2020-2023 | Participating researcher, Establishment of an International Radiocarbon AMS Competence and Training (INTERACT) Center   |
| 2016-2020 | Participating researcher, ICER Centre: Isotope Climatology and Environmental Research Centre, GINOP project   |
| 2013-2014 | Participating researcher, TÁMOP-4.2.2.C-11/1/KONV-2012-Supercomputer, the national virtual laboratory (HPC-NVL)   |
| 2013-2014 | Participating researcher, Sustainable energy with optimized integration of renewable energy sources TÁMOP-4.2.2.A-11-1-KONV-2012-0041 – DENzero project   |

## **Personal skills**

### **Project management**

From proposal stage through financial management to presenting and reporting

### **Adaptability**

To new work topics, life situations, colleagues, languages

### **Mindset**

Innovative and autonomous

## **Teaching activity**

- From 2023 Member of academic staff, supervisor, Doctoral School of Physics, University of Debrecen  
Atmospheric modelling
- From 2020 Member of academic staff, Doctoral School of Earth Sciences, University of Debrecen  
Past, Present, Future Climate, Isotopes in Hydrometeorology
- From 2020 Lecturer, Physics Institute, University of Debrecen  
Atmospheric physics
- From 2018 Guest lecturer  
Department of Meteorology, Eötvös Loránd University  
Isotopes in hydrometeorology, Chemical processes in the atmosphere
- 2018-2020 Visiting lecturer Department of Building Services and Building Engineering, University of Debrecen  
Laboratory exercises I.-II., Sustainable settlement energy
- 2013-2014 Visiting lecturer  
Department of Environmental Engineering, University of Debrecen  
Basics of Hydrology and Meteorology
- 2013-2014 Assistant research fellow, Department of Meteorology, University of Debrecen  
Meteorological instruments, Meteorology and Climatology practice II.

## **Thesis supervisor for students in Environmental and Earth Sciences**

- From 2020 Thesis: four B.Sc. students defended their thesis
- From 2021 Scientific Student Association (TDK), three BSc students participated

## **Study trips and training**

- 2022 Vacuum technology training, HUN-REN Institute for Nuclear Research, Debrecen
- 2019 Hungarian Learning Path of the C3S Climate Data Store, Wageningen University
- 2015 Campus Hungary short study trip, University College Dublin, School of Mathematical Science, Climate and Meteorology Centre, Dublin, Ireland
- 2014 Campus Hungary long study trip, II. RF KMF, Department of Earth Sciences, Berehove
- 2013 European Resource Course on Atmospheres (ERCA), Grenoble, France, (5 weeks)

## **Achievements and awards**

- 2022 Gusztáv Götz Publication Award, Hungarian Meteorological Society
- 2022 Youth Award of the Hungarian Academy of Sciences

- 2021-2024 János Bolyai Research Fellowship, Hungarian Academy of Sciences
- 2020 Elemér Szádeczky-Kardoss Award by: Hungarian Academy of Sciences
- 2018 Alfréd Hille Award by: Hungarian Meteorological Society
- 2017 National Scientific Student Conference (OTDK), second prize
- 2016 Scholarship for the Young Talents of the Nation, Human Resources Support Manager
- 2009-2012 Scholarship of Ministry
- 2007-2009 Scholarship for the Young Student Researcher, Transcarpathian Hungarian Special Course named Ilona Zrínyi

### **Role in the scientific community**

- 2021 Hungarian Geographical Society, member
- 2020 Transcarpathian Hungarian Academic Council, member
- 2018 Hungarian Academy of Sciences, member
- 2011 Momentum Doctorandus, founding member
- 2010 Hungarian Meteorological Society, member

### **Role in the Civil Community**

- From 2023 Debrecen-Úrrét Reformed Church  
Secular Laeder (Curator)

### **Selected publications**

- Györe, D., Sumino, H., Yang, I., Palcsu, L., **László, E.**, Bishop, M., Mukhopadhyay, S., Stuart, F. 2024. Inter-laboratory re-determination of the atmospheric  $^{22}\text{Ne}/^{20}\text{Ne}$ . *CHEMICAL GEOLOGY*. (**D1 – 4,685**)
- Varga, T., Molnár, M., Molnár, A., Jull, A.J.T., Palcsu, L., **László, E.** 2023. Radiocarbon dating of microliter sized Hungarian Tokaj wine samples. *JOURNAL OF FOOD COMPOSITION AND ANALYSIS*. (**Q1 – 4,52**)
- Puskás-Preszner, A., Szenász-Fekete, C., László, E., Kompár, L., Hajnal, Palcsu, L., 2022. Comparison of Noble Gas Temperature with Recent Mean Annual Air and Soil Temperature in different regions of Hungary. *ENVIRON. PROCESS*. (**Q1 – IF: 4,4**)
- Vargas Espin, D., Pucha-Cofrep, D., Serrano-Vincenti, S., Burneo, A., Carlosama, L., Herrera, M., Cerna, M., Molnár, M., Jull, A., Temovski, M., László, E., Futó, I., Horváth, A., Palcsu, L. 2022. ITCZ precipitation and cloud cover excursions control *Cedrela nebulosa* tree-ring oxygen and carbon isotopes in the northwestern Amazon. *GLOB. PLANET. CHANGE*. (**D1– 3,9**)
- Vargas, D., Chimborazo, O., **László, E.**, Temovski, M., Palcsu, L. 2022: Rainwater Isotopic Composition in the Ecuadorian Andes and Amazon Reflects Cross-Equatorial Flow Seasonality. *WATER* (**Q1 – 3,4**)
- Varga, T., Fisher, R. E., France, J.L., Haszpra, L., Jull, A.J.T., Lowry, D., Major, I., Molnár, M., Nisbet, E.G. **László, E.** 2021. Identification of potential methane source regions in Europe using  $\delta^{13}\text{CCH}_4$  measurements and trajectory modeling. *JOURNAL OF GEOPHYSICAL RESEARCH: ATMOSPHERES* (**D1 – IF: 5,21**)

Jull, A.J.T., Panyushkina, I.P., Molnár, M., Varga, T., Wacker, T., Brehm, N., **László, E.**, Baisan, C., Salzer, M.W., Tegel, W., 2021. Rapid 14C excursion at 3372-3371 BCE not observed at two different locations. NATURE COMMUNICATION 12, 712 (**D1 – IF: 17,69**)

**László, E.**, Palcsu, L., Leelőssy, Á., 2020. Estimation of the solar-induced natural variability of the tritium concentration of precipitation in the Northern and Southern Hemisphere. ATMOSPHERIC ENVIRONMENT, 233 117605. (**Q1 – IF: 4,798**)

Szabó, S., **László, E.**, Kovács, Z., Püspöki, Z., Kertész, Á., Sudhir, K. S., & Balázs, B. 2019. NDVI dynamics as reflected in climatic variables: spatial and temporal trends – a case study of Hungary. GISCIENCE AND REMOTE SENSING 57, 1–21. (**D1 – IF: 5.965**)

Palcsu, L., Morgenstern, U., Sültenfuss, J., Koltai, G., **László, E.**, Temovski, M., ... Jull, A. 2018. Modulation of Cosmogenic Tritium in Meteoric Precipitation by the 11-year Cycle of Solar Magnetic Field Activity. SCIENTIFIC REPORTS 8, 1, 12813. (**D1 – IF: 4,011**)

**László, E.**, Salavec, P. 2018. Relationship between weather conditions advantageous for the development of urban heat island and atmospheric macrocirculation changes. INTERNATIONAL JOURNAL OF CLIMATOLOGY 38, 3224–3232. (**Q1 – IF: 3,601**)