

CSABA SZABÓ  
(June 02, 2021)

Lithosphere Fluid Research Lab  
Department of Petrology and Geochemistry,  
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Data of birth December 1, 1952

Nationality Hungarian

Degree

**Year of Ph.D. 1994 in Geology**

**University/Institution** Virginia Polytechnic Institute & State University, USA

**Title of the Ph.D. dissertation** Mantle Metasomatism beneath the Nógrád-Gömör Volcanic Field, N-Hungary/S-Slovakia, Eastern Europe

**Supervisor** Robert John Bodnar

Languages

**English advanced level write and read (C)**

Qualifications

**1979 Geology major**

Workplaces:

**1979 - Eötvös University, Budapest**

*Position:* Associate professor

**1990 - 1991 University of Tennessee, Knoxville, USA**

*Position:* Research associate

**1991 - 1992 Virginia Polytechnic Institute and State University, Blacksburg, USA**

*Position:* Visiting scholar

**1995 - 1997 Virginia Polytechnic Institute and State University, Blacksburg, USA**

*Position:* Research associate professor

**1998 - 2001 Babes-Bolyai University, Cluj**

*Position:* Lecturer

**2001 - 2004 University of Miskolc**

*Position:* Lecturer

**2006 - 2007 Pusan National University, Busan, Republic of South Korea**  
*Position: Professor*

Memberships:

**1976 - Hungarian Geological Society,**  
**1992 - Geochemical Society,**  
**1993 - American Geophysical Union,**  
**2002 - Association of Hungarian Geophysicists,**

Stipends:

**1990 (1 month) Katholieke Universiteit Leuven, Belgium**  
*Sponsor:* Katholieke Universiteit Leuven  
*Research topic:* Geochemistry of lamprophyres from the Transdanubian Central Ranges, Hungary

**1990-91 (12 months) University of Tennessee, Knoxville, USA**  
*Sponsor:* Széchenyi István Foundation  
*Research topic:* Mantle metasomatism beneath Nórád-Gömör Volcanic Field

**2006-07 (12 months) Pusan National University, Busan, Republic of Korea**  
*Sponsor:* Republic of Korea  
*Research topic:* Mantle processes beneath Jeju Island

**2007 (2 months) Macquarie University, Sydney, Australia**  
*Sponsor:* GEMOC and Department of Geology  
*Research topic:* Sulfide geochemistry of mantle xenoliths from the Carpathian-Pannonian region

Students supervised and postdocs mentored:

**Ph.D. program:** 27 students graduated, 7 students presently  
**M.Sc. program:** 72 students graduated, 2 students presently  
**Hosted 7 postdoctoral researchers,** 4 postdocs presently

International scientific collaboration presently:

**Bodnar, R.J.** (Virginia Polytechnic Institute and State University, Blacksburg, USA), **Török, K.** (Mining and Geological Survey of Hungary, Budapest, Hungary) and **Berkesi, M., Aradi, L.E.** (Eötvös University, Budapest, Hungary): Fluids in the Earth;

**Cesare, B., Bartoli, O.** (University of Padova, Budapest, Hungary) and **Berkesi, M., Aradi, L.E.** (Eötvös University, Budapest, Hungary): Multiphase fluid inclusions in metamorphic formations;

**Falus, Gy., Török, K.** (Mining and Geological Survey of Hungary, Budapest, Hungary), **Kovács, I.** (Institute of Earth Physics and Space Science, Sopron, Hungary), and **Hidas, K., Garrido, C.J.** (Andalusian Earth Sciences Institute, Granada, Spain): Physical state of lithospheric mantle beneath the Carpathian-Pannonian Region;

**Horváth Á., Eröss, A.** (Eötvös University, Budapest, Hungary), **Szabó, K.Zs.** (Nuclear Security Department, Center for Energy Research Budapest, Hungary) and **Pásztor L., Bakacsi Zs.** (Research Institute for Soil Science and Agricultural Chemistry, Budapest, Hungary): Source of radon anomaly and its geochemical reasons;

**Völgyesi, P., Szabó, K.Zs.** (Nuclear Security Department, Center for Energy Research, Hungarian Academy of Sciences, Budapest) and **Szabó-Krausz, Zs.** (Eötvös University, Budapest, Hungary): Urban geochemical studies;

**Zajacz, Z.** (University of Geneva, Switzerland), **Milke, R.** (Free University, Berlin, Germany) and **Guzmics, T., Berkesi, M.** (Eötvös University, Budapest, Hungary): Carbonatite petrogenesis;

**O'Reilly, S.Y., Griffin W.L. and Pearson, N.J.** (Macquarie University, Sydney, Australia) and **Liptai, N.** (Institute of Earth Physics and Space Science, Sopron, Hungary): Mantle xenoliths from the Carpathian-Pannonian Region;

**Székely, E., Mika, L.** (Budapest University of Technology and Economics, Budapest, Hungary), **Czuppon, Gy.** (Institute of Geological and Geochemical Research, Budapest, Hungary) and **Falus Gy.** (Mining and Geological Survey of Hungary, Budapest, Hungary) **Szabó-Krausz, Zs.** (Eötvös University, Budapest, Hungary): Carbon-dioxide and hydrogen capture and storage in geological formations;

**Zanetti, A.** (University of Pavia, Pavia, Italy), **Hidas, K.** (Andalusian Earth Sciences Institute, Granada, Spain) and **Bali, E.** (University of Iceland, Iceland): Study of metasomatic processes in the lithospheric mantle beneath the Pannonian Basin;

**Wesztergom, V., Kovács, I., Novák, A., Liptai, N., Patkó, L.** (Institute of Earth Physics and Space Science, Sopron, Hungary): Lithosphere-asthenosphere boundary beneath the Carpathian-Pannonian Region;

#### **Current Professional Positions:**

Board member of the Geochemistry, Mineralogy and Petrology Committee of the Hungarian Academy of Science (2002-);

Board member of Doctorate School of Environmental Sciences at the Eötvös University (2006-);

Director of the Faculty of Science Research and Industrial Relations Centers at Eötvös University (ELTE FS-RIRC) (2013-);

Board member of the Hungarian Geological Society (2015-);

Representative of Geochemistry, Mineralogy and Petrology Committee of the Hungarian Academy of Science at the General Assembly (2016-);

#### **Achievements and scientometric data:**

Number of journal articles in the first quarter (Q1) of the journal ranking list of the discipline in the last 5 years: 27;

Number of independent citations: >2500;

H-indices: 31;

Additional professional activities:

Served as guest editor at Chemical Geology (2005), Russian Geology and Geophysics (2011), Mineralogy Magazine (2012);  
Chaired/convened/organized 14 scientific meetings or sessions at international assemblies;  
PI of 20 international and national proposals and participant or subproject leader in 18 international and national proposals;  
Invited > 40 visiting professors from Europe, North America, Asia and Australia;  
Mentored > 50 visiting students from Europe, Asia, South America and Africa;  
Visited > 25 country in Europe, North America, Asia, Africa and Australia as invited speaker/lecturer/researcher/visiting professor;

Decorations:

**1978 Scientific Conference of Hungarian Students**

*by:* Council of the Hungarian Scientific Student's Association

*Achievement:* Second place

**1980 Young Hungarian Geologist Conference**

*by:* Hungarian Geological Society

*Achievement:* First place

**1981 Young Scientist Award**

*by:* Hungarian Geological Society

*Achievement:* Award

**1986 Teacher of the Year**

*by:* Ministry of Education, People's Republic of Hungary

*Achievement:* Award

**1999 Széchenyi István Professorship**

*by:* Ministry of Education, Republic of Hungary

*Achievement:* 3-year research scholarship at Eötvös University, Budapest

**2001 Medal of Vitális Sándor for Applied Geology**

*by:* Department of Applied and Environmental Geology, Eötvös University, Budapest

*Achievement:* Award

**2002 Jubilee Memorial Plaque of "With Science For Hungary"**

*by:* Council of the Hungarian Scientific Student's Association

*Achievement:* Award

**2003 Master Teacher Award**

*by:* Council of the Hungarian Scientific Student's Association

*Achievement:* Award

**2006 K21st (Brain for Korea 21st century) Professorship**

*by:* Pusan National University, Republic of Korea

*Achievement:* 1-year professorship at Pusan National University, Busan, Republic of Korea

**2011 For the Hungarian Scientific Student's Association Award**

*by:* Faculty of Science, Eötvös University, Budapest

*Achievement:* Award

**2011 XXX. Jubilee Conference of the Hungarian Scientific Student's Association**

*by:* Council of Hungarian Scientific Student's Association

*Achievement:* Silver Medallion

**2016 Honors of Knight Cross from the Order of Merit of the Republic of Hungary**

*by:* President of the Republic of Hungary

*Achievement:* Civil Degree

Budapest, June 02, 2018

Csaba Szabó, PhD

## Selected Publications

- Szabó, Cs., Harangi, Sz. & Csontos, L. (1992)** Review of Neogene and Quaternary volcanism of the Carpathian-Pannonian region. **Tectonophysics**, 208, 243-256.  
independent citation index: 162
- Szabó, Cs. & Bodnar, R.J. (1995)** Chemistry and origin of mantle sulfides in spinel peridotite xenoliths from alkaline basaltic lavas, Nógrád-Gömör Volcanic Field, northern Hungary and southern Slovakia. **Geochimica et Cosmochimica Acta**, 59, 3917-3927.  
independent citation index: 76
- Szabó, Cs. & Bodnar, R.J. (1996)** Changing magma ascent rates in the Nógrád-Gömör Volcanic Field, Northern Hungary / Southern Slovakia: Evidence from CO<sub>2</sub>-rich fluid inclusions in metasomatized upper mantle xenoliths. **Petrology**, 4, 221-230.  
independent citation index: 41
- Kele, S., Vaselli, O., **Szabó, Cs.** & Minissale, A. (2003) Stable isotope geochemistry of Pleistocene travertines from Budakalász (Buda Mts., Hungary). **Acta Geologica Hungarica**, 46, 161-175.  
independent citation index: 31
- Szabó, Cs., Falus, Gy., Zajacz, Z., Kovács, I. & Bali, E. (2004)** Composition and evolution of lithosphere beneath the Carpathian-Pannonian region: a review. **Tectonophysics**, 393, 119-137.  
independent citation index: 57
- Fall, A., Bodnar, R.J., **Szabó, Cs.** & Pál-Molnar, E. (2007) Fluid evolution in the nepheline syenites of the Ditrău Alkaline Massif, Transylvania, Romania. **Lithos**, 95, 331-345.  
independent citation index: 32
- Zajacz, Z., Kovács, I., **Szabó, Cs.**, Halter, W. & Pettke, T. (2007) Evolution of mafic alkaline melts in the uppermost lithospheric mantle: a melt inclusion study of olivine clinopyroxenite xenoliths, northern Hungary. **Journal of Petrology**, 48, 853-883.  
independent citation index: 26
- Falus, Gy., Tommasi, A., Ingrin, J. & **Szabó, Cs.** (2008) Deformation and seismic anisotropy of the lithospheric mantle in the southeastern Carpathians inferred from the study of mantle xenolith. **Earth and Planetary Science Letters**, 272, 50-64.  
independent citation index: 47
- Guzmics, T., Zajacz, Z., Kodolányi, J., Halter, W. & **Szabó, Cs.** (2008) LA-ICP-MS study of apatite- and K feldspar-hosted primary carbonatite melt inclusions in clinopyroxenite xenoliths from lamprophyres, Hungary: Implications for significance of carbonatite melts in the Earth's mantle. **Geochimica et Cosmochimica Acta**, 72, 1864-1886.  
independent citation index: 42
- Kovács, I. & **Szabó, Cs.** (2008) Middle Miocene volcanism in the vicinity of the Middle Hungarian zone: evidence for an inherited enriched mantle source – a review. **Journal of Geodynamics**, 45, 1-17.  
independent citation index: 34
- Guzmics, T., Mitchell, H.M., **Szabó, Cs.**, Berkesi, M., Milke, R. & Abart, R. (2011) Carbonatite melt inclusions in coexisting magnetite, apatite and monticellite in Kerimasi calciocarbonatite, Tanzania: melt evolution and petrogenesis. **Contributions to Mineralogy and Petrology**, 161, 177-196.  
independent citation index: 72
- Szabó, K.Zs., Udvardi, B., Horváth, Á., Bakacsi, Zs., Pásztor, L., Szabó, J., Laczkó, L. & **Szabó, Cs.** (2012) Cesium-137 concentration of soils in Pest County, Hungary. **Journal of Environmental Radioactivity**, 110, 38-45.  
independent citation index: 28
- Szabó Zs., Völgyesi, P., Nagy, H.E., **Szabó, Cs.**, Kis, Z. & Csorba, O. (2013) Radioactivity of natural and artificial building materials - a comparative study. **Journal of Environmental Radioactivity**, 118, 64-74.  
independent citation index: 40
- Szabó, K.Zs., Jordan, Gy., Horváth, Á. & **Szabó, Cs.** (2014) Mapping the geogenic radon potential: methodology and spatial analysis for central Hungary. **Journal of Environmental Radioactivity**, 129, 107-120.

independent citation index: 28

Völgyesi, P., Jordan, Gy., Zacháry, D., Szabó, Cs., Bartha, A. & Marschullat, J. (2014) Attic dust reflects long-term airborne contamination of an industrial area: A case study from Ajka, Hungary. **Applied Geochemistry**, 46, 19-29.

independent citation index: 11

Szabó, Zs., Hellevang, H., Király, Cs., Sendula, E., Kónya, P., Falus, Gy., Török, Sz. & Szabó, Cs. (2016) Experimental-modelling geochemical study of potential CCS caprocks in brine and CO<sub>2</sub>-saturated brine. **International Journal of Greenhouse Gas Control**, 44, 262-275.

independent citation index: 20

Liptai, N., Patkó, L., Kovács, J.I., Hidas, K., Pintér, Zs., Jeffries, T., Zajacz, Z., O'Reilly, Y.S., Griffin, L.W., Pearson, J.N. & Szabó, Cs. (2017) Multiple metasomatism beneath the Nógrád-Gömör Volcanic Field (Northern Pannonian Basin) revealed by upper mantle peridotite xenoliths. **Journal of Petrology**, 58, 1107-1144.

independent citation index: 7

Tacchetto, T., Bartoli, O., Cesare, B., Berkesi, M., László Előd Aradi, L.E., Dumond, G. & Szabó, Cs. (2018) Multiphase inclusions in peritectic garnet from granulites of the Athabasca granulite terrane (Canada): Evidence of carbon recycling during Neoproterozoic crustal melting. **Chemical Geology**, 508, 197-209.

independent citation index: 1

Patkó, L., Liptai, N., Kovács, I.J., Aradi, L.E., Xia, Q.K., Ingrin, J., Mihály, J., O'Reilly, S.Y., Griffin, W.L., Wesztergom, V. & Szabó, Cs. (2019) Extremely low structural hydroxyl contents in upper mantle xenoliths from the Nógrád-Gömör Volcanic Field (northern Pannonian Basin): Geodynamic implications and the role of post-eruptive re-equilibration. **Chemical Geology**, 507, 23-41.

independent citation index: 5

Berkesi, M., Czuppon, Gy., Szabó, Cs., Kovács, I., Ferrero, S., Boirin, M-C. & Peiffert, C. (2019) Pargasite in fluid inclusions of mantle xenoliths from northeast Australia (Mt. Quincan): evidence of interaction with asthenospheric fluid. **Chemical Geology**, 508, 182-196.

independent citation index: 3

Kelepertzis, E., Argyraki, A., Botsou, F., Aidona, E., Szabó, Á. & Szabó, Cs. (2019) Tracking the occurrence of anthropogenic magnetic particles and potentially toxic elements (PTEs) in house dust using magnetic and geochemical analyses. **Environmental Pollution**, 245, 909-920.

independent citation index: 3

Patkó, L., Créon, L., Kovács, Z., Liptai, N., Rosenberg, E. & Szabó, Cs. (2020) Three-dimensional distribution of glass and vesicles in metasomatized xenoliths: A micro-CT case study from Nógrád-Gömör Volcanic Field (Northern Pannonian Basin). **Geologica Carpathica**, 71, 418-423.

independent citation index: 0

Capriolo, M., Marzoli, A., Aradi, L.E., Callegaro, S., Dal Corso, J., Newton, R.J., Mills, B.J.W., Wignall, P.B., Bartoli, O., Baker, D.R., Youbi, N., Remusat, L., Spiess, E. & Szabó, Cs. (2020) Deep CO<sub>2</sub> in the end-Triassic Central Atlantic Magmatic Province. **Nature Communications**, 11: 1670.

independent citation index: 4

Aradi, L.E., Bali, E., Patkó, L., Hidas, K., Kovács, I.J., Zanetti, A., Garrido, C. Szabó, Cs. (2020) Geochemical evolution of the lithospheric mantle beneath the Styrian Basin (Western Pannonian Basin). **Lithos**, 378-379, 105831.

independent citation index: 2

Patkó, L., Novák, A., Klébesz, R., Liptai, N., Lange, T.P., Molnár, G., Csontos, L., Wesztergom, V., Kovács, I.J. Szabó, Cs. (2021) Effect of metasomatism on the electrical resistivity of the lithospheric mantle – An integrated research using magnetotelluric sounding and xenoliths beneath the Nógrád-Gömör Volcanic Field. **Global and Planetary Change**, 179, 103389.

independent citation index: 1