

# HELGI ARNAR ALFREÐSSON

Geochemist, PhD  
Geochemý Ltd - Geology office  
Skútahrauni 1, IS-660 Mývatn, Iceland.



**ORIGIN** Born 9<sup>th</sup> July 1984, Sauðárkrókur, N-Iceland.  
**RELATIONSHIP** Married to Júlía Katrín Björke.  
**CHILDREN** Halldór, b. 2007, Alfreð, b. 2014 and Viktoría, b. 2017.

## EDUCATION

**2015** PhD degree in geology (geochemistry) at the University of Iceland.  
**2007** B.Sc. degree in geology at the University of Iceland.

## CAREER

**2018-22** School system committee's board member of Skútustaðahreppur community.  
**2013-PRES.** Consultant in geochemistry and co-owner at Geochemý Ltd. at Mývatn.  
**2011** Academic visitor at the Dep. of Earth Science, Oxford University, UK.  
**2007** Part time borehole geologist at the Iceland GeoSurvey, Reykjavik.  
**2006** Part time assistant driller at the Iceland Drilling company, Reykjavik.

## FIELD WORK EXPERIENCE

**2019** Downhole sampling and temperature logging of geothermal production wells.  
**2017-PRES.** Monitoring the water chemistry and dissolved nutrients in Lake Mývatn, Iceland.  
**2014-PRES.** Geothermal borehole production measurements (enthalpy and flow).  
**2014** Field work during the Holuhraun eruption in Bárðabunga volcano, Iceland.  
**2013-PRES.** High temperature borehole sampling for gases, steam and brine chemistry.  
**2013** High temperature well monitoring for tracers, including PFTs, NDS and methanol.  
**2010** Field work during a fissure eruption Fimmvörðuháls 2010; and the sub-glacial eruption of Eyjafjallajökull, incl. sampling of ash, surface waters and *jökulhlaups*.

**2010-11** Construction and testing of a downhole sampler for CO<sub>2</sub> rich fluids and tracers for the CarbFix project, Hellisheiði, SW-Iceland

**2008-11** Low temperature well-head monitoring of aqueous chemistry of the CarbFix site.

**2007** Borehole geologist; sampling and on-site analyst during drilling of wells in Iceland.

**2006** Assistant driller at the Hellisheiði geothermal site, Iceland.

## LABORATORY EXPERIENCE

- Major and trace elemental analysis i.e., spectrophotometry, IC, ICP-OES and ICP-MS
- Gas chemistry analysis (GC, titrations, etc.)
- X-ray Diffraction analysis of mineral samples
- X-ray Fluorescence analysis of rock samples
- Isotopic geochemistry (sampling, preparation, analysis)
- Clean-lab experience

## COMPUTER SKILLS

- Word processing: Microsoft Word, -Excel, -PowerPoint, Open Office, etc.
- Graphical processing: Adobe Photoshop, -Dreamweaver, -Illustrator, -InDesign, -Flash.
- Aqueous geochemical modelling: USGS PhreeqC program, and the WATCH program.
- Basics in encodings: i.e. HTML, XML.

## TEACHING

**2009** Assistant teacher during a field sampling short course in aqueous geochemistry as part of the International conference on CO<sub>2</sub> sequestration processes in Reykjavik, Iceland.

**2010-11** Teaching undergraduate students in geochemistry at the Institute of Earth Sciences, University of Iceland, daily operation and maintenance of ICP-OES.

## OTHER

**2017** Member of a committee for school system policy making at Skútustaðahreppur, Iceland.

**2008-09** President of FOLDA, Society of Graduate Students in Earth Sciences, Uni. of Iceland

**2001** Iceland Driving license, category B.