

# Guðni Axelsson

## Key Qualifications:

- Geothermal reservoir physics/engineering. In particular testing of geothermal wells, monitoring of geothermal fields, analysis of data on the response of geothermal systems to production, modelling of geothermal reservoirs, reinjection and tracer-tests.
- Planning and management of geothermal research- and drilling projects.
- Geothermal resource management, incl. sustainability of geothermal utilization.
- General ground-water hydrology and applied mathematics.

## Education:

- **1985:** PhD in Geophysics from Oregon State University, Corvallis, Oregon, USA
- **1980:** MSc in Geophysics from Oregon State University, Corvallis, Oregon, USA
- **1978:** BSc in Physics from the University of Iceland, Reykjavík, Iceland.

## Employment Record:

- **2000–2004, 2006–present:** Head of the Division of Physics at ÍSOR, Iceland GeoSurvey (the GeoScience Division of Orkustofnun, National Energy Authority of Iceland, before 2003). Also acts as Chief Reservoir Physicist. Involved in a variety of geothermal projects in Iceland and abroad, both high- and low-temperature.
- **2007–present:** Adjunct professor at the faculties of Science and Engineering at the University of Iceland specializing in geothermal resource sciences.
- **1986–present:** Instructor and student advisor at the United Nations University Geothermal Training Program, Iceland.
- **1991–present:** A consultant to Enex Ltd. (previously Virkir-Orkint Ltd.), Iceland, and its subsidiaries, concerning geothermal project planning and geothermal resource assessment in the P.R. of China (Tianjin, Beijing and Xianyang), Hungary, Slovakia and Germany.
- **1999–present:** Part time instructor and student (MSc and PhD) advisor, University of Iceland.
- **2004–2006:** Geothermal reservoir physicist at the Division of Reservoir Physics and Geothermal Logging at Orkustofnun, National Energy Authority of Iceland (Division of Physics at ÍSOR, Iceland GeoSurvey, after 2003).

## Selected papers:

Axelsson, G. and G. Bodvarsson, 1986: Analysis of production data from fractured liquid dominated geothermal reservoirs in Iceland, *Geothermal Resources Council, Transactions*, **11**, 573-580.

Axelsson, G., 1989: Simulation of pressure response data from geothermal reservoirs by lumped parameter models, *Proceedings 14<sup>th</sup> Workshop on Geothermal Reservoir Engineering*, Stanford University, USA, 257-263.

Axelsson, G., 1991: Reservoir engineering studies of small low-temperature hydrothermal systems in Iceland, *Proceedings 16<sup>th</sup> Workshop on Geothermal Reservoir Engineering*, Stanford University, USA, 143-149.

Axelsson, G. and G. Björnsson, 1993: Detailed three-dimensional modelling of the Botn hydrothermal system in N-Iceland. *Proceedings 18<sup>th</sup> Workshop on Geothermal Reservoir Engineering*, Stanford University, USA, 159-166.

- Björnsson, G., G. Axelsson and Ó.G. Flóvenz, 1994: Feasibility study for the Thelamork low-temperature system in N-Iceland. *Proceedings 19<sup>th</sup> Workshop on Geothermal Reservoir Engineering*, Stanford University, USA, 5-13.
- Axelsson, G., G. Björnsson, Ó.G. Flóvenz, H. Kristmannsdóttir and G. Sverrisdóttir, 1995: Injection experiments in low-temperature geothermal areas in Iceland. *Proceedings of the World Geothermal Congress 1995*, Florence, Italy, May 1995, 1991-1996.
- Axelsson, G. and Z. Dong, 1998: The Tanggu geothermal reservoir, Tianjin, China. *Geothermics*, **27**, (3), 271-294.
- Axelsson, G., G. Sverrisdóttir, Ó.G. Flóvenz, F. Árnason, Á. Árnason and R. Bödvarsson, 1998: Long-term re-injection project in the Laugaland low-temperature area in N-Iceland. *Proceedings 23<sup>rd</sup> Workshop on Geothermal Reservoir Engineering*, Stanford University, USA, 412-419.
- Axelsson, G. and E. Gunnlaugsson (convenors), 2000: *Long-term Monitoring of High- and Low-enthalpy Fields under Exploitation*, International Geothermal Association, World Geothermal Congress 2000 Short Course, Kokonoe, Kyushu District, Japan, May 2000, 226 pp.
- Axelsson, G., Ó.G. Flóvenz, A. Hjartarson, S. Hauksdóttir, G. Sverrisdóttir, F. Árnason, Á. Árnason and R. Bödvarsson, 2000: Thermal energy extraction by reinjection from the Laugaland geothermal system in N-Iceland. *Proceedings of the World Geothermal Congress 2000*, Kyushu-Tohoku, Japan, May-June 2000, 3027-3032.
- Axelsson, G., Ó.G. Flóvenz, S. Hauksdóttir, A. Hjartarson and J. Liu, 2001: Analysis of tracer test data, and injection-induced cooling, in the Laugaland geothermal field, N-Iceland. *Geothermics*, **30**, 697-725.
- Axelsson, G., 2003: Essence of geothermal resource management. In: *Lectures on the Sustainable Use and Operating Policy for Geothermal Reservoirs*, IGC2003 short course, September 2003, United Nations University, 2003-1, Reykjavik, 129-152.
- Axelsson, G. and V. Stefánsson, 2003: Sustainable management of geothermal resources. *Proceedings of the international geothermal conference IGC-2003*, Reykjavík, September 2003, 40-48.
- Axelsson, G., V. Stefánsson and G. Björnsson, 2004: Sustainable utilization of geothermal resources for 100-300 years. *Proceedings 29<sup>th</sup> Workshop on Geothermal Reservoir Engineering*, Stanford University, USA, 8 pp.
- Axelsson, G., Á. Ragnarsson, I.B. Fridleifsson and S. Thórhallsson, 2004: Geothermal energy in Iceland – Utilization, research and management. *Proceedings of the 6th LGA Conference*, Klaipeda, Lithuania, November 2004, 16 pp.
- Axelsson, G., G. Björnsson and F. Montalvo, 2005: Quantitative interpretation of tracer test data. *Proceedings World Geothermal Congress 2005*, Antalya, Turkey, April 2005, 12 pp.
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- Axelsson, G., G. Björnsson, Th. Egilsson, Ó.G. Flóvenz, B. Gautason, S. Hauksdóttir, M. Ólafsson, Ó.B. Smáráson and K. Sæmundsson, 2005: Nature and properties of recently discovered hidden low-temperature geothermal reservoirs in Iceland. *Proceedings World Geothermal Congress 2005*, Antalya, Turkey, April 2005, 10 pp.
- Axelsson, G., S. Thórhallsson and G. Björnsson, 2006: Stimulation of geothermal wells in basaltic rock in Iceland. *Proceedings ENGINE Workshop 3*, Kartause Ittingen, Switzerland, June 2006, 8 pp.

Also author or co-author of over 220 reports