



Dr. Graeme Beardsmore

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The Canadian Geothermal Energy Association (CanGEA) is the collective voice of Canada's geothermal energy industry. As a non-profit industry association, we represent the interests of our member companies with the primary goal of unlocking the country's tremendous geothermal energy potential. Geothermal energy can provide competitively priced, renewable, round-the-clock energy to the Canadian and U.S. markets and a part of the solution to growing concerns about securing sustainable, cost-effective energy sources.

CanGEA promotes the industry and the potential of geothermal energy in Canada through outreach events, research, policy work and representation of Canadian interests internationally.

Dr Graeme Beardsmore received his PhD from Monash University in Australia in 1996 for a thesis entitled "The Thermal History of the Browse Basin and its Implications for Petroleum Exploration." This gave him a firm grounding in the spatial and temporal factors that affect subsurface temperature, and how to measure them. He was first exposed to the geothermal energy sector during a post-doctoral fellowship with world renowned expert in the assessment of crustal temperatures and geothermal potential, and former President of the Geothermal Resources Council, Professor Dave Blackwell at Southern Methodist University in Dallas Texas in 1997/98. Returning to Monash University, he wrote "Crustal Heat Flow: A Guide to Measurement and Modelling", which was published by Cambridge University Press in 2001 and remains the standard text on the topic.

Dr Beardsmore left Monash University in 2007 to become Technical Director of Hot Dry Rocks Pty Ltd (HDR), Australia's only dedicated geothermal energy consultancy. Under his direction, HDR has developed software, laboratory instruments, exploration tools and methodologies to overcome exploration challenges in Australia and beyond.

Dr Beardsmore was elected to the Board of Directors of the International Geothermal Association (IGA) in 2007 and served two three-year terms. He remains Chairman of the IGA Resources and Reserves Committee, which is working to standardize the terminology, estimation and reporting of geothermal resources globally.

He continues to direct HDR activities, but also holds a position with National ICT Australia, where he works in a team developing open source software tools to quantify the probability of geothermal drilling success.

He recently worked with the IGA as assistant editor and author on a 'Best Practices Guide For Geothermal Exploration' commissioned by the International Finance Corporation. The first edition was launched in March 2013. A second, greatly expanded, edition is in press for imminent release. The guide introduces the concept of Geothermal Play Types and recommends specific exploration tools for each type of 'play'.

With HDR, Dr Beardsmore has worked on projects that address real-world exploration and resource assessment issues in geothermal energy. These include writing the Australian Geothermal Reporting Code with the Australian Geothermal Energy Association (AGEA); developing Enhanced Geothermal Systems (EGS) mapping protocols with support from Google.org; developing (and retailing) laboratory equipment for thermal property measurements of rocks; developing a shallow heat flow measurement tool (currently on trial in Mexico); as well as assisting with many geothermal exploration projects across Australia and around the world.

NICTA (National ICT Australia) is Australia's Information and Communications Technology (ICT) Research Centre of Excellence and the nation's largest organization dedicated to ICT research. NICTA's research addresses technology challenges facing industries, communities and whole nations. NICTA's primary goal is to pursue high-impact research excellence and to be one of the world's top ICT R&D centres. NICTA research teams have been independently ranked #1 in the world in 'optimization' and in the top 5 in the world in 'machine learning'. From 2012-2014, Dr Beardsmore worked with NICTA on a project to apply cutting edge machine learning and cloud computing techniques to geothermal exploration in Australia. The outcomes are relevant globally. NICTA also works on energy systems design optimization in the presence of uncertainty...very relevant for the planning and development of new energy infrastructure anywhere in the world.