

## History of Controlled-Source Seismology Onshore and Offshore



Geological Society of America has published its new Memoir 208 entitled "Exploring the Earth's Crust. History and Results of Controlled-Source Seismology", written by Claus Prodehl (University of Karlsruhe, Germany) and Walter D. Mooney (U.S. Geological Survey, Menlo Park, California, U.S.A.). This volume presents a comprehensive, worldwide history of seismological studies of the Earth's crust using controlled sources from 1850 to 2005. Essentially, all major seismic projects on land and the most important oceanic projects are presented. The time period of 1850 to 1939 is presented as a general synthesis, and from 1940 onward the history and

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results are subdivided into a separate chapter for each decade, with the material ordered by geographical region. Each chapter highlights the major advances achieved during that decade in terms of data acquisition, processing technology, and interpretation methods. For all major seismic projects, we provide specific details regarding the field observations, interpreted crustal cross-section, and key references. The Memoir concludes with global- and continental-scale maps of all field measurements and interpreted Moho contours. An accompanying DVD contains important out-of-print publications and an extensive collection of controlled-source data, location maps, and crustal cross-sections.

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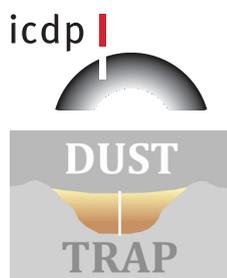
## Rob McKay Wins the Prime Minister's MacDiarmid Emerging Scientist Prize



Australian and New Zealand  
IODP Consortium

Dr. Rob McKay, a postdoctoral researcher at Victoria University's Antarctic Research Centre in Wellington, New Zealand, has been awarded the New Zealand Prime Minister's MacDiarmid Emerging Scientist Prize (worth NZ\$200,000) for his work on Antarctic ice sheet response to past climate fluctuations. His research uses glacial deposits and marine sedimentary records to investigate changes in ice volume and thermal regime of the Antarctic ice sheets since their inception approximately 34 million years ago and the resulting influence on eustatic sea level. This has particular relevance today as climate scientists struggle with how the

### The Rodderberg Quaternary Climate Archive



A suite of three shallow boreholes (164 m, 74 m, and 102 m) have explored the filling of the main crater of the Late Quaternary Rodderberg volcanic system near Bonn, Germany. The age of the volcano is dated to 300 ka (Paulick et al., 2008). The drilling activities finished in February, 2012. Two parallel

cores were recovered from closely neighboring holes, each of them more than 70 m long, representing the sedimentary and volcano-clastic crater fill. The core material offers the unique opportunity to study a long complete climate archive representative for the Eifel region. Mainly lacustrine and aeolian (loess-like) sediments accumulated in the bowl-shaped crater since its last eruption (Zöller et al., 2010). Intercalated tephra layers of other dated volcanoes of the Eifel give a dense stratigraphic framework. A high-resolution reconstruction of past climate conditions during the last three glacial cycles may be derived from the core samples and the open hole borehole logging data. This is the central objective of the DUST TRAP project. It will study the geometry, volcanic evolution, and tectonic setting of the Rodderberg crater as well as the sedimentology, geophysics, and geochronology of its loess and loess-derived sediments. DUST TRAP is coordinated by

the Steinmann Institute of Bonn University, the Leibniz Institute for Applied Geophysics, Hanover, and the Geological Survey NRW, Krefeld, and comprises groups from the Universities of Bayreuth, Braunschweig, Bremen, and Cologne.

### References

- Paulick, H., Ewen, C., Blanchard, H., and Zöller, L., 2008. The Middle Pleistocene Rodderberg (~300 ka) maar-scoria cone volcanic complex (Bonn, Germany): Eruptive history, geochemistry, and thermoluminescence dating. – *Int. J. Earth Sci. (Geol. Rundsch.)*, 98:1879–1899. doi:10.1007/s 00531-008-0341-0
- Zöller, L., Hambach, U., Blanchard, H., Fischer, S., Köhne, S., and Stritzke, R., 2010. Der Rodderberg-Krater bei Bonn. *E&G – Quat. Sci. J.*, 59:1–2

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**and the DUST TRAP science team**

### Related Web Link

[www.rodderberg.org](http://www.rodderberg.org)