



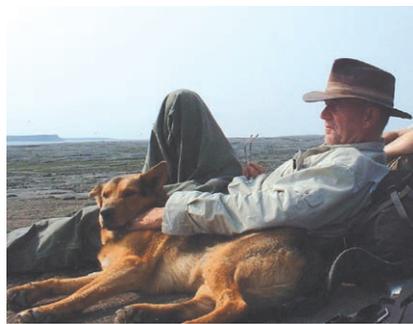
Mineralogical Association of Canada

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2009 AWARD WINNERS

The Mineralogical Association of Canada (MAC) presented its 2009 awards at its annual luncheon on May 26, 2009, during the Meeting of the Americas conference in Toronto.

Martin A. Peacock Medal to Don Francis



The Peacock Medal, formerly the Past Presidents' Medal, is the highest honor bestowed by MAC. This year, it was awarded to Don Francis of McGill University, Montreal, Canada, for his contributions to the elucidation of the composition of Earth's upper mantle and for his unique ability to integrate fieldwork with mineralogy and geochemistry to solve

significant problems in petrology. Don's research in petrology has not only impacted our thinking on mantle processes, but it has also greatly enhanced our understanding of tectonics. In particular, his novel study of mantle xenoliths in the Canadian Cordillera has shown that the character of xenoliths changes across major fault boundaries in the Cordillera, suggesting that the faults are deeply rooted and that terranes in the Cordillera come complete with their lithospheric mantle.

Don Francis was born in Montreal and grew up in the West Island where, as a boy scout, he developed a passion for the Canadian North reading tales of the early explorers. He completed an Honors BSc in geological sciences at McGill University in 1968, an MSc with Hugh Green at the University of British Columbia in 1971, followed by a PhD with Tom McGetchin at MIT. Don returned to McGill as a professor in 1974 and has remained there ever since. Don's research uses chemistry to investigate the origin of mafic magmas in the Earth's mantle. He and his students have studied magmatic suites spanning the history of the Earth in field-based projects in northern Quebec, Baffin Island, the NWT, northern British Columbia, and the Yukon.

Hawley Medal to Anderson, Wirth, and Thomas for the best paper published in The Canadian Mineralogist in 2008

Anderson AJ, Wirth R, Thomas R (2008) The alteration of metamict zircon and its role in the remobilization of high-field-strength elements in the Georgeville granite, Nova Scotia. *Canadian Mineralogist* 46: 1-18

This paper was unanimously selected by the Hawley Medal selection committee for its depth of understanding of the structure and composition of metamict zircon from the Georgeville epizonal A-type granite from the Antigonish Highlands, Nova Scotia. The paper integrates data from EMPA, SXRF, LA-ICP-MS, Raman microspectroscopy, and TEM to provide exceptional new insights into the open-system behavior of alpha-decay-damaged zircon in the presence of subsolidus fluids. For the first time, detailed micro- and nanoscale element-distribution maps indicate which elements in metamict zircon can be redistributed during alteration. This paper questions our assumptions about the chemical durability of zircon and its suitability for petrogenetic studies, particularly U- and Th-rich zircon from highly evolved granites, aplites, and pegmatites. It also links the mineral chemistry of zircon with bulk chemistry of the high-field-strength elements, anomalous Nd isotopic signatures, and the selective transport and precipitation of the REE within the Georgeville granite.



ALAN J. ANDERSON is a professor in the Department of Earth Sciences at St. Francis Xavier University in Antigonish, Nova Scotia, where he has been a faculty member since 1989. He received his BSc in geology at the University of Windsor, his MSc at the University of Manitoba, and his PhD at Queen's University in Kingston, Ontario. He spent two years as a postdoctoral fellow at the fluids research laboratory at Virginia Tech and was a guest scientist at the German Research Centre for Geosciences, Potsdam, in 2003. Alan's research

focuses on the chemical and physical properties of solvothermal fluids in the Earth's crust and their role in geochemical processes such as mass transfer and ore formation.



RICHARD WIRTH is supervisor of the electron microscopy (FIB/TEM) laboratory at the GFZ German Research Centre for Geosciences, Potsdam, Germany. He received his PhD in 1978 at the University Würzburg, Germany. He spent 3 years as a postdoctoral fellow at the Institute of Metals Physics at the University of Saarbruecken, followed by research scientist positions at the University of Cologne, the Institute of Advanced Materials, Saarbruecken, and Ruhr-University-Bochum. In 1994 he established the TEM labora-

tory at the GFZ Potsdam, which he has continued to develop by incorporating modern technologies such as the focused ion beam (FIB).



RAINER THOMAS received his master's degree in mineralogy, his PhD, and his Habilitation at Freiberg University of Mining and Technology. He worked in the semiconductor industry from 1969 to 1988, where he carried out research on crystal growth by chemical transport reactions, developed polishing technologies for silicon wafers, and performed X-ray studies on crystals using single- and double-crystal topographic techniques and multiple-diffraction measurements. He began work as a research scientist in

1988 at the Central Institute of Physics of the Earth in Potsdam, and then joined the GeoForschungsZentrum Potsdam in 1992, where he remained until his retirement in 2007.

Young Scientist Award to Christopher Herd



The Young Scientist Award is presented to a young scientist who has made a significant international research contribution as a promising start to a scientific career. The winner for 2009 is Chris Herd, a prolific young scientist who has already greatly impacted our understanding of how Martian basalts form and what they record about the red planet. Chris completed his undergraduate degree in geological sciences at Queen's University in 1997. His interest in meteorites from Mars took him to the University of New Mexico in Albuquerque for his PhD. In 2001 he moved to the Lunar and Planetary Institute in Houston, where he worked

as a postdoctoral fellow with access to the facilities at the Johnson Space Center. He was hired in July 2003 by the Department of Earth and Atmospheric Sciences at the University of Alberta, where he was awarded tenure in 2008.

Chris's early work focused on carefully evaluating the oxidation state of Martian basalts, and then deciphering the controls on oxidation state during the petrogenesis of these basalts. He subsequently worked

on the partitioning of light lithophile elements in Martian meteorites to evaluate their behavior and the implications for degassing of magmatic water and, by inference, water in the Martian mantle. This research has made him a recognized expert on basalts as probes of planetary interior redox states.

Chris has also impacted the broader scientific community by cofounding a new institute at the University of Alberta dedicated to space exploration and science. By actively promoting the meteorite collection at the University of Alberta and through dedicated, extensive outreach, Chris has helped to popularize meteorites and planetary science in Canada.

COUNCILLORS 2009–2012

We welcome Elena Sokolova and Kim Tait as incoming councillors and thank outgoing councillors Jim Mungall, Paula Piilonen, and Jim Scoates.



ELENA SOKOLOVA is a professor in the Department of Geological Sciences, University of Manitoba. She received her BSc, MSc, and PhD degrees from Moscow State University, Moscow, Russia, and subsequently worked in the Department of Crystallography and Crystal Chemistry. She was awarded a DSc degree (Doctor of Science) by the same university in 1997. She moved to Canada in 2001. Her research interests concern primarily the mineralogy and crystallography of alkaline rocks. In

2004, sokolovaite, a new mica, was named in recognition of her contribution to mineralogy and crystallography. She is an Academician, Russian Academy of Natural Sciences, and a Fellow of the Mineralogical Society of America. She served as an expert in Earth Sciences (1999–2001) for the Russian Foundation for Basic Research, as secretary for the All-Russian Mineralogical Society (1995–2001), and as associate editor of *The Canadian Mineralogist* (2001–2003). She is currently an associate editor of *Mineralogical Magazine*.



KIM TAIT received her BSc in 1999 and MSc in 2002 from the University of Manitoba under the supervision of Frank Hawthorne and her PhD from the University of Arizona in 2007 under the supervision of Bob Downs. Her PhD research was carried out mostly at the Los Alamos Neutron Scattering Center (LANSCE) in Los Alamos, New Mexico, USA, where she performed neutron diffraction and inelastic neutron scattering analyses of gas hydrates. She began work at the Royal Ontario Museum as

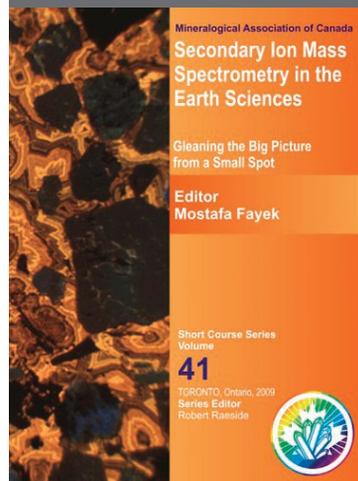
associate curator of mineralogy in April 2007 and is head of the mineralogy section in the Department of Natural History. Kim's main interests are new-mineral identification, mineral properties at extreme conditions (high P, low T), and the high-pressure mineralogy of meteorites.

WELCOMING ANDREW LOCOCK AS CO-EDITOR OF THE CANADIAN MINERALOGIST



A native of Edmonton, Andrew Locock obtained both a BSc (Honors in geology) and an MSc from the University of Alberta. His MSc thesis focused on the mineralogy and geochronology of the Ice River alkaline intrusive complex in southeastern British Columbia. During the course of his graduate work in Edmonton, he had the good fortune to assist with the design and installation of the permanent mineralogy and geology galleries at what is now the Royal Alberta Museum. Six years followed in the fields of diamond exploration and gold exploration in South America and northern Canada. In 2000, he began his PhD dissertation on the crystal chemistry of uranyl phosphates and uranyl arsenates under the supervision of Peter C. Burns at the University of Notre Dame, completing this work in 2004. At present, Andrew is located at his alma mater in his hometown of Edmonton. He is eager to be able to assist in the production of *The Canadian Mineralogist* and to help maintain its high standards. He started working with Bob Martin in January 2009.

SECONDARY ION MASS SPECTROMETRY IN THE EARTH SCIENCES



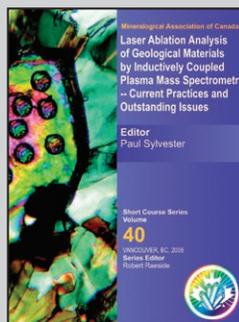
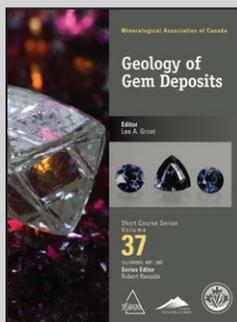
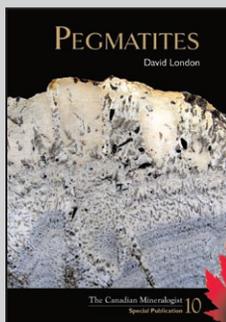
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