Mineralogical Association of Canada

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MAC 2021 AWARDS

The Mineralogical Association of Canada (MAC) is pleased to announce its award winners for 2021

Peacock Medal to Dr. Thomas Stachel

The Peacock Medal is awarded to a scientist who has made outstanding contributions to the mineral sciences in Canada. There are no restrictions regarding nationality or residency. The medal is intended to recognize the breadth and universality of the scientist's contribution to mineralogy, applied mineralogy, petrology, crystallography, geochemistry, or the study of mineral deposits, rather than in a narrow area of expertise. The Peacock Medal is the highest award bestowed by the Mineralogical Association of Canada (MAC) and is named in honour of late Professor Martin A. Peacock (1898–1950), a professor of mineralogy at the University of Toronto from 1937 until his untimely death in 1950.

This year's awardee is **Dr Thomas Stachel,** a professor in the Department of Earth and Atmospheric Sciences at the University of Alberta (Canada) whose main research area is diamond geology.

Thomas was born and educated in Germany. Studying geology at Gutenberg University in Mainz (Germany), he became very interested in volcanology, and for his MSc thesis he worked with Georg Büchel on a geophysical investigation of the (then-termed) Tertiary maar diatremes in the Eifel Volcanic Field. For his PhD (1987–1991), Thomas joined the research group of Volker Lorenz at Würzburg University (Germany) and studied the diamondiferous Ellendale lamproites of Western Australia. Attending the 5th International Kimberlite Conference in Araxá (Brazil) in 1991 and experiencing the unique community of academics and industry geologists in that field got him hooked on mantle, kimberlite, and diamond research. A postdoctoral project on the Gross Brukkaros Caldera in Namibia still kept Thomas largely in the field of volcanology. With a Marie Curie Fellowship of the European Union, he then joined Jeff Harris at the University of Glasgow (Scotland) in 1994 where he got involved in research on diamonds and their mineral inclusions. From 1996 to 2001, Thomas was non-tenured faculty at Frankfurt University (Germany) where he worked with Gerhard Brey on diamonds and Earth mantle rocks. In 1999, he obtained his venia legendi in mineralogy and petrology. In the same year he was presented with the Victor Moritz Goldschmidt Award of the German Mineralogical Society. Thomas joined the University of Alberta in 2001, where he is now Professor and Canada Research Chair in Diamonds. Thomas' research on diamonds initially focused on their inclusions and what they tell us about the origin of Archean lithospheric mantle and the composition of the transition zone and the lower mantle. Working with an incredible team of colleagues at the University of Alberta, he then became increasingly interested in the composition and speciation of mantle fluids and spearheaded the creation of the Canadian Centre for Isotopic Microanalysis (CCIM; funded by the Canada Foundation for Innovation), having a multi-collector ion microprobe at its heart. This enables, among other things, in situ stable isotope studies of diamonds and mantle xenolith minerals.

Hawley Medal Winners

The Hawley Medal is awarded to the authors of the best paper to appear in *The Canadian Mineralogist* in a given year. The award is named in honor of Dr James Edwin Hawley (1897–1965), who was a distinguished professor of mineralogy at Queen's University (Ontario, Canada).

The award for the best paper published in 2020 went to **Drs. Zeinab Azadbakht** (Ontario Geological Survey) and **David R. Lentz** (Department of Earth Sciences, University of New Brunswick) for their paper, "High-Resolution LA-ICP-MS Trace-Element Mapping of Magmatic Biotite: A New Approach for Studying Syn- to Post-Magmatic Evolution", which appeared in *The Canadian Mineralogist* v58n3, pp 293–311 (https://doi.org/10.3749/canmin.1900101).

Zeinab Azadbakht has been the Regional Resident Geologist for the Ontario Geological Survey in the Timmins office since August 2020. After finishing her PhD at the University of New Brunswick with Dave Lentz and Christopher McFarlane, Zeinab was a contract lecturer in economic geology at the University of Regina (Canada) until she joined the Ontario Geological Survey. She has built an expertise in mineralizing systems associated with magmatism, including gold, but is expanding into critical metals research. She has a strong academic background and holds a PhD in economic geology. Zeinab has technical expertise in geoscience data compilation, igneous petrology and mineralogy, and geochronology. She has a passion for geology, adventure, and finding new and unique research projects.

David R. Lentz is the Research Chair in Economic Geology for the Department of Earth Sciences of the University of New Brunswick. He received his BSc (1983) and MSc (1986) degrees in geology from the University of New Brunswick (UNB) in Fredericton. He completed a PhD (1992) at the University of Ottawa and then worked with the Geological Survey of Canada for three years. In 1994, Lentz joined the New Brunswick Geological Survey as their mineral deposit geologist. In 1999, he won the Harvey Gross Young Scientist Medal from the Geological Association of Canada (GAC). Since 2000, he has held the Research Chair in Economic Geology at UNB, with a research focus on the petrogenesis of ore deposits. He has been a P. Geo since 2001. Dave has been honored with many awards: GAC's Distinguished Service Award; the New Brunswick Association of Professional Engineers & Geoscientists' Loring Bailey Geoscience Award; the Atlantic Geoscience Society's Gesner Medal; the Canadian Institute of Mining, Metallurgy and Petroleum's Julian Boldy Award; and the International Association on the Genesis of Ore Deposits' International Distinguished Lecturer Award. Dave is also a Fellow of Geoscientists Canada. Notably, he has edited three popular ore deposits–related books for the Geological Association of Canada and the Mineralogical Association of Canada and has published over 300 journal articles, in addition to numerous government publications. Lentz is particularly well known for his short courses, workshops, and field trips. Currently, he is the associate editor for *Journal of Geochemical Exploration*, *Ore Geology Reviews*, *Journal of Earth Science*, and *FACETS*. He is subject editor for the Economic Geology section of *Frontiers in Earth Science.*

Young Scientist Award to Dr. Anna Harrison

The Young Scientist Award is given to a young scientist who makes a significant international research contribution, and so makes a promising start to a scientific career. The areas of research considered are any, or all, subjects covered by the Mineralogical Association of Canada. The scientist will have received their PhD not more than 15 years before the award. The scientist must be a Canadian working anywhere in the world or a scientist of any nationality working in Canada. Research areas include mineralogy, crystallography, petrology, geochemistry, mineral deposits, and related fields of study.

The 2021 MAC Young Scientist Award and medal goes to **Dr. Anna Harrison**, an aqueous environmental geochemist with the CNRS (Centre National de la Recherche Scientifique, France) whose research interests broadly lie in studying the mechanisms by which elements are cycled between minerals and fluids in natural and engineered environments, and how we can harness chemical processes to limit environmental degradation.

Anna's research has been on the potential use of mineral weathering to capture CO_2 for climate change mitigation and on understanding the fundamental mechanisms behind mineral weathering in the unsaturated zone. Recently, Anna and her colleagues have begun to explore the behaviour of non-traditional stable isotopes during mineral weathering and carbonate precipitation and its application to understanding both natural weathering and as a means to trace captured CO_2. She received her BSc from the University of Alberta (Canada) and, in 2015, her PhD from the University of British Columbia (Canada). She was a postdoctoral fellow at Stanford University (California, USA), an NSERC postdoctoral fellow at Geoscience Environment Toulouse (a part of the CNRS), and a Marie Skłodowska-Curie Fellow at University College London (UK). Anna was an assistant professor in environmental geochemistry at Queen's University (Canada) before returning to France to join the CNRS.

Berry Medal to Mr. Malcolm Back

The Leonard G. Berry Medal is awarded annually for distinguished service to the association. The award recognizes significant service to the association in one or more areas that may include leadership or long-term service in an elected or appointed office, or making important contribution(s) that enhances the mineral sciences in Canada or that broadens the Canadian mineralogical perspective. The medal is named after Leonard G. Berry (1914–1982), a founding member of the MAC, editor of *The Canadian Mineralogist* (and its predecessor) for 25 years, and the first winner of the MAC Past-Presidents' Medal.

This year's awardee is **Mr. Malcolm Back,** a retired research assistant in the Department of Mineralogy at the Royal Ontario Museum.

Mr. Back received his BSc in 1985 from the University of Toronto (Canada) and his MSc in 1990 ("A Study of Tellurite Minerals: Their Physical and Chemical Data Compatibility, and Structural Crystallography") from the same institute. He began his mineralogical career as a research assistant in the Department of Mineralogy at the Royal Ontario Museum (ROM) in 1985, with a focus on X-ray diffraction; he retired from this position in 2011. He worked under the tutelage of Joe Mandarino, Fred Wicks, and Robert Gait at the ROM, developing the knowledge and skills necessary to become the mineralogist he is today. Mr. Back has had a life-long interest in tellurium oxysalt minerals and, in recognition of his contributions to mineralogy, and specifically tellurium oxysalts, the new species backite, $Pb_2Al(TeO_6)Cl$, from the Grand Central Mine of the Tombstone Hills (Arizona, USA) was named in his honor. Mr. Back is a volunteer par excellence, offering his time freely and without reservation to many amateur associations (e.g., serving several times as President of the Walker Mineralogical Club, and providing mineral identifications at the Bancroft Gemboree). Mr. Back has been maintaining and continuing to ensure the publication of the indispensable Fleischer's *Glossary of Mineral Species*. This small, relatively nondescript volume, is an indispensable resource for active mineralogists working on new or rare minerals, as well as those seeking to appreciate how diverse the world of mineralogy is. He began his work on the *Glossary* in 2004, with the late, great, Joe Mandarino as senior author. After Joe's far-too-soon passing in 2007, Mr. Back immediately assumed the role of senior author, a task which he continues to this day. He also continues to work on Joe Mandarino's unpublished *Encyclopedia of Minerals*, with the hope that one day, this too will be brought to light.

OBITUARY

IN MEMORY OF GAIL E. DUNNING (1937–2021)

Gail Dunning, the 2020 recipient of the MAC's Pinch Medal, recently passed after a courageous battle with lung cancer. He was first hired in 1959 as a chemist at General Electric's Nuclear Energy division (San Jose, California, USA), transferring five years later to the position of metallurgist, specializing in failure analysis. He was an avid, eager field collector, with a sharp eye and mind that he initially applied to unusual minerals (e.g., pabstite) and later, to the geology and mineral paragenesis at such localities as the Kalkar quarry (Santa Cruz County, California, USA), the Big Creek-Rush Creek-Trumbull Peak Ba-silicate belt (Fresno and Mariposa Counties, California, USA), the Clear Creek Mine and Claim (San Benito County, California, USA) and the McDermitt Mine (Humboldt County, Nevada, USA). Gail was not just a mineral collector, but an individual who, with his inseparable companion Fen Cooper, documented their observations and findings which were then published as scientific communications (> 40) in journals such as *Mineralogical Record*, the *American Mineralogis*t and *The Canadian Mineralogist*. He possessed a scientifically astute mind, which led to his involvement in the discovery of >10 new mineral species, all coming from collaborations with internationally recognized, professional mineralogists who equally held him in high regards. He amassed a collection of > 5,300 specimens representing 4,000 species, the majority of which were self collected. His >55 years of contributions to the mineralogical realm were recognized with the publication of the new mineral species, gaildunningite (a Hg nitride, from the Clear Creek Claim in San Benito County) in 2019, and by being the 2020 Pinch Medal recipient. Gail was a special person who was always willing to share his mineralogical knowledge, skills and passion with anyone, regardless of their background or age. He was an inspiration to many and while he will be missed, he will never be forgotten.

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