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Bravo! Dr. Margot McMechan awarded the Logan Medal, the Geological Association of Canada's highest honour

By Allison De Toni, *The Source*

Dr. Margot McMechan calls it a “stroke of good fortune” that led her to become a geologist. But it was also hard work, dedication and attention to detail that produced the exemplary career that has culminated in the 2020 Logan Medal, the Geological Association of Canada's highest honour.

Finding her true passion

Margot, now an emeritus scientist with the Geological Survey of Canada (GSC), started university as a chemistry major.

Switching from the University of Victoria to the University of British Columbia (UBC) in her second year, she chose first-year geology as her elective and discovered what she describes as her “true scientific passion.” She switched to the geoscience department and completed second- and third-year geology at the same time.

But gaining field experience as a student in the 1970s was difficult for most female geologists of the time. So Margot applied to every company that came to UBC to interview job applicants, including the GSC.

Still, it was hard going for a female student. “I had dozens of ‘we can't hire you for these reasons’ interviews,” says Margot. “But one company, Canex Placer, was willing to take the risk, and I'm grateful to John Kowalchuk for opening the field work door by hiring me.”

Margot's ambition was to work as a research scientist for the GSC for two reasons: she loved field mapping, and she thought the organization was the best fit for her professional interests in stratigraphy, structure, thermal history and tectonics. With her focus and determination — and thanks to the recommendations of Ray Price, her Ph.D. supervisor, and G.B. Leech, a GSC division director — she was offered a term position at GSC-Calgary after completing university, which she took over other offers.



Dr. Margot McMechan

A meticulous, classic and rigorous geologist

Margot is an expert in structural geology. During her career, she mapped significant portions of the Canadian Cordillera — the long chain of mountains that runs down through western Canada — producing 56 geological maps that cover some of the most complex geology and rugged, challenging terrain in the Rocky Mountains. She has also published 41 comprehensive papers in leading peer-reviewed journals.

Her talents and expertise became widely recognized by her peers. “Margot excelled as a meticulous, classic and rigorous regional mapping geologist who explored very rugged geological terrains that require much skill, energy and resilience,” said Daniel Lebel, Director General, GSC.

She also had a good eye for recognizing the talents of others — in fact, it was on her recommendation that Daniel was hired by the GSC. And as they worked closely together in the 1990s in mapping the Rocky Mountains and the Foothills of Alberta, he speaks with special insight into her achievements. “She also made great strides in the understanding of deep, petroleum-prone structures’ complex stratigraphy by mapping huge extents of these mountainous areas in British Columbia and Alberta.”

Relationships matter most

The Logan Medal is awarded to an individual, but Margot is quick to point out that she would have not been successful in her career without her colleagues.

“It’s a great honour to receive this award named after the founder of the GSC and one of the great geologists of his time,” said Margot. “Although the award is an individual honour, it really reflects the contributions of many scientific colleagues.

“I am indebted to my Ph.D. supervisor and world-famous tectonocist, Ray Price, for the training he gave to us graduate students to think critically, ask questions, develop multiple hypothesis and data-based solutions for geological problems and to write up the results clearly.”

Her work was also greatly influenced by her GSC colleagues Glen Stockmal, Larry Lane, Tony Hamblin, Barry Richards and Lisel Currie, who served as sounding boards for research opportunities and interpretations.

A group of award-winning field geologists, whom Margot calls her “gentleman geologists,” inspired her in her career for the way they treated others. This group includes John Wheeler, Hans Trettin, Ray Thorsteinsson, Philip Simony, Eric Mountjoy, Geoff Leech and Hugh Gabrielse.

Highlights of Margot’s career include:

- discovering that the thermal maturation of sedimentary rocks in the Rocky Mountain Foothills derived from the rising Cordillera decreased to the west rather than increased as previously assumed
- documenting the important influence of old basement structures, especially those that are oriented across the trend of the Cordilleran mountain belt on sedimentation, mineralization and structures
- discovering sedimentary strata derived from the Cordillera on the west edge of the Rocky Mountains that were carried 100 km eastward in an undeformed ‘piggyback’ basin on top of the Rocky Mountain thrust belt.

“They always had an encouraging word for me and others when I was a young scientist,” said Margot. “I wanted and needed to be more like them. It took having cancer in 1989 for me to realize in the end it was not research results but who you are and your relationships with others that really count.”

Making time for family

Margot’s first bout of cancer also made her realize she needed to change some things on the home front. With both her and husband having successful geoscience careers, they felt they weren’t able to spend enough time with their three young children.

“My life was extremely stressful,” said Margot. “Since I had cancer, something had to give. We decided I would ask GSC management if I could work half time and my husband Bob would continue his successful career in industry. Thankfully GSC management supported what was at the time an unusual request.”

The request paid off. Margot continued her brilliant career, and the GSC was blessed with a talented geologist who made sure to mentor the next generation of young geologists.

“I am most proud of the accomplishments and successes of the many students who worked with me as research assistants in the field and office over the years,” said Margot. “I believe it is so important to mentor and train students for geoscience and life and to be a good role model. As I have gotten older, I feel that I am one of their geological ‘parents’.”

Congratulations, Margot!

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- joining TGI-3 ([Targeted Geoscience Initiative](#)) in 2006 and completing 1:50,000 scale maps in support of mineral exploration for the “crown jewel of the Canadian Rockies” the Kananaskis map area
- taking over a joint project with British Columbia to complete mapping the armpit of the Rockies in 2011 for the Liard Basin GEM ([Geo-mapping for Energy and Minerals](#)) activity. In 2017, the Liard Basin was the cornerstone of a joint project with Korea to document key aspects of its geological, thermal and tectonic history giving Margot that chance to learn about shale geochemistry and resources

Comments

rrainbir - Mon, 06/08/2020 - 09:14

Congratulations on this great honour Margot!

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cozyer - Mon, 06/08/2020 - 10:27

Congratulations Margot on an incredible career and being honoured with the Logan Medal!

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