POLYTECHNIQUE MONTRÉAL

ORDER OF THE WHITE ROSE
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THE FUTURE BLOOMS IN OUR HANDS

PROFILE – SOPHIA ROY

ENGINEERING BY NATURE

Sophia Roy first became aware of the engineering field—and its possibilities—at an early age, when she became interested in finding solutions to climate change. "We talked a lot about the environmental crisis at school and I knew that I had to do something to help," recalls the student who completed a bachelor's degree in Chemical Engineering at McGill University with a near-perfect GPA. "I realized that engineering offered me the greatest potential for making a difference."

As a child, Sophia was marked by a documentary about Jane Goodall, the well-known primatologist who dedicated her life to protecting biodiversity. "I said: I want to be just like her!" The film gave her a vision of what her future career science would look like: applied research to address environmental issues caused by human activity.

It therefore comes as no surprise that Sophia has chosen to study steel decarbonization methods as part of her PhD studies, which she was able to begin without completing a master's degree thanks to her outstanding academic results. While she was still an undergraduate student, the winner of the Québec Lieutenant Governor's Medal had begun researching biodegradable proteinaceous materials in order to reduce the ecological footprint of solar panel manufacturing. Recognizing the need to standardize practices in the field, she published a scientific review article that ended up ranking among the most downloaded articles from the Canadian Journal of Chemical Engineering in 2020.

In the summer of 2021, while working as an intern at Québec's Ministry of the Environment and Fight Against Climate Change, she developed a calculator that converts CO_2 emissions into their equivalent in vehicle emissions for a liquefied natural gas project led by the provincial government. Her calculator caught the interest of the Minister, who used it to explain to the general public why he decided not to give the project the green light based on its greenhouse gas emissions. Not bad for an intern who dreamed of making a difference!

"Every curious girl should be exposed to the world of engineering," said Sophia. The 2022 recipient of the Order of the White Rose feels very fortunate that other women have paved the way for her career. These pioneers include her own mother, who began her studies at Polytechnique just a year after the 1989 massacre, not allowing her plans to be derailed by fear. "My mother always told me: You've got to go for it."

Wanting to share this message, Sophia became an elected official in the student community and has invested time organizing meetings and networking activities, and acting as a mentor to new undergraduate students. During the pandemic, the 23-year-old, who enjoys painting and dancing in her spare time, even found time to volunteer, giving virtual science workshops to elementary students.

To maintain balance, she schedules time away from screens. "I enjoy being out in nature," she says. But, unlike the winding trails where she likes to hike, Sophia Roy has a clear sense of where she's going.