

Kaiyuan Wang

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EDUCATION

McGill University – Faculty of Science, Montreal, Canada 2019 - 2023E
Bachelor of Science, Honors Physical Geography & Geology, CGPA (3.95/4.00)

Marianopolis College – Pure and Applied Science, Montreal, Canada 2017- 2019

Awards:

- International student tuition exemption by Quebec Ministry of Higher Education and China Scholarship Council (2019-2023)
- Dean's Honour List, McGill Faculty of Science (2021 and 2022).
- CIM Foundation Dr. David S. Robertson Geology Scholarship \$4000 (2022)
- KEGS Foundation Scholarship Award \$1250 (2022)
- Enriched Educational Opportunity Bursary (EEOs) \$4000 (2022)
- Schull Yang International Experience Award \$7000 (2022)
- Science Education Conference Awards (SECAs) \$2000 (2022)
- Science Undergraduate Research Awards (SURA) (2022) – declined to pursue other opportunities
- Tomlinson Engagement Award for Mentoring \$300 (2021)
- Wing Hing Chan Scholarships in Science \$800 (2021)
- (2) Science Undergraduate Research Awards (SURA) \$7000 (2020) and \$9000 (2021)
- (2) McGill Mobility Bursary for Exchange Semester \$8000 (2020 and 2021) – both rescinded due to Covid-19 pandemic
- McGill Faculty of Science Entrance Bursary \$9000 (2019)
- Marianopolis Millennium Foundation Academic Award \$500 (2017)
- Royal Bank of Canada outstanding academic performance scholarship \$200 (2017)

RESEARCH & WORK EXPERIENCE

Chmura Lab, McGill University, Montreal, Canada. Work-Study Program part-time Lab assistant Sep. 2022 - present

- Cut frozen sediment cores from coastal salt marsh, measuring pore water salinity; weigh, label and record soil samples.

Northern Change Research Laboratory, Brown University May 2022 – present

- Supervised by Prof. Laurence Smith on digitizing supraglacial meltwater streams in Inglefield Land Greenland for modelling effort

Hydrology Climate & Climate Change Laboratory, École de technologie supérieure

- Worked with Prof. Michel Baraër on proglacial hydrology, conducted fieldwork in southwest Yukon and working on AGU presentation.

The Glaciers Group, Geophysical Institute, University of Alaska-Fairbanks

- Worked with Prof. Martin Truffer and Prof. William Armstrong on hot water drilling and drone photogrammetry on Athabasca Glacier

Field rheology research group, McGill University, Montreal, Canada Sep. 2021 – present

Honours Thesis student & Undergraduate Researcher – publication in preparation

- Map Postglacial faults in the Western Quebec Seismic Zone (WQSZ) using high-resolution lidar dataset, field-validated one.
- Interpreted the glacial geomorphology of the WQSZ and presented results in 3 conferences: FOP, AMQUA, Cryosphere.
- Wrote a thesis and two conference papers under the supervision of Prof. Christie Rowe and Dr. Veronica Prush
 - Wang, K., Laly, M., Gourdeau, A., Prush, V.B., Rowe, C.D., 2022, *Using lidar to understand glacial landforms and post-glacial faulting in southern Québec*, Poster presentation at Cryosphere 2022 conference.

Atmospheric and Environmental Research (AER) Lab, McGill University, Montreal, Canada May 2021 – April. 2022

SURA Undergraduate Researcher and Honours Thesis student

- Took primary data of trace gas fluxes from a managed drained peatland during fieldwork in eastern Quebec. Learnt field measurement methodologies and use of instruments to measure CO₂ and CH₄ exchange. Measured, analyzed, and quantified Greenhouse Gas emission from peat stockpiles in harvested peatland.
- Wrote Undergraduate Honours Thesis under the supervision of Prof. Ian Strachan and Prof. Nigel Roulet.

State Key Laboratory of Estuarine and Coastal Research (SKLEC), Shanghai, China Feb. 2021 – June 2021

- Learn to take measurements with field instrument (e.g., Acoustic Doppler current profiler, Sub Bottom Profiler, Side scan sonar)
- Conducted pre-treatment of the drill core sample of sediments from the cruise fieldwork to the Yellow River subaqueous delta.
- Examined lithological characteristics of hyperpycnite through grain size analysis and X-Ray photography.
- Field Assistant in expeditions to the estuaries of the Yellow River, Yangtze River and Pearl River with SKLEC scientists.

Global HydroLAB, McGill University, Montreal, Canada

May 2020 – Sep. 2020

- SURA Undergraduate Researcher supervised by Prof. Bernhard Lehner to develop a research proposal in global hydrology.
- Improved and expand the Global Reservoir and Dam database (GRanD), add new attributes to existing hydrological models.
- Examined the accuracy of an Artificial Intelligence algorithm in its ability to detect Dams and reservoirs from remote sensing data.
- Deployed Geographic Information System software to classify waterbodies and infrastructures using satellite images.

Environmental Systems (GEOG 203) TEAM Undergraduate Mentor, McGill University

Sept. 2021 – Dec. 2021

- Led assignment Q&A and midterm review sessions, helping course instructors, peer mentoring, prepare tutorial sessions.

RELEVANT CLASSES

- All the first-year science curriculum (Math, Physics, Biology, Chemistry) courses were completed at Marianopolis College
 - GEOG 306 Raster Geo-Information Science: Advanced GIS Mapping using ArcMap.
 - GEOG 308 Principles of Remote Sensing: Ground-based, aerial, satellite systems and underlying physical principles.
 - GEOG 272 Earth's Changing Surface: Geomorphology, Inspired my interest in Glacial landscapes and Glaciology.
 - MATH 204 Principles of Statistics 2: Learnt R; Planning of experiments. Experimental designs. Polynomial and multiple regressions
 - COMP 208 Computer Programming for Physical Sciences and Engineering: Learnt coding skills in Python.
 - GEOG 322 Environmental Hydrology: Quantitative, experimental study of the hydrological principles, hydrogeology.
 - EPSC 355 Sedimentary Geology: The origin, classification, diagenesis and physical properties of sedimentary rocks.
 - EPSC 303 Structural Geology: Introduction to physical structures in geological forces and context.
 - EPSC 519 Isotopes in Earth and Environmental Science: graduate level class of isotopic geochemistry.
 - EPSC 425 Sediments to Sequences: Advanced Sedimentology and modern Sequence Stratigraphy using R.
 - EPSC 231 Field School 1: 15 days of geological and carbon mapping in southern California and Nevada
- For fieldwork: Canadian Red Cross certificate for Wilderness First Aid & CPR/AED level C, CSA Std. Z1210-17 – Intermediate

LEADERSHIP AND VOLUNTEERING EXPERIENCE

Invited Speaker by McGill's Faculty of Science, volunteer

2021 and 2022 September

- Invited to present research and share my experience as undergraduate student at McGill and abroad.

McGill Earth and Planetary Sciences Undergraduate Society: Vice-President of Finance

2022

- Obtained the financial resources necessary to run the student society from school, student union and sponsors
- Coordinated the long-range financial plans of the student society, organize fundraising events and reimburse related costs.

Montreal Chinese Alliance Church, Montreal, Canada

2019 - Present

- Appointed as leader of the Jehovah-Nissi mandarin youth fellowship and the deacon on Sunday Worship
- Lead Bible study, attend monthly meetings, teach Sunday schools, arrange events, host conferences & workshops, invite speakers.

Model United Nations club

2017 - 2020

Concordia Model United Nations conference (ConMUN 2020): Committee Director

- Served as the dais in a Specialized Agency: The Student Debt Crisis
 - Composed the background guide, selected topics for the committee, cooperates with VP finance from the secretariat board.
- Marianopolis Model United Nations Conference (MariMUN 2020): Principal Research Analyst*
- Served as the dais in a Joint Crisis Committee: SCO vs. NATO - New Cold War
 - Recruited the research team staffs, composed the background guide, reduced the expenditure on props for 50% on budget.

Montreal United Nations Conference (MUNC 2019): Principal Research Analyst

- Served as the dais in United Nation Security Council: Cuban Missile Crisis
 - Lead the crisis team, collaborated with the committee directors, constructed the arc of the committee, provide training and monitor.
- Marianopolis Model United Nations Conference (MariMUN 2019): Assistant Research Analyst*
- Served as the dais in United Nation Security Council: South China Sea
 - Created the crisis narrative country portfolios for the research paper, reviewed the project curriculum, provided feedback to debaters.

Montreal Chinese Hospital, Montreal, Canada

2018 - 2019

- *Elderly Care Assistant:* Greet visitors, run entertainment events, provide support to patients, making desserts and drinks.

SKILLS AND INTERESTS

Computer Skills: ArcGIS, Matlab, R, Python, SPSS, Excel, PowerPoint, Word, Miro

Research Interests: Glacial Geology, Glaciology, Geomorphology, Sedimentology, Paleoclimatology, Hydrology, Geophysics.

Hobby: Hiking, Backpacking, Mountaineering, kayaking, reading journal articles, history, Outreach for Science and EDI.