Mees McCoy Franssen

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Education

McGill University — BSc. in Atmospheric and Oceanic Sciences   2019-2024

- Minor: Environmental Science
- cGPA: 3.81/4.00, Major GPA: 3.87/4.00
- Graduate Course Experience: Atmospheric and Oceanic Dynamics, Waves and Stability, Dynamics of Current Climates, Cloud Physics, Atmospheric Radiation, Advanced Quantitative Methods and Statistics
- **Skills**: Python, MATLAB, Data Visualization (Matplotlib, Seaborn), Machine Learning, Linux OS

Honors and Awards

McGill Graduate Excellence Award, First Class	2024
Tomlinson Engagement Award for Mentoring, $300	2023
Rubin Gruber Science Undergraduate Research Award, $7000	2022

Publications

Schmedding R., **Franssen M.**, Zuend A. (2025): A Machine Learning Approach for Predicting the Pure-Component Surface Tension of Atmospherically Relevant Organic Compounds. *ACS ES&T Air*, https://doi.org/10.1021/acsestair.4c00291

Professional Experience

Meteorologist, Weather Forecasting, and Alpine Climate Research   2025

Forecaster at Mount Washington Observatory. Compile 48-hour weather forecasts for the higher summits of the White Mountains in New Hampshire. In addition, conduct scientific research on the climatology of Northeast snow density. Will present results at the Eastern Snow Conference later this year.

Global Climate Modeling and High Performance Computing   2024

Ported CESM2.1.5 onto ComputeCanada's High Performance Computing facilities. Implemented source code changes to ice-microphysics schemes, and conducted comparison tests between generations of ice-microphysics schemes nudged to MERRA2 reanalysis data. Developed model experiments.

Climatological Analsysis and Field Campaigns   2022

Applied a combination of reanalysis and observational data to produce a climatological analysis of the Italian Monte Baldo region, supplemental to the TEAMx field campaign (https://doi.org/10.1175/bams-d-21-0232.1).

Machine Learning and Atmospheric Chemistry Modeling   2021

Developed machine learning approaches (XGBoost, Random Forest, and KNN) to predict the pure-component surface tension of common organic aerosol compounds. Results accepted to the American Chemical Society.

Extra Curricular Activities

Department Council, Vice-President and EDI Officer   2021-2023

Organized monthly meetings, coordinated with event planning to ensure accessibility considerations, and represented the student body in faculty wide meetings concerning student health and accessibility.

aCADemy, Co-Founder and Vice-President   2020-2022

Co-founded a web-based tutorial service teaching Computer Aided Design (CAD). Developed the curriculum and developed tutorial designs. See website for details: https://mcgillacademy.wixsite.com/website

McGill Baja Racing Subteam Leader   2019-2021

Lead engineer for the design and manufacture of the toe-box and throttle system for the McGill Baja car. Participated in the inter-collegiate SAE Baja Racing series, best finish was 19/200.