Martin **Queinnec**

Remote Sensing Specialist | PhD

Lausanne, Switzerland (from January 2024)

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Remote sensing specialist and environmental engineer passionate about translating remote sensing & geospatial data into impactful and actionable insights. Strong experience with LiDAR and multispectral imagery data manipulation and their integration into predictive models.

Education

PhD in Remote Sensing applied to Forestry

Vancouver, Canada

University of British Columbia, Faculty of Forestry — *January 2019 - December 2022*

- Integrated Remote Sensing Studio, supervised by Nicholas Coops
- PhD Thesis: *Enhancing the characterization of forest structure and resources for forest inventory and monitoring using airborne and spaceborne single photon lidar*

MSc in Environmental Sciences and Engineering

Lausanne, Switzerland

Ecole Polytechnique Federale de Lausanne — *September 2015 - July 2017*

- Specialization in Water Resources Management & Environmental Monitoring
- Master thesis: *Influence of mountain shading on the spatial interpolation of direct shortwave radiation for snowmelt modeling*

BSc in Environmental Sciences and Engineering

Lausanne, Switzerland

Ecole Polytechnique Federale de Lausanne — *September 2012 - July 2015*

Experience

Freelance Remote Sensing Consultant

Vancouver, Canada

Self-Employed — *January 2023 - June 2023*

- Development of interactive dashboards (Shiny Apps)
- Development of land cover and land use mapping products
- Advising on remote sensing data products

Teaching Assistant

Vancouver, Canada

University of British Columbia, Faculty of Forestry — *January 2019 - May 2022*

- Developing course content (lectures and assignments) and guiding students to learn about remote sensing concepts and develop research proposals
  - CONS 127 - Observing the Earth from Space
  - FRST 443 - Remote Sensing for Ecosystem Management
  - GEM 520 - Remote Sensing for Ecosystem Management (for the Master of Geomatics for Environmental Management program)
  - FCOR 599 - Project Proposal Development and Proof of Concept (for the Master of Geomatics for Environmental Management program)

Co-instructor

Vancouver, Canada

University of British Columbia, Faculty of Forestry — *September 2021 - December 2021*

- Responsible for teaching spatial data processing with R to students in the Master of Geomatics for Environmental Management program
  - GEM 520 - Remote Sensing for Ecosystem Management (Co-instructed with Nicholas Coops)

Engineering internship

Francin, France

Hydretudes — *July 2015 - September 2015*

- Hydraulic studies and river management planning; Contribution to various studies related to flood protection in alpine environments

Skills

Data Science	R (including spatial data processing); QGIS/ArcGIS Pro; Lidar processing (LAStools, lidR); R Shiny Apps; Python; Google Earth Engine
Writing and Communication	Microsoft Office Suite; Adobe Illustrator; Peer-reviewed publications; Teaching; Conferences
Languages	English (Full proficiency); French (Native); Spanish (Intermediate)

Awards

National Best Ph.D. Thesis - Issued by the Canadian Remote Sensing Society *Vancouver, Canada*

2023

- Every year, the Canadian Remote Sensing Society issue a Student Award for the best thesis at the Ph.D. level.

MGEM GTA Award *Vancouver, Canada*

2022

- The MGEM GTA Award recognizes outstanding contributions by graduate teaching assistants (GTA) from the Master of Geomatics for Environmental Management (MGEM) program. Each year one GTA who has demonstrated exceptional teaching excellence is selected for the award.

MFSA Prize for Spatial Analysis *Lausanne, Switzerland*

2017

- Rewards a student whose Master project is characterized by an innovating integration of an aspect of spatial analysis

Best Master Project in Environmental Sciences and Engineering – SIA Vaud *Lausanne, Switzerland*

2017

- Rewards each year the best Master thesis that stands out by its excellence

Peer-reviewed publications

1. Goodbody, T. R. H., Queinnec, M., White, J. C., Hudak, A. T., Valbuena, R., Prieur, J.-F., Coops, N. C., Auty, D., Tompalski, P., McCartney, G., Leboeuf, A., & Sinclair, I. (2023). sgsR: A structurally guided sampling toolbox for lidar-based forest inventories. *Forestry: An International Journal Of Forest Research*.
2. Queinnec, M., Coops, N. C., White, J. C., Griess, V. C., Schwartz, N. B., & McCartney, G. (2022). Mapping dominant boreal tree species groups by combining area-based and individual tree crown LiDAR metrics with sentinel-2 data. *Canadian Journal of Remote Sensing*. https://doi.org/https://doi.org/10.1080/07038992.2022.2130742
3. Irwin, L., Coops, N. C., Queinnec, M., McCartney, G., & White, J. C. (2021). Single photon lidar signal attenuation under boreal forest conditions. *Remote Sensing Letters*, *12*, 1049–1060. https://doi.org/10.1080/2150704X.2021.1962575
4. Queinnec, M., White, J. C., & Coops, N. C. (2021). Comparing airborne and spaceborne photon-counting LiDAR canopy structural estimates across different boreal forest types. *Remote Sensing of Environment*, *262*, 112510. https://doi.org/10.1016/J.RSE.2021.112510
5. Coops, N. C., Tompalski, P., Goodbody, T. R. H., Queinnec, M., Luther, J. E., Bolton, D. K., White, J. C., Wulder, M. A., Lier, O. R. van, & Hermosilla, T. (2021). Modelling lidar-derived estimates of forest attributes over space and time: A review of approaches and future trends. *Remote Sensing of Environment*, *260*, 112477. https://doi.org/10.1016/J.RSE.2021.112477
6. Queinnec, M., Tompalski, P., Bolton, D. K., & Coops, N. C. (2021). FOSTER—an r package for forest structure extrapolation. *PLOS ONE*, *16*, e0244846. https://doi.org/10.1371/JOURNAL.PONE.0244846
7. Queinnec, M., Coops, N. C., White, J. C., McCartney, G., & Sinclair, I. (2021). Developing a forest inventory approach using airborne single photon lidar data: From ground plot selection to forest attribute prediction. *Forestry: An International Journal of Forest Research*. https://doi.org/10.1093/forestry/cpab051
8. Bolton, D. K., Tompalski, P., Coops, N. C., White, J. C., Wulder, M. A., Hermosilla, T., Queinnec, M., Luther, J. E., Lier, O. R. V., Fournier, R. A., Woods, M. E., Treitz, P. M., Ewijk, K. Y. V., Graham, G., & Quist, L. (2020). Optimizing landsat time series length for regional mapping of lidar-derived forest structure. *Remote Sensing of Environment*, *239*, 111645. https://doi.org/10.1016/j.rse.2020.111645

Conferences and workshops

Forestry Futures Trust Ontario | Knowledge Transfer and Tool Development Webinar Series *Online workshop*

Sampling and Generation of Enhanced Forest Inventory attributes from Single Photon LiDAR *March 2021*

AWARE Annual General Meeting *Toronto, Canada*

Optimizing Landsat time series length for regional mapping of lidar-derived forest structure *February 2020*

AWARE Annual General Meeting — *Toronto, Canada*

Introduction to the FOSTER R package — *February 2020*

Canadian Institute of Forestry | E-Lecture series — *Online workshop*

New LIDAR Technologies on the Horizon – SPL and Multi-Spectral LIDAR — *October 2019*

Silvilaser — *Foz de Iguazu, Brazil*

Influence of vegetation structure on the canopy penetration of single photon LiDAR - Oral presentation — *October 2019*