



**SMU's
Organic Geochemistry
Laboratory**

Postdoctoral Research Position in Environmental Lipidomics and isotope biogeochemistry

Postdoctoral research candidates (m/f)

We are seeking a highly motivated candidate with a PhD in organic geochemistry (or closely related field), with experience in analyzing intact/non-intact polar lipids (IPLs and PLs) for a two-year postdoctoral research position (entry March 1st, 2021). The candidate will utilize samples deemed interesting because they contain genomic evidence of bacterial anaerobic oxidation of hydrocarbons and/or have detected seep oil within the sediments. The researcher will conduct lipidomics studies of samples from surface and piston core sediments collected along the Scotian margin during cruises spanning from past 2015 to 2018 coring cruises as well as possibly participate in an upcoming coring cruises slated for 2021. The organic geochemistry laboratory of Saint Mary's University is equipped with and/or able to readily access a super-critical CO₂-HPLC- and UHPLC-qToFMS, LC×LC (with fraction collector), and GC×GC-FID, ECD- and qToFMS systems.

Research tasks:

- Build upon our current techniques with novel liquid chromatographic methods.
- Identify and quantify IPLs and PLs within collected sediment samples.
- Isolate individual lipids and their hydrocarbon skeletons for compound specific isotope analyses.
- Develop pilot projects with existing data and materials.
- Relate these data to existing, geochemical, genomic assay and petroleum hydrocarbon data.
- Assess whether distributions of IPLs and PLs provides evidence for the presence of seep oils and biodegraded petroleum products.

Additional opportunities:

- Mentor and co-supervise graduate students.
- Additional collaboration, or side projects, are also possible.

For example, we are currently engaged in geochemical surveys of hydrothermal vent sites in Guaymas Basin, Gulf of California; freshwater serpentinization studies of microbial process in Table Lands, Newfoundland; and a water column survey comprising several transect outward from around Newfoundland.

Applicant Qualifications:

Applicants are required to have a PhD degree in geological science, chemistry, environmental science, or related field areas at the time of employment. Only candidates with the following qualifications are encouraged to apply:

- A background in lipidomics, polar lipid biomarker-based organic geochemistry, biogeochemistry, organic chemistry and/or microbial biochemistry;
- A passionate interest in doing research;

- Proficient scientific background in the use of HPLC, mass spectrometric methods, good writing skills and high motivation to produce publishable results;
- A command of spoken and written English.

Expression of interest including CV, academic transcript and the names of three references should be sent to **Prof. G. Todd Ventura** (todd.ventura@smu.ca).

Application closing date: 31st January, 2021 (or until filled).

Starting date: 1st March, 2021

Salary: Gross per annum salary of \$50,000CAD + 4% In Lieu of Vacation.

Relocation Assistance: up to \$1,200 CAD (subject to any University policy governing such expenses).

Employment Duration: Two years.

Application review will begin immediately and continue until the position is filled. The successful candidate will join our growing SMU Organic Geochemistry Laboratory (SMU OGL) research group. For informal inquiries and further information about this research project and the academic setting of SMU contact **Prof. Todd Ventura**, email: todd.ventura@smu.ca.

For more information concerning the OGL research group please see our website at: <https://www.smu-ogl.com/>. For further details about studying at Saint Mary's University see: <http://www.smu.ca> and <http://www.smu.ca/academics/departments/geology.html>.