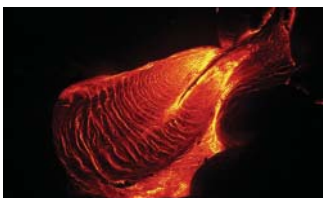


Graduate Programs in Earth Sciences



Western's award winning faculty members, cutting edge research and interdisciplinary environment give you the tools to engage your imagination.



The University of Western Ontario



Faculty and their research:

ATKINSON, G M , Professor (expected start date July, 2007)

Earthquake seismology and strong ground motion, with particular emphasis on the interface between seismology and earthquake engineering; Earthquake hazard analysis; Real-time ground-motion monitoring including SHAKEMAP.

BANERJEE, N R , Assistant Professor

Stable isotope biogeochemistry: Microbial alteration of modern and ancient oceanic crust; Evidence for early life on Earth; Formation and evolution of oceanic crust; Geochemical cycling at mid-ocean ridges; Formation of massive sulfide deposits at mid-ocean ridges; The origin and emplacement of ophiolites; Astrobiology.

CORCORAN, P L , Assistant Professor

Sedimentary petrology, Precambrian geology, & geochemistry of sedimentary deposits, volcanic rocks & weathering profiles; Field research (New Zealand, Hawaii, Africa, Ontario); Heavy mineral studies; Factors controlling the composition of sedimentary deposits, including climate, recycling and transport; Techniques: Cathodoluminescence spectroscopy and SEM.

DUKE, N A , Associate Professor

Metallogeny of orogenic belts & tectono-stratigraphic analysis of mineralized terranes; Emphasis on field based research in cooperation with industry; Main areas for study include base & precious metal districts of the southern Appalachians, northern Cordillera & the Canadian Shield.

EATON, D W , Professor

Applied seismology & lithospheric studies; Application of seismic reflection & teleseismic methods to studies of the Earth's interior, with particular emphasis on the composition & structure of the crust & upper mantle.

FLEMMING, R , Associate Professor

Mineralogy; mineral structure, chemistry, cation distribution, and phase transition behaviour, in response to changes in pressure, temperature, and composition (P-T-X). Techniques: X-ray diffraction and microdiffraction, Rietveld refinement of diffraction data, and solid-state nuclear magnetic resonance spectroscopy (NMR). Interests: kimberlite minerals, meteorites, weathering.

HICOCK, S R , Professor

Glacial & Quaternary geology; Genesis of glaciogenic sediments; Subglacial dynamics of North American ice sheets; Pleistocene history & stratigraphy of Canada's west coast & Great Lakes region; Use of glacial drift in mineral exploration.

JIANG, D , Assistant Professor

Theoretical, numerical, & field-based work towards understanding the formation of geological structures on all scales; Structural studies to decipher large-scale tectonic processes; Continuum mechanics & its application to natural deformation of rocks; Numerical forward modeling of structural development.

JIN, J , Professor

Paleontology, paleoecology, biostratigraphy, paleobiogeography, evolution, & mass extinction of Paleozoic brachiopods, carbonate petrology, sedimentology, & subsurface stratigraphy of Canadian sedimentary basins.

KING, P L , Associate Professor

Geochemistry of planetary surfaces and interiors: High-pressure & high-temperature experimental petrology of minerals & glasses; studies of oxygen fugacity & volatiles; Fourier Transform infrared spectroscopy; Studies of field sites that are analogues for Mars & Europa.

LESCINSKY, D , Assistant Professor & Undergraduate Chair

Physical volcanology: How volcanic rocks are erupted & how volcanic materials are emplaced at the surface; Field-based, remote sensing & experimental studies of lava flows, flow morphologies & fractures; volcanic activity at glaciated volcanoes; Planetary volcanism.

LONGSTAFFE, F J , Distinguished University Professor, Provost & Vice-President (Academic)

Stable isotopes, clay mineralogy, clastic diagenesis, water-rock-organic interactions; Stable isotope crystal-chemistry of hydrous minerals, weathering, low-temperature alteration, biogeochemistry of silica; Stable isotopes in the environment & in ecology, carbon cycling in soils & freshwater wetlands, plant water; Stable isotope hydrology & water balance; Proxies for continental paleoclimate; Oil sands; Stable isotopes in anthropology & archaeology.



MOSER, D , Assistant Professor

Tectonics and Geochronology: Evolution of the continental plates; Radiogenic and stable isotope chemistry of accessory minerals such as zircon; Imaging growth patterns in U-bearing crystals; Regional field mapping of crustal cross-sections and meteorite impact structures; Thermochronology of kimberlite xenoliths and ore deposits from ancient cratons.

NESBITT, H W , Professor & Department Chair

Low temperature geochemistry, including environmental geochemistry, weathering, geochemistry of sediments & sedimentary rocks; Effects of acid rain on soil minerals & treatment of mine wastes; Studies of laboratory & naturally leached mineral surfaces are of particular interest.

PLINT, A G , Professor

Sedimentary facies analysis, high-resolution sequence stratigraphy & basin analysis using outcrop, core & well log data; Research interests lie primarily in the Cretaceous of the Alberta basin & the Oriente basin of Ecuador.



SCHINCARIOL, R A , P.Eng., P.Geo., Associate Professor & Graduate Chair

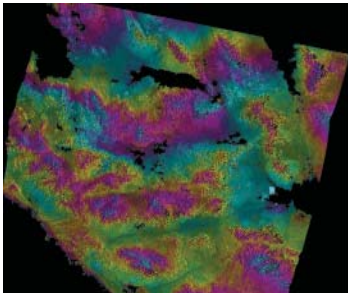
Physical & chemical hydrogeology; Subsurface transport of contaminants; Ground water geochemistry; Physical & chemical hydrology of watersheds, rivers & lake systems; Permafrost hydrogeology; Environmental engineering.

SECCO, R A , Professor & Assistant Dean (Graduate & International Research, Faculty of Science)

High pressure-temperature mineral physics & materials science studies; Outer core rheology; Structural modifications in mantle melts; Fast-ion conduction in solid electrolytes; High pressure techniques; Synthesis of super hard materials.

SHIEH, S , Associate Professor

Mineral physics: high-pressure and high-temperature diamond-anvil cell studies for Earth, planetary, & material sciences; Dynamics & structures of Earth and Planetary interiors; Phase transitions, equation of state, elasticity, strength, rheology & novel materials; Raman, laser-heating, & synchrotron X-ray spectroscopy.



SOUTHAM, G , Associate Professor & Canada Research Chair in Geomicrobiology

Bacteria-mineral interactions: Life in extreme environments (deep subsurface & hydrothermal systems); Bacteria roles in the formation of ore deposits, metal exploration, & acid mine drainage; Bioremediation of metal pollution; Biogeochemistry of gold & carbon sequestration; Astrobiology: Bacterial survival in meteorite impacts.

TIAMPO, K , Assistant Professor & Industrial Research Chair in Earthquake & Hazard Assessment

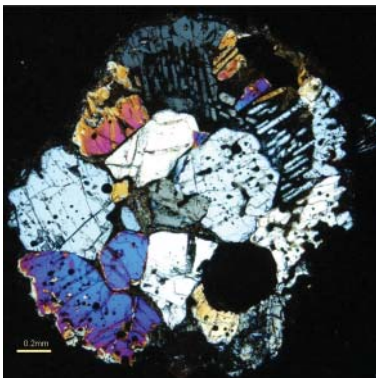
Integrated data acquisition, modelling & analysis, including geodetic & remote sensing applications & their assimilation into large-scale computer simulations, for the purpose of understanding geophysics systems in general & earthquake fault systems dynamics in particular

TSUJITA, C, Assistant Professor

Paleontology, paleoecology, taphonomy, diagenesis, Cretaceous (Alberta) and Devonian (Ontario) stratigraphy, functional morphology of ammonoids, sedimentology, geoscience education.

WEBB, E, Assistant Professor

Stable-isotope biogeochemistry: interactions among the soil-plant-atmosphere continuum; paleoclimate models based on the isotopic analysis of ancient plant materials; carbon sequestration; water resource availability; ecosystem resilience in regions with high rates of vegetation change.



Departmental Research Facilities

Laboratory for Stable Isotope Science

Cathodoluminescence Spectroscopy

Rock and Thin Section Preparation Laboratory

Micro-Raman Spectroscopy

Atomic Force Microscope Laboratory

Laboratory for X-ray Diffraction and Micro-Diffraction

Subsurface Stratigraphy Laboratory

X-ray Photoelectron Spectroscopy

Physical and Chemical Hydrogeology Laboratory

Transmission Electron Microscope with EDAX

Scanning Electron Microscope with Colour CL and EBSD detector systems

The Laboratory for Geochemical Analysis (XRF, INAA, ICP-AES)

A.D. Edgar Laboratory for Electron-Probe Microanalysis

Experimental Petrology & Analysis Laboratory with Micro-Fourier Transform Infrared Spectroscopy

Experimental High Pressure-Temperature Mineral Physics and Materials Science Laboratories

POLARIS (Portable Observatories for Lithospheric Analysis and Research Investigating Seismicity)

The Laboratory for Education in Digital Geosciences (GIS workstations and GPS equipment)

Computational Laboratory for Fault System Modeling, Analysis and Data Assimilation

Biotron Experimental Climate Change Facility (Ecohydrological Climate Chamber & Earth Sciences Water Chemistry and Soil Analysis Laboratory)

Surface Science Western (SIMS, FESEM, XPS)

Nanofabrication Laboratory (TEM, FIB, Confocal)

SHARCNET multi-university parallel supercomputing network of high performance LINUX clusters

<http://www.uwo.ca/earth/grad>

M.Sc. & Ph.D. Degrees in:

- Geology
- Geology & Environmental Science
- Geophysics
- Geophysics & Environmental Science
- Geophysics (Scientific Computing)

What are the main entrance requirements?

Minimum grade average of 70% (minimum 78% for Western Graduate Research Scholarship funding)

Faculty member sponsorship

Reference letters

International applicants also require:

Test of English as a Foreign Language (TOEFL)

Minimum 575 (paper) and 233 (computer)

More details and links to application forms are available online at: <http://www.uwo.ca/earth/grad>

Scholarships and Awards

National - NSERC (CGS, PGS, IPS)

Provincial - Ontario Graduate Scholarships & Ontario Graduate Scholarships in Science & Technology (OGS & OGSST)

University - See the Faculty of Graduate Studies Graduate Brochure (<http://www.uwo.ca/grad>). The Department of Earth Sciences extends the Western Doctoral Funding Guarantee to all our graduate students (M.Sc. and Ph.D.). These represent funding minimums. Actual support levels are often much higher and depend on faculty member research grant support and student scholarships.

Why Western?

Western's Department of Earth Sciences has a proud tradition of outstanding scholarship and research that continues to grow with innovative research. Our willingness to explore new approaches to problems has resulted in the department being awarded a Canada Research Chair and an NSERC Industrial Research Chair. Take the opportunity to engage your intellectual curiosity and creativity by participating in Western's cutting edge research.



Contact Us:

For more information on programs, courses, scholarships/bursaries, and research:

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