

Nu Instruments Plasma 1700 MC-ICP-MS at PCIGR

## Isotopic Analysis Services

Welcome to the Pacific Centre for Isotopic and Geochemical Research, at the University of British Columbia in Vancouver, Canada. PCIGR is an all-in-one research facility that provides analytical services to investigators from academia, government and industry, both across Canada and around the world.

### Isotopic Analysis at PCIGR

PCIGR offers high-precision analyses for a number of isotope systems, using state-of-the-art instrumentation. Our sample analysis capabilities include:

- Analysis in solution or in-situ
- Small sample sizes
- Detection at ultra-low concentrations
- A variety of sample types

For specialized applications, our scientific and technical team can assist with custom-designed method development. Contact us for details.

### Radiogenic Isotopic Analysis

PCIGR performs routine analyses of Sr, Nd, Hf and Pb isotopes in volcanic, plutonic and mantle rocks, lithic archaeological materials, and biological samples, using advanced instruments. Every effort is made to remove all matrix effects.

- Nu Instruments Nu TIMS: Sr and Nd isotopic analysis
- Nu Instruments Nu Plasma, Plasma II, Plasma 1700: Nd, Hf and Pb isotope ratios analyses

### Light Stable Isotopic Analysis

Isotope-ratio mass spectrometers at PCIGR are configured to analyze for  $^{13}\text{C}$ ,  $^{15}\text{N}$ , and  $^{18}\text{O}$  ratios in solid, liquid or gaseous samples.

- **IsoPrime 100**: Coupled to an elemental analyzer (solid samples)
- **Thermo Fisher Scientific Delta V Plus**: Coupled to a GasBench and gas chromatographer (liquid and gas samples) (coming in 2024)

### Transitional Metal Stable Isotopic Analysis

PCIGR analyzes a wide range of transitional metal stable isotope systems via our multicollector ICP-MS instruments (Nu Instruments Nu Plasma, Plasma II, Plasma 1700). Every effort is made to remove all matrix effects.

- We can analyze sample types in a variety of geological and biological matrices
- PCIGR has established specific analytical protocols for Li, Fe, Cu, Zn, Mo, Cd and Pb



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## Our Capabilities

PCIGR can analyze the following types of sample materials\* for isotopes:

- Rocks and minerals (solution, in-situ or powdered)
- Sediments, soils and dusts (solution or powdered)
- Water (e.g., seawater, lake water, pore water) (solution)
- Plant materials (solution or powdered)
- Animal tissue (both soft and mineralized tissues) (solution, in-situ (mineralized) or powdered)
- Food and pharmaceuticals (solution or powdered)
- Archaeological materials (in-situ)

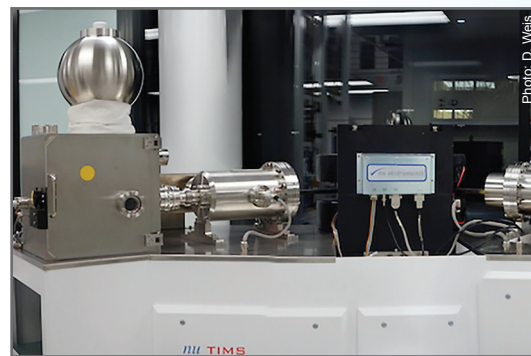
\* Please note that PCIGR is not equipped to accept radioactive materials. We are also currently unable to analyze light stable isotopes in silicates.

Isotopic analyses completed at PCIGR have the following applications:

- Mantle dynamics
- Radiogenic isotope tracer studies
- Geochemical fingerprinting studies
- Environmental research
- Archaeological science
- Biology and ecology

Consult our other brochures for related capabilities, or visit our website below for more information.

- **PCIGR: All-in-One Analytical Services**
- **Sample Preparation Services**
- **Trace Element Analysis Services**
- **Geochronology Services**
- **In-Situ and Microanalysis Services**



Nu Instruments Nu TIMS



Nu Instruments Plasma II MC-ICP-MS



Isoprime 100 IRMS (left) with elemental analyzer

## Our Commitment

PCIGR is committed to working with you to achieve the best outcomes for your project. Contact us with your analytical and research needs.



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