



## Post-Doctorate Fellowship in Laser ablation imaging

**Project title: Quantitative elemental distribution evaluation and elemental bioimaging through laser ablation inductively coupled plasma mass spectrometry (LA-ICP-MS) to tree rings, speleothems and coral growth profiles**

Supervisor: Dr. Marco A. Z. Arruda, University of Campinas - Unicamp, Brazil

This Post-Doctoral project emphasizes the potentialities of the LA-ICP-MS focusing on semi-quantitative and quantitative analyses of biological and geological samples. The researcher will work closely with a group of geologists and biologists in the study of paleo-climate and paleo-environmental changes in South America, with support from the São Paulo Research Foundation (FAPESP). Then, those data generated through this technique will be qualitatively available as well as transformed into compositional maps from a specific software. Thus, two main goals will be explored: i) the acquisition of semi-quantitative to quantitative data along of tree ring, speleothem and coral growth profiles; ii) elemental bioimaging through the qualitative spatial elemental distribution in such samples employing the laser ablation system coupled to the ICP-MS.

This analytical project is integrated within a broader multi-disciplinary consortium project, co-funded by FAPESP and NSF (USA), entitled "Climate Research Education in the Americas using Tree-ring speleothem Examples (PIRE-CREATE).

The appointee will be expected to integrate their analytical developments through bioimaging of rings and speleothems, collaborating effectively within the wider project, and disseminate their findings by writing several papers for publication in internationally renowned journals.

Candidates are sought who have a PhD in analytical chemistry, ideally with expertise in ICP-MS and laser ablation processes. A background in developing transdisciplinary work, as well as a track record of publication in international journals, is desirable. Proficiency in oral and written English is essential.

The fellowship is for two years initially and extendable for a third year. The PDRA will be based in Brazil at the University of Campinas – Unicamp. The monthly salary is the equivalent to ca. USD \$2,800 free of tax while in Brazil Full details can be found at: <http://www.fapesp.br/en/5427>

Send your Curriculum for evaluation to Prof. Marco Aurélio Zezzi Arruda – Institute of Chemistry. E-mail: [zezzi@iqm.unicamp.br](mailto:zezzi@iqm.unicamp.br)