

The Italian Volcano Observatories and Research Infrastructures (CNR)

1. Infrastructure offered for the first call

Name and acronym of RI	Name: Institute of Geosciences and Earth Resources
	Acronym: IGG-CNR Pavia Branch
Main contact person	Name: Antonello Provenzale
	Email: direttore@igg.cnr.it
List of individual installations	Laboratories of elemental and isotope geochemistry: <ol style="list-style-type: none"> 1. Mass Spectrometry La-ICP Laboratory 2. SIMS Laboratory

2. Information of the installations and facilities offered for the first call

Name of the installation	1. Mass Spectrometry La-ICP Laboratory
Contact person	Name: Antonio Langone
	Email: langone@igg.cnr.it
Location	Address: IGG-CNR, S.S. of Pavia, via Ferrata 1, I-27100, Pavia
	Country: Italy
Description of the installation and facilities	<p>We provide an integrated system of expertise, instrumental facilities and analytical protocols, suitable to accurately determine both the elemental and isotopic composition for geochronological purposes at tens-of-microns-scale. The analytical skills include:</p> <ol style="list-style-type: none"> a) Quantitative chemical micro-analysis (scale: 35-100 μm) of solid matrices to determine the concentration (from wt.% to ppb level) of Li, Be, B, Na, Mg, Al, Si, P, K, Ca, Sc, Ti, V, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, As, Rb, Sr, Y, Zr, Nb, Mo, Ag, Cs, Ba, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, Ta, Au, Bi, Th and U: detection limits typically at ppb-ppm; b) Micro-analytical determination (at 10-60 μm scale) of the U-Pb isotopic composition of zircons, monazites, titanites, rutiles for geochronological purposes. <p>Instrumentation:</p> <ol style="list-style-type: none"> a) LASER sources: 1) GeoLas102, MicroLas (Göttingen, Germany), consisting of an excimer laser (Compex 110, Lambda Physik, Goettingen, Germany) operating with a mixture of 5% F2 in Ar, emitting a radiation of 193 nm wavelength. 2) Solid state LASER source Nd: YAG deep UV (213 nm) model UP213 (New Wave Research). b) Inductively-Coupled-Plasma Mass-Spectrometers (ICP-MS): 1) ICP-MS Element I (ThermoFinnigan, Bremen, Germany) with magnetic and electrostatic sectors and single collector; 2) ICP-MS Elan DRC-e (Perkin Elmer SCIEX, USA) with a quadrupole mass analyzer and reaction cell for interference

	suppression.
Scientific support offered	Training for the use of the installation: Offered.
	Duration of the training course: 1 day.
	Number of scientists supporting the activity: 2.
	Type of scientific support: “In person”; data acquisition and interpretation.
Technical support offered	Training for the use of the installation: Offered.
	Duration of the training course: Continuous training.
	Number of technicians supporting the activity: 2.
Safety	Training offered: Personal training. A health/life insurance is mandatory to access this installation.
	Duration of the safety training course: 2 hrs.
	Safety equipment provided: All protective equipment required by the Italian law.
Available accommodation facilities at infrastructure or nearby	B&B, hostel, hotels nearby CNR (selected according to their relative offer).
Available space/electricity/internet connection access for external users	All cited facilities available.
Administrative support offered	Available.

Name of the installation	2. SIMS Laboratory
Contact person	Name: Alberto Zanetti
	Email: zanetti@igg.cnr.it
Location	Address: IGG-CNR, S.S. of Pavia, via Ferrata 1, I-27100, Pavia
	Country: Italy
Description of the installation and facilities	<p>We provide an integrated system of expertise, instrumental facilities and analytical protocols, suitable to accurately determine the elemental composition at tens-of-microns-scale. The analytical skills include:</p> <ul style="list-style-type: none"> a) Quantitative chemical micro-analysis (scale: 5-20 μm) of solid matrices to determine the concentration (from wt.% to ppb level) of LLE (Li, Be, B), REE, LILE, HFSE and other transition elements: detection limits typically at ppb-ppm; b) Quantitative chemical micro-analysis (scale: 5-20 μm) of the content (from wt.% to tens of ppm) of volatile elements (H, F, Cl) in solid matrices; <p>Instrumentation:</p> <ul style="list-style-type: none"> a) Cameca IMS 4f
Scientific support offered	Training for the use of the installation: Offered.

	Duration of the training course: 1 day.
	Number of scientists supporting the activity: 2.
	Type of scientific support: “In person”; data acquisition and interpretation.
Technical support offered	Training for the use of the installation: Offered.
	Duration of the training course: Continuous training.
	Number of technicians supporting the activity: 2.
Safety	Training offered: Personal training. A health/life insurance is mandatory to access this installation.
	Duration of the safety training course: 2 hrs.
	Safety equipment provided: All protective equipment required by the Italian law.
Available accommodation facilities at infrastructure or nearby	B&B, hostel, hotels nearby CNR (selected according to their relative offer).
Available space/electricity/internet connection access for external users	All cited facilities available.
Administrative support offered	Available.

3. Access modalities and call parameters of the services offered only for the first call

Installation	Accesses per call (in unit)	Max n. of users per project	Max n. of projects per call
1. Mass Spectrometry La-ICP Laboratory	7 working days	1	2
2. SIMS Laboratory	7 working days	1	2

Please note that for ‘working day’ is intended a day from Monday to Friday excluding feast days.

4. Financial support offered to the users

Installation	Max reimbursable travel cost (in euro)	Max reimbursable daily subsistence cost (in euro)
1. Mass Spectrometry La-ICP Laboratory	700	120
2. SIMS Laboratory	700	120

5. Risk management

- a. **Expected conditions that can make the installations unavailable/inaccessible:** For both the Mass Spectrometry La-ICP Laboratory and SIMS Laboratory - occurrence of technical problems of the instruments.
- b. **Functionality of the installations offered, before the access:** For both the Mass Spectrometry La-ICP Laboratory and SIMS Laboratory - instruments are in principle in continuous operation.
- c. **Conditions to re-schedule the access to the same installation due to force majeure:** For both the Mass Spectrometry La-ICP Laboratory and SIMS Laboratory - personal contact.
- d. **Conditions to plan the access to another location in case the access must be moved due to force majeure:** For both the Mass Spectrometry La-ICP Laboratory and SIMS Laboratory - personal contact.