

## **RATES**

This document presents the services offered by the CENIEH as an ICTS to researchers and companies. Only the services defined are mentioned below: the Center also possesses capabilities for other methodologies to be commissioned and scientific-technical consultancy work. Availability of the services described depends on the scientific-technical staff available, the capability and operability of the equipment.

### General conditions:

- The procedure for requesting the services shall be in accordance with the Access Protocol available on the website and through the User Office.
- The commissioning of procedures, processes or methodologies shall be invoiced for on the basis of the cost of each of the techniques.
- The minimum charge for the different techniques which are charged per hour shall be equivalent to one hour, or the fraction indicated in the rate.
- Any tests which fail as a consequence of malfunctioning of the analytical instrumentation of the ICTS shall not be chargeable.
- When standards not available in the laboratories are needed, the cost of those standards will be added to the price of the service, subject to the prior agreement of the requester.
- Laboratories or services not envisaged in the following schedule can be engaged and charged for on the basis of a prior agreement on price.
- The equipment denoted (LUC) may be used in the “qualified user” mode subject to inclusion of the user in the LUC (List of Qualified Users), and reception of the appropriate instructions or training.
- All the rates are for guidance only, and the prices may undergo modification, depending on the number of samples and their specific characteristics. Please request an estimate for each analysis and test and, in any case, for services not included in the tables below.

### **Application of Rates for the Competitive and On-Demand Access Modes**

#### **Competitive Access Mode**

The applications made to laboratories with Competitive Access Mode by means of Competitive Calls, and following resolution, will be assigned as priority 1 or priority 2, and will be executed during the period established in the call, with **Rate A** being applied in all cases, whether they are for members of the CENIEH, or public or private bodies.

The applications made to laboratories with Competitive Access Mode but by means of On-Demand Access shall be charged at:

- **Rate B** for members of the CENIEH and for work arising from their research activity, whether as researchers on an internal project or as co-researchers on a project based at another research center or university.

- **Rate C** for public institutions such as universities, public research bodies (OPIs) or private bodies and companies.

### On-Demand Access Mode

The applications made to laboratories with exclusive On-Demand Access mode shall be charged at Rate A, B or C, depending on the kind of requesting institution, determined in general as follows:

- **Rate A:** applicable to members of the CENIEH and for work arising from their research activity, whether as researchers on an internal project or as co-researchers on a project based at another research center or university
- **Rate B:** applicable to public institutions such as universities and public research bodies (OPIs) and other public bodies.
- **Rate C:** applicable to any class of work destined for and/or for the purposes of companies or private bodies.

| Access Mode established for Laboratories 2023  |  |
|--|--|
| Laboratories with Competitive Access Mode  | Laboratories with On-Demand Access Mode  |
| <b>-Micro-Computed Tomography Area</b> of the Microscopy and Micro-Computed Tomography Laboratory<br><b>-Geochronology laboratories:</b><br>Archaeomagnetism<br>Luminescence<br>Electron Spin Resonance<br>Uranium Series<br>Cosmogenic Nuclides | Geology Laboratories:<br>- Sample Preparation<br>- Thin Sections<br>Archaeometry Laboratory<br>Digital Mapping and Multimedia Laboratory<br>Experimental Archaeology Laboratory<br>Conservation and Restoration Laboratory |

- Should the complete provision of the service requested require the CENIEH to subcontract part of the work, the cost of this subcontracting, with a surcharge of 10%, will be charged as an extra.
- The rates shown do not include VAT. The current rate of VAT will be applied to them.

## ARCHAEOMETRY LABORATORY

| FIELDWORK   | Rate A | Rate B | Rate C |
|---|--------|--------|--------|
| Taking samples (€/person-day)                       | 250    | 375    | 500    |
| X-RAY DIFFRACTION                                   | Rate A | Rate B | Rate C |
| Sample preparation DRX-grinding (€/unit)            | 2      | 3      | 4      |
| Sample preparation DRX-milling (€/unit)             | 2      | 3      | 4      |
| Sample preparation DRX-mortar (€/unit)              | 3      | 4,5    | 6      |
| Sample preparation for Oriented Aggregates (€/unit) | 40     | 60     | 80     |
| Preparation tablet 13 mm (€/unit)                   | 3      | 4,5    | 6      |
| X-ray diffraction (€/hour)                          | 5      | 7,5    | 10     |
| Multipurpose platform diffraction (€/hour)          | 5      | 7,5    | 10     |
| Identification of phases (€/unit)                   | 15     | 22,5   | 30     |
| X-RAY FLUORESCENCE                                  | Rate A | Rate B | Rate C |
| Sample preparation FRX-grinding (€/unit)            | 2      | 3      | 4      |
| Sample preparation FRX-milling (€/unit)             | 2      | 3      | 4      |
| Preparation tablet 13 mm (€/unit)                   | 3      | 4,5    | 6      |
| Preparation tablet 40 mm (€/unit)                   | 4      | 6      | 8      |
| Preparation glass bead (€/unit)                     | 7      | 10,5   | 14     |
| Semi-quantitative analysis (€/unit)                 | 9      | 13,5   | 18     |
| Quantitative analysis (€/unit)                      | 12     | 18     | 24     |
| Calculation of LOI (€/unit)                         | 5      | 7,5    | 10     |
| INFRARED SPECTROSCOPY (FTIR)                        | Rate A | Rate B | Rate C |
| Sample preparation FTIR-grinding (€/unit)           | 2      | 3      | 4      |
| Sample preparation FTIR-milling (€/unit)            | 2      | 3      | 4      |
| Preparation tablet 13 mm (€/unit)                   | 3      | 4,5    | 6      |
| ATR/transmission (€/unit)                           | 2      | 3      | 4      |
| Use of instrument (€/hour)                          | 5      | 7,5    | 10     |
| RAMAN MICROSCOPY                                    | Rate A | Rate B | Rate C |
| Use of instrument (€/hour)                          | 5      | 7,5    | 10     |
| THERMOGRAVIMETRY (TG/DSC)                           | Rate A | Rate B | Rate C |
| Sample preparation TG/DSC-grinding (€/unit)         | 2      | 3      | 4      |
| Sample preparation TG/DSC-milling (€/unit)          | 2      | 3      | 4      |
| Use of instrument (€/hour)                          | 10     | 15     | 20     |
| THERMOGRAVIMETRY (TG/DSC)+FTIR                      | Rate A | Rate B | Rate C |
| Sample preparation TG/DSC-grinding (€/unit)         | 2      | 3      | 4      |
| Sample preparation TG/DSC-milling (€/unit)          | 2      | 3      | 4      |
| Preparation tablet 13 mm (€/unit)                   | 3      | 4,5    | 6      |
| Use of instrument TG+DSC+FTIR (€/hour)              | 15     | 22,5   | 30     |
| SCIENTIFIC-TECHNICAL REPORT                         | Rate A | Rate B | Rate C |
| Scientific-Technical Report (€/day)                 | 100    | 150    | 200    |
| Scientific-Technical Report (€/hour)                | 50     | 75     | 100    |

## MICROSCOPY AND MICRO-COMPUTED TOMOGRAPHY LABORATORY

| <b>MICRO-COMPUTED TOMOGRAPHY</b>                         | Rate A  | Rate B  | Rate C  |
|--|---------|---------|---------|
| Sample preparation (€/hour)                              | 12      | 15      | 20      |
| V Tome XS Use of scanner 240 kV (€/hour)-qualified user* | 35      | 60      | 100     |
| V Tome XS Use of scanner 180 kV (€/hour)-qualified user* | 45      | 75      | 120     |
| V Tome XS Establishment of parameters 240 kV (€/hour)    | 35      | 60      | 100     |
| V Tome XS Use of scanner 240 kV (€/hour)                 | 45      | 70      | 110     |
| V Tome XS Establishment of parameters 180 kV (€/hour)    | 45      | 75      | 120     |
| V Tome XS Use of scanner 180 kV (€/hour)                 | 55      | 85      | 130     |
| CoreTOM Establishment of parameters (€/hour)             | 45      | 70      | 110     |
| CoreTOM Use of scanner (standard) (€/hour)               | 45      | 70      | 110     |
| CoreTOM Use of scanner <i>in-situ</i> test (€/hour)      | 45      | 70      | 130     |
| Radiographies:   |         |         |         |
| - Between 1 and 5 (€/unit)                               | 9       | 14      | 22      |
| - Between 6 and 15 (€/unit)                              | 8       | 13      | 21      |
| - More than 15 (€/unit)                                  | 7       | 12      | 20      |
| Image analysis (€/hour) Qualified user*                  | 30      | 45      | 60      |
| Image analysis (€/hour)                                  | 35      | 50      | 65      |
| Image analysis training (€/hour)                         | 30      | 45      | 60      |
| <b>AUTOMATED MICROSCOPY MORPHOLOGI G3</b>                | Rate A  | Rate B  | Rate C  |
| Sample preparation (€/hour)                              | 12      | 15      | 20      |
| Use of Morphologi G3 (€/hour) Qualified user*            | 10      | 15      | 20      |
| Use of Morphologi G3 (€/hour)                            | 20      | 25      | 30      |
| Use of software (€/hour) Qualified user*                 | 10      | 15      | 20      |
| Qualification training Morphologi (€/hour)               | 20      | 25      | 30      |
| Use of software (€/hour)                                 | 20      | 25      | 30      |
| <b>ELECTRON MICROSCOPY</b>                               | Rate A  | Rate B  | Rate C  |
| Sample preparation (€/hour)                              | 12      | 15      | 20      |
| Use of SEM (€/hour) Qualified user*                      | 15      | 22,5    | 30      |
| Use of EDS/WDS (€/hour) Qualified user*                  | 17      | 25,5    | 34      |
| Use of SEM (€/hour)                                      | 19      | 26,5    | 34      |
| Use of EDS/WDS (€/hour)                                  | 21,5    | 30      | 38,5    |
| Au coating (€/sample)                                    | 17,5    | 25      | 32,5    |
| C coating (€/sample)                                     | 12      | 17      | 22      |
| Qualification training SEM/EDS (€/hour)                  | 19/21,5 | 26,5/30 | 34/38,5 |
| <b>3D DIGITAL MICROSCOPY</b>                             | Rate A  | Rate B  | Rate C  |
| Sample preparation (€/hour)                              | 12      | 15      | 20      |
| Use of 3D microscope (€/hour) Qualified user*            | 10      | 15      | 20      |

|  |        |        |        |
|--|--------|--------|--------|
| Qualification training 3D (€/hour)             | 12     | 17     | 22     |
| Use of 3D microscope (€/hour)                  | 12     | 17     | 22     |
| <b>CONFOCAL LASER MICROSCOPY</b>               | Rate A | Rate B | Rate C |
| Sample preparation (€/hour)                    | 12     | 15     | 20     |
| Use of confocal laser (€/hour) Qualified user* | 10     | 15     | 20     |
| Use of confocal laser (€/hour)                 | 12     | 17     | 22     |
| <b>OPTICAL MICROSCOPY</b>                      | Rate A | Rate B | Rate C |
| Sample preparation (€/hour)                    | 12     | 15     | 20     |
| Petrographic analysis (€/hour)                 | 3      | 4,5    | 6      |
| Metallographic analysis (€/hour)               | 3      | 4,5    | 6      |
| Fluorescence analysis (€/hour)*                | 8      | 12     | 16     |
| Petrographic analysis (€/hour)                 | 6      | 9      | 12     |
| Metallographic analysis (€/hour)               | 6      | 9      | 12     |
| Fluorescence analysis (€/hour)                 | 12     | 16     | 20     |
| <b>SCIENTIFIC-TECHNICAL REPORT</b>             | Rate A | Rate B | Rate C |
| Scientific-Technical Report (€/day)            | 100    | 150    | 200    |
| Scientific-Technical Report (€/hour)           | 50     | 75     | 100    |
| Data and results analysis                      | 20     | 30     | 40     |

\*Qualified users must undergo prior training whose duration depends on the equipment. This will be charged for at the rates shown for each case.

## GEOLOGY LABORATORY

| <b>SAMPLE PREPARATION</b>   | Rate A | Rate B | Rate C |
|---|--------|--------|--------|
| Rock cutting wet/dry (€/hour)                                     | 5      | 7.5    | 10     |
| Jaw crushing (€/hour)   | 5      | 7.5    | 10     |
| Vibratory disc/ball mill (€/hour)                                 | 5      | 7.5    | 10     |
| Screening wet/dry (€/hour)  | 8      | 12     | 16     |
| Magnetic separator (€/hour)                                       | 30     | 45     | 60     |
| Microwave oven digestion (€/unit)                                 | 9      | 13.5   | 18     |
| <b>GRANULOMETRY</b>   | Rate A | Rate B | Rate C |
| Mineral separation and screening by grain size (PE-05GE) (€/unit) | 10     | 15     | 20     |
| Beckman Coulter laser granulometric analysis (€/hour)             | 50     | 75     | 100    |
| Robinson pipette  | 20     | 30     | 40     |
| <b>CHEMICAL ASSAYS</b>  | Rate A | Rate B | Rate C |
| Petron calcimetry (€/unit)  | 12     | 18     | 24     |
| Determination of humidity by desiccation and gravimetry (€/unit)  | 5      | 7.5    | 10     |
| Determination of organic matter by ignition (€/unit)              | 8      | 12     | 16     |
| Electrical conductivity and pH (€/unit)                           | 5      | 7.5    | 10     |
| <b>THIN SECTIONS AND PROBES</b>                                   | Rate A | Rate B | Rate C |
| Consolidation (€/unit)  | 7      | 10.5   | 14     |
| Standard thin section (LDS)                                       |        |        |        |
| polished (€/unit)   | 16     | 24     | 32     |
| without cover (€/unit)  | 12     | 18     | 24     |
| with cover (€/unit)   | 13     | 19.5   | 26     |
| Medium thin section (LDM)   |        |        |        |
| polished (€/unit)   | 25     | 37.5   | 50     |
| without cover (€/unit)  | 20     | 30     | 40     |
| with cover (€/unit)   | 21     | 31.5   | 42     |
| Large thin section (LDG)  |        |        |        |
| polished (€/unit)   | 40     | 60     | 80     |
| without cover (€/unit)  | 34     | 51     | 68     |
| with cover (€/unit)   | 35     | 52.5   | 70     |
| Preparation of polished probes                                    | 25     | 37.5   | 50     |
| <b>SOIL MICROMORPHOLOGY THIN SECTIONS</b>                         | Rate A | Rate B | Rate C |
| Standard impregnation* (€/unit)                                   | 25     | 37.5   | 50     |
| Soil micromorphology thin sections (€/unit) (already impregnated) | 25     | 37.5   | 50     |
| Soil micromorphology thin sections with impregnation (€/unit)     | 100    | 150    | 200    |
| <b>SCIENTIFIC-TECHNICAL REPORT</b>                                | Rate A | Rate B | Rate C |
| Scientific-Technical Report (€/day)                               | 100    | 150    | 200    |
| Scientific-Technical Report (€/hour)                              | 50     | 75     | 100    |

\*Standard impregnation refers to a certain standard size of impregnation cuvette, and the units will be the number of these necessary, or equivalent volume.

## GEOCHRONOLOGY: ARCHAEOMAGNETISM LABORATORY

| FIELDWORK   | Rate A     | Rate B | Rate C |
|---|------------|--------|--------|
| Taking samples (€/person-day)                     | 250        | 375    | 500    |
| SAMPLE PREPARATION                                | Rate A     | Rate B | Rate C |
| Sample cutting (hours)+marking-(€/hour)           | 5          | 7.5    | 10     |
| VSM-ambient temperature (Qualified user)          | Rate A     | Rate B | Rate C |
| VSM (€/hour)                                      | 1.5        | 2.25   | 3      |
| VSM (€/day)                                       | 15         | 22.5   | 30     |
| HYSTERESIS LOOPS                                  | Rate A     | Rate B | Rate C |
| Hysteresis loops (ambient temperature) - (€/hour) | 2          | 3      | 4      |
| Hysteresis loops (high temperature) - (€/hour)    | On request |        |        |
| Hysteresis loops (low temperature*) - (€/hour)    | On request |        |        |
| ISOTHERMAL REMANENT MAGNETIZATION (IRM)           | Rate A     | Rate B | Rate C |
| IRM and AIRM by VSM - (€/hour)                    | 2          | 3      | 4      |
| IRM by magnetic pulses – (€/unit)                 | 2          | 3      | 4      |
| AIRM-IRM anisotropy– (€/unit)                     | 2          | 3      | 4      |
| FORC  | Rate A     | Rate B | Rate C |
| Use of equipment (ambient temperature) - (€/hour) | 2          | 3      | 4      |
| Use of equipment (low temperature)* - (€/hour)    | 2          | 3      | 4      |
| ANHYSTERETIC REMANENT MAGNETIZATION (ARM)         | Rate A     | Rate B | Rate C |
| ARM (€/unit)                                      | 2          | 3      | 4      |
| AARM (€/unit)                                     | 2          | 3      | 4      |
| AF/TH DEMAGNETIZATION                             | Rate A     | Rate B | Rate C |
| AF/TH (€/unit)                                    | 4          | 6      | 8      |
| ANISOTROPY OF MAGNETIC SUSCEPTIBILITY (ASM)       | Rate A     | Rate B | Rate C |
| ASM (€/unit)                                      | 7          | 10.5   | 14     |
| USE OF LABORATORY (day)                           | Rate A     | Rate B | Rate C |
| Use of laboratory (day)                           | 150        | 225    | 300    |
| SCIENTIFIC-TECHNICAL REPORT                       | Rate A     | Rate B | Rate C |
| Scientific-Technical Report (€/day)               | 100        | 150    | 200    |
| Scientific-Technical Report (€/hour)              | 50         | 75     | 100    |

\*In the case of measurements at low temperature, the price/hour may be affected by the cost and availability of liquid He at the moment in question, so that this should be confirmed before undertaking the tests.

| GEOPHYSICS                       | Rate A | Rate B | Rate C |
|----------------------------------|--------|--------|--------|
| Electrical tomography (€/day)    | 150    | 300    | 600    |
| Ground penetrating radar (€/day) | 100    | 150    | 300    |

Use of this equipment by hiring shall only be permitted for persons with experience and this shall be assessed in each case.

## GEOCHRONOLOGY: ELECTRON SPIN RESONANCE LABORATORY

| FIELDWORK  | Rate A                                  | Rate B | Rate C |
|--|---|--------|--------|
| Taking samples (€/person-day)  | 250                                     | 375    | 500    |
| HIRE SPECTROMETRY EQUIPMENT  | Rate A                                  | Rate B | Rate C |
| Per day of use   | 50                                      | 75     | 100    |
| GAMMA AND BETA DOSIMETRY   | Rate A                                  | Rate B | Rate C |
| Sample preparation gamma dosimetry (€/sample)  | 18                                      | 27     | 36     |
| Measurement gamma dosimetry (€/sample)   | 18                                      | 27     | 36     |
| USE of ESR equipment   | Rate A                                  | Rate B | Rate C |
| Use of ESR equipment (€/hour) ambient temperature  | 5                                       | 20     | 40     |
| Use of ESR equipment (€/hour) low temperature (N2)   | 18                                      | 72     | 144    |
| BLEACHING  | 10                                      | 30     | 60     |
| DATING OF QUARTZ   | Rate A                                  | Rate B | Rate C |
| <b>Complete dating.</b> Separation of quartzes, gamma spectrometry, bleaching, irradiation, ESR measurement, analysis of results and calculation of age. | 450                                     | 600    | 800    |
| (Partial) Separation of quartzes (€/sample)  | 135                                     | 202.5  | 270    |
| (Partial) ESR measurement and analysis of results (€/sample) and calculation of age.   | 315                                     | 472.5  | 630    |
| (Partial) For irradiation and bleaching, the stated rates shall be applied.  | See the irradiation and bleaching rates |        |        |
| DATING OF TEETH  | Rate A                                  | Rate B | Rate C |
| No. of samples with separation of tissues (€/sample)   | 200                                     | 300    | 400    |
| Gamma spectrometry, irradiation (€/sample)   | 50                                      | 75     | 100    |
| ESR chemical preparation and measurement, analysis of results and calculation of age (€/sample)  | 350                                     | 525    | 700    |
| GAMMA IRRADIATION AND BLEACHING  | Rate A                                  | Rate B | Rate C |
| Gamma irradiation: Irradiation vials   | 0.2                                     | 0.3    | 0.4    |
| Gamma irradiation: Band I - Up to 30 sample-doses per KGy  | 1.5                                     | 2.25   | 3      |
| Gamma irradiation: Band II - Over 30 sample-doses per KGy  | 0.65                                    | 1      | 1.3    |
| Gamma irradiation: Preparation of vials by the user  | 0.2                                     | 0.3    | 0.4    |
| Gamma irradiation: Preparation of vials by the laboratory  | 1.2                                     | 1.8    | 2.4    |
| Sample bleaching (€/sample)  | 10                                      | 30     | 60     |
| SCIENTIFIC-TECHNICAL REPORT  | Rate A                                  | Rate B | Rate C |
| Scientific-Technical Report (€/day)  | 100                                     | 150    | 200    |
| Scientific-Technical Report (€/hour)   | 50                                      | 75     | 100    |

If preparation of a thin section for tooth dating is necessary, for subsequent LA-ICP-MS and calculation of U/Th concentration, the charge for LA-HR-ICP-MS must be added (please see the rates for Uranium Series). If sediment analysis to determine the U/Th/K ratio is necessary, the corresponding charge for elemental analysis must be added (please see the rates for Uranium Series).



## GEOCHRONOLOGY: LUMINESCENCE LABORATORY

| LUMINESCENCE DATING (OSL/IRSL) (€/sample)  | Rate A | Rate B | Rate C |
|--|--------|--------|--------|
| This includes sample preparation (separation of quartz or feldspar as appropriate), luminescence measurement, calculation of dose rate, estimation of age and submission of brief report describing the methodology and results. | 372    | 558    | 744    |
|  |        |        |        |
| USE OF LUMINESCENCE READER* (€/sample)   | Rate A | Rate B | Rate C |
| Qualified use of luminescence reader   | 102    | 150    | 201    |
| Training (€/hour)  | 15     | 22.5   | 30     |
| HIRE SPECTROMETRY EQUIPMENT  | Rate A | Rate B | Rate C |
| Per day of use (€/day)   | 50     | 75     | 100    |
| FIELDWORK  | Rate A | Rate B | Rate C |
| Taking samples (€/person-day)  | 250    | 375    | 500    |
| SCIENTIFIC-TECHNICAL REPORT  | Rate A | Rate B | Rate C |
| Scientific-Technical Report (€/day)  | 100    | 150    | 200    |
| Scientific-Technical Report (€/hour)   | 50     | 75     | 100    |

\*The user must possess prior knowledge and pass a training session (approx. 1-2 h) before starting the work, and shall be offered the opportunity to act as a qualified user. Machine time shall be assigned on the basis of the characteristics of the samples and users shall act at all times per the instructions of the IRA 3015 beta area supervisor.

It is possible to request only part of the luminescence dating process (extraction of quartz/feldspar grains, luminescence measurement, high-resolution gamma spectrometry or beta spectrometry). Please inquire in advance.

## GEOCHRONOLOGY: COSMOGENIC NUCLIDES LABORATORY

| <b>COSMOGENIC NUCLIDES DATING (€/sample)</b>   | <b>Rate A</b> | <b>Rate B</b> | <b>Rate C</b> |
|--|---------------|---------------|---------------|
| Complete preparation of samples for 10Be analysis (and 26Al if necessary) (€/sample)   | 250           | 375           | 500           |
| 1. Crushing and sieving (€/sample)   | 20            | 30            | 40            |
| 2. Extraction and purification of quartzes (including magnetic separation, separation by density and acid attack) (€/sample)   | 140           | 210           | 280           |
| 3. Beryllium (and aluminum if necessary), extraction (including quartz digestion, evaporation with HF, ion exchange, chromatography, hydroxide precipitation) (€/sample) | 90            | 135           | 180           |
| <b>MEASUREMENT BY AMS (€/sample)</b>   | <b>Rate A</b> | <b>Rate B</b> | <b>Rate C</b> |
| Please inquire with the laboratory*  |               |               |               |
| <b>FIELDWORK</b>   | <b>Rate A</b> | <b>Rate B</b> | <b>Rate C</b> |
| Taking samples (€/person-day)  | 250           | 375           | 500           |
| <b>SCIENTIFIC-TECHNICAL REPORT</b>   | <b>Rate A</b> | <b>Rate B</b> | <b>Rate C</b> |
| Scientific-Technical Report (€/day)  | 100           | 150           | 200           |
| Scientific-Technical Report (€/hour)   | 50            | 75            | 100           |

The actual sample preparation procedure will vary with the types of material, the availability of samples, and the measurements required (exposure ages, erosion rates, burial ages, etc.).

AMS analysis for 10Be (and 26Al when necessary) shall be performed at the facilities associated to the CENIEH for AMS measurements. Consulting the laboratory researcher before submitting the proposal is recommended.

When 26Al analysis is necessary, an ICP-OES analysis to determine the intrinsic Al concentration in the quartz is required. The additional cost for ICP-OES analysis may be charged, in accordance with the schedule of charges for the Uranium Series Laboratory at the CENIEH.

## GEOCHRONOLOGY: URANIUM SERIES LABORATORY

| FIELDWORK  | Rate A | Rate B | Rate C |
|--|--------|--------|--------|
| Taking samples (€/person-day)                              | 250    | 375    | 500    |
| URANIUM SERIES DATING                                      | Rate A | Rate B | Rate C |
| Physical evaluation of the sample/subsampling (€/hour)     | 36     | 48     | 72     |
| Micromilling (€/hour)                                      | 45     | 67.5   | 90     |
| Micromilling qualified user (€/hour)                       | 2      | 3      | 4      |
| Chemical separation (€/sample)                             | 120    | 180    | 240    |
| Measurement of MC-HR-ICP-MS (€/sample)                     | 224    | 336    | 448    |
| Sample preparation and measurement by MC ICP-MS (€/sample) | 320    | 480    | 640    |
| MULTIELEMENTAL ANALYSIS                                    | Rate A | Rate B | Rate C |
| Physical evaluation of the sample/subsampling (€/hour)     | 5      | 7.5    | 10     |
| Microwave-assisted chemical treatment of sample (€/sample) | 20     | 30     | 40     |
| Chemical treatment without microwaves (€/sample)           | 12     | 18     | 24     |
| ICP-OES calibration  | 30     | 45     | 60     |
| Quantitative analysis ICP-OES (€/sample)                   | 10     | 15     | 20     |
| ICP-MS calibration   | 60     | 90     | 120    |
| Quantitative analysis ICP-HRMS (€/sample)                  | 40     | 60     | 80     |
| Exploratory analysis U-Th ICP-HRMS (€/sample)              | 30     | 45     | 60     |
| LASER ABLATION(*)  | Rate A | Rate B | Rate C |
| Adjustment of equipment (€/day)                            | 200    | 300    | 400    |
| LA-MC-ICPMS (€/hour)                                       | 180    | 270    | 360    |
| LA-ICP-HRMS (€/hour)                                       | 120    | 180    | 240    |
| SCIENTIFIC-TECHNICAL REPORT                                | Rate A | Rate B | Rate C |
| Scientific-Technical Report (€/day)                        | 100    | 150    | 200    |
| Scientific-Technical Report (€/hour)                       | 50     | 75     | 100    |

If preparation of a thin section for laser ablation is necessary, the charge for preparation of the section necessary from the sample must be added (Geology).

### DIGITAL MAPPING AND 3D ANALYSIS LABORATORY

|  |        |        |        |
|--|--------|--------|--------|
| <b>FIELDWORK</b>                               | Rate A | Rate B | Rate C |
| Fieldwork (€/person-day)                       | 250    | 375    | 500    |
| <b>AERIAL CARTOGRAPHY (DRONES)</b>             | Rate A | Rate B | Rate C |
| Please inquire                                 |        |        |        |
| <b>2D PRINTING</b>                             | Rate A | Rate B | Rate C |
| Premium glossy paper                           | 25     | 40     | 50     |
| Photographic paper                             | 23     | 25     | 46     |
| Ordinary paper                                 | 10     | 15     | 20     |
| <b>TOPOGRAPHY</b>                              | Rate A | Rate B | Rate C |
| Robotic total station TS15. (€/day)            | 65     | 85     | 100    |
| Robotic total station TS15. (€/week)           | 200    | 250    | 300    |
| Robotic total station TS15. (€/month)          | 450    | 550    | 650    |
| Manual total station TS02. (€/day)             | 30     | 40     | 50     |
| Manual total station TS02. (€/week)            | 100    | 120    | 150    |
| Manual total station TS02. (€/month)           | 250    | 320    | 370    |
| GPS/GNSS (centimetric) (€/day)                 | 60     | 90     | 100    |
| GPS/GNSS (centimetric) (€/week)                | 250    | 300    | 350    |
| GPS/GNSS (centimetric) (€/month)               | 400    | 600    | 800    |
| <b>PHOTOGRAMMETRY</b>                          | Rate A | Rate B | Rate C |
| Please inquire                                 |        |        |        |
| <b>SCANNERS</b>                                | Rate A | Rate B | Rate C |
| Tripod 3D laser scanner (€/day)                | 150    | 500    | 550    |
| Tripod 3D laser scanner (€/week)               | 600    | 1500   | 2000   |
| Tripod 3D laser scanner (€/month)              | 2000   | 3000   | 5000   |
| Handheld or desktop 3D laser scanner (€/day)   | 30     | 120    | 170    |
| Handheld or desktop 3D laser scanner (€/week)  | 200    | 500    | 700    |
| Handheld or desktop 3D laser scanner (€/month) | 350    | 1000   | 2000   |
| <b>SCIENTIFIC-TECHNICAL REPORT</b>             | Rate A | Rate B | Rate C |
| Scientific-Technical Report (€/day)            | 100    | 150    | 200    |
| Scientific-Technical Report (€/hour)           | 50     | 75     | 100    |

Specific conditions:

- 1) The rates do not include loan for service outside the laboratory of the applications for subsequent data processing: only the programs necessary for downloading and basic evaluation of the data are included.
- 2) The rates include the loan of field laptops for the desktop scanners only.

The requester shall be responsible for returning the equipment in the condition in which it was loaned. The equipment is partly insured, although in the event of any claim, the requester shall be liable for the policy excess. In cases of breakdown, breakage or theft of the equipment, the requester shall bear liability in accordance with the general conditions of the Center.

## CONSERVATION AND RESTORATION

| FIELDWORK*   | Rate A | Rate B | Rate C |
|--|--------|--------|--------|
| Consultancy, Conservation and Intervention in situ (€/person-day)  | 250    | 375    | 500    |
| TECHNICAL CONSULTANCY  | Rate A | Rate B | Rate C |
| Analysis of state of conservation of cultural, archaeological and paleontological assets (€/hour)  | 15     | 22.5   | 30     |
| Preventive conservation in museum halls and deposits (physical and environmental compliance, exhibition systems, transport, etc.) (€/hour) | 15     | 22.5   | 30     |
| Curative conservation and restoration (€/hour)   | 15     | 22.5   | 30     |
| Application of analytical techniques to cultural assets (€/hour)   | 15     | 22.5   | 30     |
| INTERVENTION ON CULTURAL, ARCHAEOLOGICAL AND/OR PALEONTOLOGICAL ASSETS-PREVENTIVE CONSERVATION   | Rate A | Rate B | Rate C |
| Environmental tracking and active control (RH, T, lighting systems, atmospheric contaminants) (€/hour)                                     | 15     | 22.5   | 30     |
| Active pest control (€/hour)   | 15     | 22.5   | 30     |
| Physical conditioning (deposit/transport) (€/hour)   | 15     | 22.5   | 30     |
| Design of preventive conservation plan/collections emergency plan (€/week)   | 600    | 900    | 1200   |
| Temporary physical conditioning (€/hour)   | 15     | 22.5   | 30     |
| INTERVENTION ON CULTURAL, ARCHAEOLOGICAL AND/OR PALEONTOLOGICAL ASSETS-CURATIVE CONSERVATION & RESTORATION                                 | Rate A | Rate B | Rate C |
| Desiccation (active control) (€/hour)  | 15     | 22.5   | 30     |
| Stabilization: desalting (€/hour)  | 15     | 22.5   | 30     |
| Inhibition of metal corrosion (€/hour)   | 15     | 22.5   | 30     |
| Protection (€/hour)  | 15     | 22.5   | 30     |
| Biocide treatments (€/hour)  | 15     | 22.5   | 30     |
| Cleaning of surfaces/elimination of crusts (mechanical-chemical) (€/hour)  | 15     | 22.5   | 30     |
| Surface stabilization, spot internal consolidation, by suction or immersion (€/hour)   | 15     | 22.5   | 30     |
| Volumetric reconstruction (€/hour)   | 15     | 22.5   | 30     |
| Volumetric reintegration (€/hour)  | 15     | 22.5   | 30     |
| Chromatic reintegration (€/hour)   | 15     | 22.5   | 30     |
| MOLDS AND REPLICAS   | Rate A | Rate B | Rate C |
| Master and first replica-Up to 10 cm (€/unit)  | 60     | 90     | 120    |
| Master and first replica-10 to 20 cm (€/unit)  | 87     | 130    | 174    |
| Master and first replica-20 to 30 cm (€/unit)  | 115    | 172    | 230    |
| Master and first replica-30 to 80 cm (€/unit)  | 180    | 270    | 360    |

|   |               |               |               |
|---|---------------|---------------|---------------|
| Master and first replica-More than 80 cm-price on application       | -             | -             | -             |
| Delivery of master-Up to 10 cm (€/unit)                             | 180           | 270           | 360           |
| Delivery of master-10 cm-20 cm (€/unit)                             | 261           | 391.5         | 522           |
| Delivery of master-20 cm-30 cm (€/unit)                             | 345           | 517.5         | 690           |
| Delivery of master-30 cm-80 cm (€/unit)                             | 540           | 810           | 1080          |
| Delivery of master-More than 80 cm-price on application             | -             | -             | -             |
| Second and subsequent replicas-Up to 10 cm (€/unit)                 | 30            | 45            | 60            |
| Second and subsequent replicas-10 cm-20 cm (€/unit)                 | 43            | 64.5          | 86            |
| Second and subsequent replicas- 20 cm-30 cm (€/unit)                | 57            | 85.5          | 114           |
| Second and subsequent replicas-30 cm-80 cm (€/unit)                 | 90            | 135           | 180           |
| Second and subsequent replicas-More than 80 cm-price on application | -             | -             | -             |
| Chromatic reintegration-Up to 10 cm (€/unit)                        | 35            | 52.5          | 70            |
| Chromatic reintegration-10 cm-20 cm (€/unit)                        | 70            | 105           | 140           |
| Chromatic reintegration-20 cm-30 cm (€/unit)                        | 105           | 157.5         | 210           |
| Chromatic reintegration-30 cm-80 cm (€/unit)                        | 175           | 262.5         | 350           |
| Chromatic reintegration-More than 80 cm-price on application        | -             | -             | -             |
| <b>SCIENTIFIC-TECHNICAL REPORT</b>                                  | <b>Rate A</b> | <b>Rate B</b> | <b>Rate C</b> |
| Scientific-Technical Report (€/day)                                 | 100           | 150           | 200           |
| Scientific-Technical Report (€/hour)                                | 50            | 75            | 100           |

\*For long-duration fieldwork, a specific estimate will be given in advance, as determined by the specific conditions of the work to be undertaken.

## EXPERIMENTAL ARCHAEOLOGY

This laboratory works to individual orders. Price of materials for the experiments and tests:

| FIELDWORK  | Rate A                           | Rate B | Rate C |
|--|----------------------------------|--------|--------|
| Fieldwork (€/person-day)   | 250                              | 375    | 500    |
| ROCK ANALYSIS AND KNAPPING EXPERIMENTS                                     | Rate A                           | Rate B | Rate C |
| Evaluation of properties (measurement with equipment) (€/hour)             | 8                                | 12     | 16     |
| Evaluation of properties (measurement with equipment) (€/day)              | 40                               | 60     | 80     |
| Stigma benchmark by knapping techniques (€/hour)                           | 10                               | 15     | 20     |
| Stigma benchmark by knapping techniques (€/day)                            | 45                               | 67.5   | 90     |
| Consumables and raw materials (cost of consumables)                        | See the schedule for consumables |        |        |
| TRACEOLOGICAL EXAMINATION  | Rate A                           | Rate B | Rate C |
| Sample preparation for experimental benchmark use (€/day)                  | 40                               | 60     | 80     |
| Sample preparation for experimental benchmark use (€/hour)                 | 8                                | 12     | 16     |
| Experimentation to create experimental benchmark of traces of use (€/hour) | 10                               | 15     | 20     |
| Experimentation to create experimental benchmark of traces of use (€/day)  | 45                               | 67.5   | 90     |
| Examination of traces of use (microscope) (€/hour)                         | 10                               | 15     | 20     |
| Examination of traces of use (microscope) (€/day)                          | 50                               | 75     | 100    |
| Consumables and raw materials (cost of consumables)                        |                                  |        |        |
| PROCESSING OF ARCHAEOLOGICAL MATERIAL                                      | Rate A                           | Rate B | Rate C |
| Washing, marking and simple inventorying (€/hour)                          | 8                                | 12     | 16     |
| Washing, marking and simple inventorying (€/day)                           | 40                               | 60     | 80     |
| Photography, drawing and infographics (€/hour)                             | 8                                | 12     | 16     |
| Photography, drawing and infographics (€/day)                              | 40                               | 60     | 80     |
| Technological analysis, critical reading (€/hour)                          | 45                               | 67.5   | 90     |
| Technological analysis, critical reading (€/day)                           | 95                               | 142.5  | 190    |
| ARCHAEOLOGICAL REPLICAS AND LEASING REPLICAS                               | Rate A                           | Rate B | Rate C |
| Consumables and raw materials (cost of consumables)                        | Please inquire                   |        |        |
| USE OF LABORATORY AND EQUIPMENT BY QUALIFIED USERS                         | Rate A                           | Rate B | Rate C |
| Consumables and raw materials (cost of consumables)                        | 7                                | 10.5   | 14     |
| Accelerated climatic test chamber (basic) (€/day)                          | 35                               | 52.5   | 70     |
| Consumables gases for climatic chamber-Total amount                        | Please inquire                   |        |        |
| Universal Testing Machine Shimadzu (€/hour)                                | 6                                | 9      | 12     |
| Universal Testing Machine Shimadzu (€/day)                                 | 30                               | 45     | 60     |
| Skeletization space (necropsies-cooking) (€/hour)                          | 5                                | 7.5    | 10     |
| Skeletization space (necropsies-cooking) (€/day)                           | 25                               | 37.5   | 50     |
| Knapping area (€/hour)   | 3                                | 4.5    | 6      |

|   |        |        |        |
|---|--------|--------|--------|
| Knapping area (€/day)                                 | 15     | 22.5   | 30     |
| High-speed camera Photron (€/hour)                    | 17     | 25.5   | 34     |
| High-speed camera Photron (€/day)                     | 85     | 127.5  | 170    |
| General qualification training (€/hour)               | 15     | 22.5   | 30     |
| Use of 3D digital microscope (€/hour) Qualified user* | 10     | 15     | 20     |
| Qualification training 3D (€/hour)                    | 12     | 17     | 22     |
| Use of 3D microscope (€/hour)                         | 12     | 17     | 22     |
| <b>SCIENTIFIC-TECHNICAL REPORT</b>                    | Rate A | Rate B | Rate C |
| Scientific-Technical Report (€/day)                   | 100    | 150    | 200    |
| Scientific-Technical Report (€/hour)                  | 50     | 75     | 100    |

| <b>CONSUMABLES</b>                | Rate A – kg/100 g | Rate B – kg/100 g | Rate C – kg/100 g |
|-----------------------------------|-------------------|-------------------|-------------------|
| Quartzite, sandstone or limestone | 10.7/1.07         | 16.05/1.60        | 21.4/21.4         |
| Flint 2nd class                   | 10.7/1.07         | 16.05/1.60        | 21.4/2.14         |
| Flint 1st class                   | 37.45/5.35        | 56.18/8.02        | 74.9/10.7         |
| Obsidian                          | 53.5/8.02         | 80.25/12.04       | 107/16.05         |
| Antler                            | 48.15/5.35        | 72.23/8.02        | 96.3/10.7         |
| Bone                              | 10.7/1.07         | 16.05/1.60        | 21.4/2.14         |
| Hardwood                          | 37.45/5.35        | 56.18/8.02        | 74.9/10.7         |
| Industrial wood                   | 10.7/1.07         | 16.05/1.60        | 21.4/2.14         |
| Copper sheet or rod               | 48.15/4.81        | 72.23/7.22        | 96.3/9.63         |