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Faculty 5
Geosciences
Research group Petrology of the Ocean Crust

Electron Probe Microanalyzer
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User Regulations for the Electron Probe Microanalyzer laboratory of the research group "*Petrology of the Ocean Crust*" at the Department of Geosciences at Bremen University

The laboratory with an Electron Probe Microanalyzer (hereafter referred to as EPMA laboratory) is a facility of the research group „*Petrology of the Ocean Crust*“ at the Department of Geosciences at Bremen University. The laboratory is intended to enable and support research projects by providing scientific advice and laboratory infrastructure.

§ 1 Contact persons

Head of the facility:	Prof. Dr. Wolfgang Bach
Contact persons:	Scientific laboratory manager Dr. Andreas Klügel (Phone: 65402)
	Technical laboratory manager Stefan Sopke (Phone: 65416)

These persons are authorized to give instructions to the users in EPMA laboratory matters.

§ 2 Laboratory equipment

The EPMA laboratory is equipped with a Cameca SX-100, which includes five wavelength-dispersive spectrometers (WDS), an energy-dispersive spectrometer (EDS), and detectors for backscatter electrons (BSE) and secondary electrons (SE). The device, as well as the other laboratory infrastructure, are available to users for working on their research questions.

§ 3 User group

Users of the EPMA laboratory are mainly researchers at the University of Bremen working in geosciences or materials science. They are given the opportunity to perform microanalyses of solids. Employees of research institutions outside the University of Bremen who have a need for such analyses can also use the laboratory within the framework of cooperations.

§ 4 Services of the EPMA laboratory

The type of analyses that can be performed depends, among other things, on the sample type. The services of the laboratory include establishing and securing the readiness for analysis, the use of the equipment, and support during the analyses, data preparation, and quality assurance.

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§ 5 Carrying out measurements and providing support to users
(1) The extent to which laboratory users are supported by laboratory staff in performing analyses depends on the complexity of the analyses and the users' knowledge of the equipment. In principle, the aim for users in longer-term research projects is to carry out their analytical activities independently. Independent laboratory use requires that the users are sufficiently qualified to handle the equipment. In any case, the laboratory management decides whether a user may work independently in the laboratory or not.
(2) Measurements for smaller research projects that would not justify extensive training may be performed together with laboratory staff. Users will be supervised by laboratory staff for a maximum of eight hours per day, usually between 8:00 a.m. and 5:00 p.m. (weekdays). The agreement of other times with the laboratory staff is possible if required.

§ 6 Occupational health and safety regulations
Users of the EPMA laboratory are instructed by the laboratory management in the valid occupational health and safety regulations before starting their work. The laboratory may only be used after such instruction. The users must confirm that they have read and understood the occupational safety regulations (laboratory regulations, operating instructions and risk assessments) and the user regulations by signing them.

§ 7 Data privacy
(1) The users of the EPMA laboratory commit themselves to data protection. Data of other users stored on the laboratory computers may not be evaluated, copied or published. External storage media may only be operated on the laboratory computers after consultation with the laboratory staff.
(2) The primary data / raw data (e.g. measurement data, calibrations) obtained in the EPMA laboratory are archived redundantly on separate data carriers. However, this does not release the users from their obligation to ensure backup of their own data.

§ 8 Data publication
Users agree to contact the laboratory management for a final quality control of the data in due time before publishing data obtained in the EPMA laboratory. Only then may the data be published. When publishing, the laboratory must be mentioned as follows: (a) In the case of a scientific contribution by the laboratory management (e.g., development of measurement methods or evaluation of data), the laboratory management must be considered as co-author. (b) In case of independent laboratory work of the users without scientific contribution of the laboratory management, it has to be mentioned in the methods section that the data were collected in this EPMA laboratory; a further mention in the acknowledgements of the publication would be appropriate. In any case, a copy of the publication (in electronic or printed form) has to be provided to the laboratory management. In addition, the users undertake to follow the DFG recommendations for the publication of scientific data (’Sicherung guter wissenschaftlicher Praxis’, Deutsche Forschungsgemeinschaft, 2013).

§ 9 Allocation of measurement time
If you are interested in measurement time, please contact the laboratory management. We will try our best to allow analysis work to be carried out even at short notice. Requests for appointments are processed in the order in which they are received by the laboratory management. Long-term projects, for which a cooperation exists, have priority in the allocation of measurement time. In case of urgent measurements, the laboratory

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management can decide to revoke already allocated measurement appointments and to allocate them to other users.
Measurement appointments can be cancelled by the laboratory management if the laboratory is not ready for use due to technical defects or staff shortages. The allocation of substitute appointments for cancelled appointments is given priority over regular appointments. If users cannot keep an appointment in the laboratory, they must cancel it as early as possible.

§ 10 General behavior in the laboratory
(1) The instructions of the laboratory management must be followed.
(2) Users must handle all laboratory equipment with care. Damage to the laboratory and laboratory equipment caused by the users must be repaired by the person responsible.
(3) The installation of own software on the computers of the laboratory may only take place in consultation with the laboratory management. Approval for this will only be given if the software is absolutely necessary for the performance of the work in the laboratory. Upon completion of the project, the software and all related data must be removed. Data arising from the use of own software must be saved on own data carriers.
(4) Copying software from the laboratory computers is generally prohibited. This means in particular that licensed software products or software products subject to reproduction protection may not be copied onto users' computers or storage media.
(5) Modification of configuration and initialization files on the laboratory computers is not permitted. Users' own data may only be stored on the laboratory computers after consultation with the laboratory management.
(6) Data carriers and storage media of the laboratory users may only be used on the laboratory computers if this cannot damage the laboratory equipment. In particular, it must be ensured that the data carriers used are free of any kind of malware.
(7) Any violation of the user regulations, laboratory framework regulations or occupational health and safety regulations may lead to permanent exclusion from the laboratory.

§ 11 User fees
(1) The use of the EPMA laboratory is subject to a fee. The laboratory operates on a non-profit basis: all income is used for the purpose of covering the medium-term costs for consumables, wear parts, maintenance, repairs, etc. Any accumulated balances on the accounts of the ICP-MS laboratory serve only as a reserve for purchasing spare parts and repairs. The current user fees can be found in the appendix.

§ 12 Closings
The extent of equipment use of the EPMA laboratory is documented in the operating logs and/or electronically, which also serves for later accounting.
These user regulations are binding for all users of the EPMA laboratory.

Bremen, 3 April 2023
Dr. Andreas Klügel, scientific laboratory manager
Stefan Sopke, technical laboratory manager

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Appendix: User fees for the ICP-MS laboratory

User fees are calculated in such a way that they cover the medium-term laboratory expenses incurred for consumables, wearing parts, and repairs. When measurements are completed, the users receive an invoice and have to settle the user fee in favor of the financial center (internal invoices) or bank account (external invoices) indicated on the invoice.

The current user fees are:

User group	**per hour**	**per day (>10 hrs.)**
Users of the University of Bremen	20,- €	200,- €
External scientific cooperation partners	as above, plus university overhead and VAT	
Economic projects	Prices on demand	

The amounts indicated apply to routine analyses that do not require any special precautions. Hourly prices take into account the total measuring time including samples and monitor standards. For special analyses, the amount of the fees may differ from the amounts listed here; in such cases, the amounts are determined by the laboratory management in consultation with the users.

In case of external scientific collaborations, pricing must take into account separation cost calculation according to the EU framework. In these cases, users receive an invoice for the full costs (i.e. including a share of personnel and university overheads) with declared VAT. If the analyses are carried out within the framework of a scientific cooperation, this also means that laboratory management and cooperation partners may jointly dispose of the data and that the data are to be published jointly.

Laboratory use for external economic projects is possible after consultation with the laboratory management, price information and written quotations for this can be obtained from the laboratory management.