

Managing and Financing of the Center for Electron Microscopy (ZELMI)

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The Center for Electron Microscopy (ZELMI), celebrating its 40th anniversary this year, is the Technische Universität Berlin's service institution for research and teaching in the areas of electron microscopy and related physical analytical methods. After intensive reconstruction in the last years it is now one of the largest core facilities of its kind in Germany, so that managing and financing is a challenging task both to fulfil the needs of the users and to work with limited funds and resources. ZELMI operates four high-end (the next high-end is already in the pipeline) and five "workhorse" electron microscopes, different analytical optical microscopes and extended specimen preparation capabilities with six permanent employees only, fig. 1. Therefore, a sophisticated user management is necessary. Each instrument has one tool owner who is responsible to assure maximum uptime and performance. The tool owner participates in further training to be able to invent new analysing methods in accordance with the user's needs. These methodical developments usually are made in the framework of a science collaboration between ZELMI and the user resulting in joined publications. For this task, ZELMI is in close cooperation with the scientific working group of Prof. Lehmann. Beneath these advanced analytical applications, the tool owner serves occasional customers as well. Users with long-term needs run the analysis by themselves after getting an instruction in the fundamental functions of the microscope.

All new instruments and add-ons are purchased in cooperation with the users and with their financial support. Typically, there are five to ten partners involved and finally third party funding doubles the available means. The users' financial contributions are compensated by a preferential access to the instrument. In addition, one member of the participating user groups is trained to be an 'educated user' who gets a deep knowledge in analysing methods and who even knows how to handle the instruments in any emergencies when operating it during evening hours or on weekends. Since cooperation partners ensure a good utilisation of the instruments, they are charged with a fee that is reduced in accordance with their initial investment. For all other users, i.e. occasional and external users, the regularly updated user fees cover all running, maintenance and repair costs. To guarantee a high planning reliability, a directly elected council accompanies all activities. The university covers the staff and general costs for internal users. Moreover, the university ensures that the microscopes are installed in an appropriate environment free of any external disturbances. This includes a sophisticated new building for the five most sensitive instruments and a technically refurbished building, fig. 2.

Although modern software tools offer comprehensive reservation systems, our tool owner use a manual booking system. We made excellent experiences with the flexibility of a personalised logistics when urgent needs are to be considered and balanced in a multi user facility.

After the transformation of ZELMI from a service institute into a user collaboration center for electron microscopy, we believe that it has a promising future for at least further forty years.

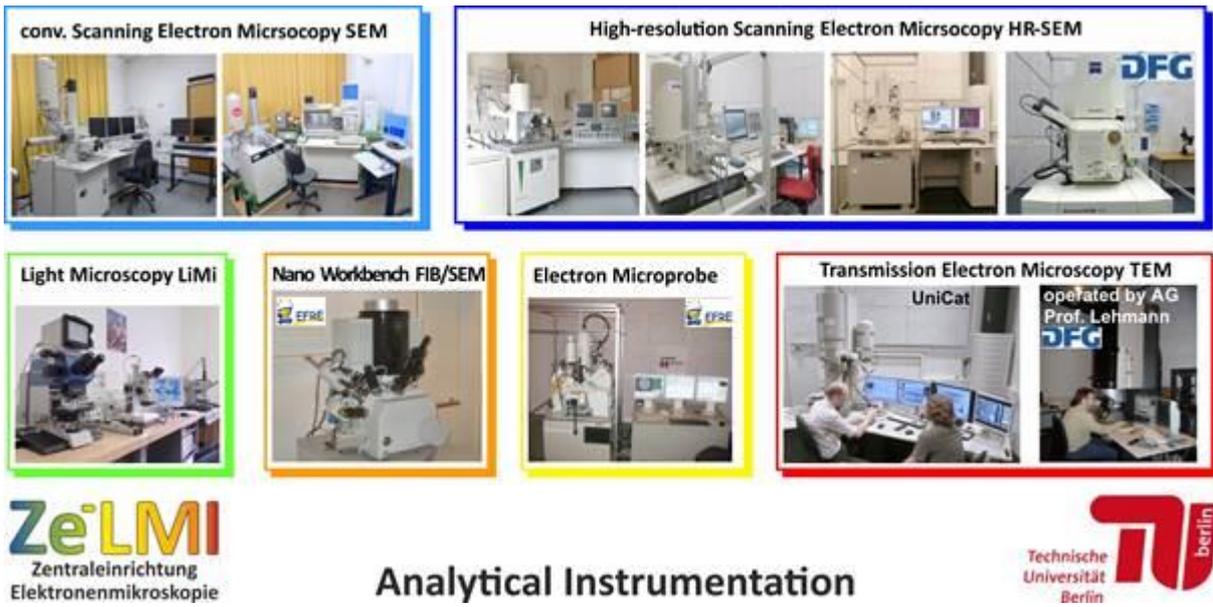


Fig. 1: Instrumentation of ZELMI

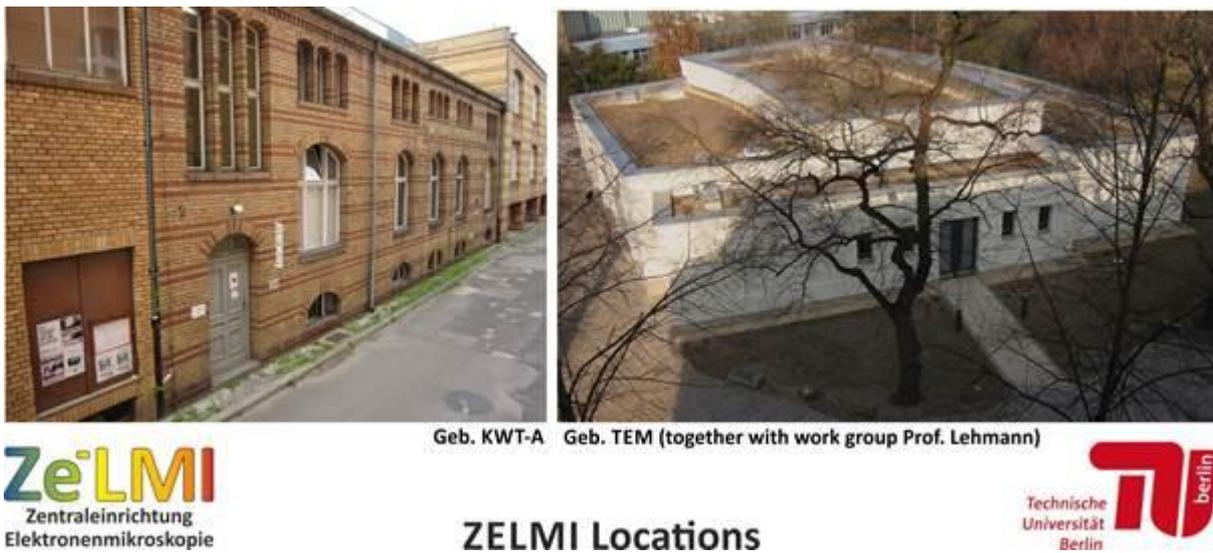


Fig. 2: The ZELMI buildings