

German Biolmaging recommendations for operating Imaging Core Facilities in a research environment during the SARS-CoV-2 pandemic

(endorsed by DGE, Deutsche Gesellschaft für Elektronenmikroskopie; DGZ, Deutsche Gesellschaft für Zellbiologie; and DGfZ, Deutsche Gesellschaft für Zytometrie)



01-04-2020

Preamble

Core facilities are shared scientific infrastructures. Users come from different departments or institutions to operate the same equipment and take advantage of scientific services provided by a limited number of facility staff. The instrumentation is not always pooled at a central location but may be stationed in different buildings across the campus. In this multi-user setting, the transmission of the SARS-CoV-2 virus between individuals or from contaminated surfaces is facilitated. Therefore, core facilities deserve special attention from the research institutions' higher management.

As a group of experienced imaging core facility leaders, we **strongly recommend ceasing operations in core facilities, with the highest priority to those requiring personal interaction**, as long as social distancing is required. Closure of the facility is the safest measure to protect the health of users and staff.

The guidelines described below should help imaging core managers to protect themselves and their users a) if running the facility must continue despite the current emergency, and b) for resuming operations in a post-peak situation as safely as possible.

Recommended measures to be taken by the core facility

- Users who have been in risk areas or had contact with confirmed SARS-CoV-2 patients are not allowed to access the facility for 14 days. See RKI web site for current risk areas¹
- Users who are SARS-Cov-2 positive or otherwise sick are not allowed to access the facility even if they appear to have only mild cold-like symptoms.
- Users with health conditions who are at risk to develop severe symptoms are advised to avoid the facility and ask colleagues to perform experiments in their place.

¹ https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Risikogebiete.html

- Following the recommendation by the president of the German Medical Association (aerzteblatt.de, 26.03.2020²), we strongly recommend introducing the usage of (simple) masks during work in the facility. Using masks reduces the risk of droplet transmission by asymptomatic carriers.
- Postpone all teaching and training while social distancing is recommended.
- Allow only one user per microscope per session. Limit room occupancy such that the rules of social distancing can be followed: if two or more workplaces are occupied in the same room at the same time they should have a distance of at least two meters.
- Between sessions, a user free instrument/room time slot (at least 8-15 min) is favorable.
- These recommendations assume a several-fold air exchange (4-8x) per hour in the facility rooms. Consider asking your building manager to increase the air exchange if necessary.
- Put up signs at all facility doors stating that all touchable surfaces (keyboards, computer mice, eyepieces, focus knobs, joysticks, and the like) are possible means of transmitting SARS-CoV-2. Transmission through the eye (conjunctiva) is considered possible.
- Cover keyboards, mice, eyepieces, binocular body and other touchable surfaces with plastic wrap for household use (cling film) - see images below. Cheap products may perform badly, we recommend using brand products. Provide plastic wrap at the microscopes for users to exchange the covers themselves.
- For cleaning/disinfection of surfaces use 70% ethanol or other recommended disinfectants (see link below). Do not use spray bottles to avoid creating explosive aerosols
- Consider removing the eyepiece cups to ease disinfection.
- Remove all shared lab coats.
- Make processing stations accessible remotely where possible, contact your IT services about feasibility and resources.
- Ask software providers for possibilities of free temporary licenses for working at home.
- As recommendations from the responsible authorities can change quickly, it is essential to check regularly the official information channels. We provide some links at the end of this document.
- Seek the advice of your local safety officer or your institution's occupational safety department to conform these recommendations to your local environment.

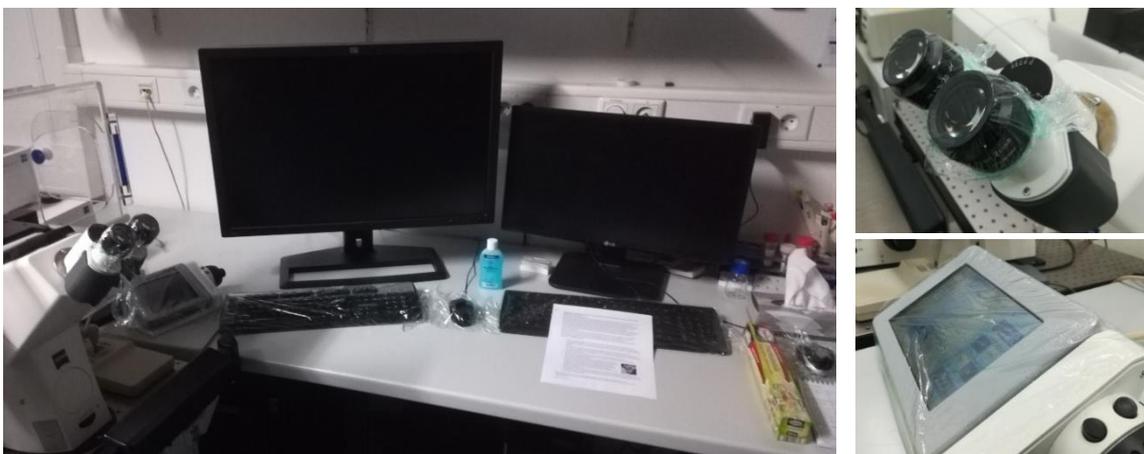
² <https://www.aerzteblatt.de/nachrichten/111423/BAeK-Praesident-ruft-zum-Tragen-von-Schutzmasken-auf>

Recommended rules of behavior for users

- Users should not be allowed to walk in to see if a microscope is free. All the checking and booking must be done online.
- Users should wear fresh, clean lab coats on every visit. If coats are to be re-used they should be labeled and stored on-site separately to prevent spreading and cross-contamination. Disposal and washing of lab coats must be arranged with the Department's laundry service in accordance with biosafety regulations.
- All users should wear fresh appropriate gloves. The gloves have to be disposed of after use. First step at facility entry: put gloves on, last step at facility exit: gloves off; disinfection in-between. Persons with sensitive skin may consider wearing cotton gloves underneath.
- Users should not touch bare surfaces without gloves. That includes door handles, microscope parts, and computers including peripheral devices.
- Users should cover microscope and computer parts with protective plastic wrap (see section above and images at the end of the document) before starting their microscopy session and remove the wrap at the end of their session.
- When usage of plastic wrap on the eyepieces and binocular body is not considered feasible (e.g. long-term observation through the eyepieces), be sure to disinfect the eyepieces and the binocular body before and after use.
- All users are encouraged to bring and wear their own safety glasses for further protection from virus transmission through the eyes.
- Do not start overnight experiments which could become problematic if the campus should be closed the next morning. Contact the core facility staff to discuss overnight experiments.

See the following links for further information on Sars-CoV-2 (partially in German only)

- https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/nCoV.html
- https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Hygiene.html
- <https://www.baua.de/DE/Themen/Arbeitsgestaltung-im-Betrieb/Biostoffe/Coronavirus.html>
- <https://www.ecdc.europa.eu/sites/default/files/documents/coronavirus-SARS-CoV-2-guidance-environmental-cleaning-non-healthcare-facilities.pdf>



Computer periphery and microscope eyepieces with binocular body wrapped in cling film.