1. Terms of Use

1.1 Prerequisites for access to IDIP

Access to IDIP requires prior registration with the IDIP Head manager and training by IDIP staff (see below). Users also need to have completed the necessary biosafety training (level 2 or 3 -depending on the pathogen and experimental setup used). In case of work in the BSL-3 contained area, access strictly depends on prior instruction by and registration with the responsible BSL-3 safety officer of Heidelberg University. Only users fully instructed to work with BSL-3 pathogens and with sufficient experience in the BSL-3 lab will receive access to the BSL-3 area of IDIP. Experiments with primary human or animal material that require evaluation by an Ethics committee can only be conducted after a respective Ethics vote has been obtained by the responsible Ethics Committee (in most cases the Ethics Committee of the University Hospital Heidelberg). The responsibility for compliance with biosafety and ethics regulations is solely within the responsibility of the user and IDIP staff cannot be held accountable in the case of user misconduct against these regulations.

1.2 New Users

Each research group that needs access to the IDIP infrastructure is required to register *via* the IDIP user management system. The group leader needs to submit a filled and signed **group registration** form and IDIP Terms of Use form (obtainable from the IDIP website www.idip-heidelberg.org) to the Head manager of IDIP. This has to be done only once per group. The resulting documentation also guarantees that the group leader will cover the cost of IDIP usage (according to the documented user fees) and accepts liability for the activities of the group members (here referred to as user(s)). The group leader will be held responsible and liable in cases of gross misconduct (negligence, damage, littering, and safety misconduct) of his/her group members with regard to the IDIP infrastructure.

Once the group is registered, each group member accessing the IDIP infrastructure is required to open a **personal account** within the IDIP scheduling and user management system. After the personal account is created, the respective group leader and a user will receive

confirmation e-mails stating successful IDIP registration. The user will not be allowed to open a personal account if his/her group is not registered.

Using their personal account, users can **request training** from IDIP staff that will organise a meeting to discuss the scientific project, define which instrumentation is appropriate to address this specific question, and arrange a training session.

Initially, access for all users is restricted to standard working hours (8:00 – 17:00, weekdays only). This is to ensure that in case of difficulties with the equipment IDIP staff will be able to solve the problem immediately. Users who have, by the judgment of IDIP staff, attained a necessary level of competence may request after-hour access. After-hour access allows IDIP infrastructure usage without standard working hour restriction (24/7). Image processing infrastructure can be used without time restriction.

Each individual user is required to read and sign the Terms of Use document, as well as to follow the IDIP rules and regulations described there. Only work that received all necessary approvals including biosafety clearance and/or ethics vote can be performed using the IDIP infrastructure. IDIP cannot be held accountable for human injury or property damage which resulted from the failure to follow the IDIP Term of Use. IDIP reserves the right to revoke access to its infrastructure and services in case of a failure to follow the Terms of Use described here.

1.3 Training

Before use of any IDIP instruments training must be requested and completed accordingly. Using the equipment without prior training is not allowed and constitutes a major violation of IDIP policy. **All training** on any of the IDIP instruments must be performed or supervised by IDIP staff. In special circumstances, if a user reaches a very high level of expertise, evaluated by the IDIP staff, he/she can be given the right to perform some training aspects on a particular instrument. Access to a particular instrument within IDIP is restricted to registered and trained users exclusively. Non-registered users can accompany registered users under the registered user's responsibility. Non-registered users are not permitted to work or stay at the microscope systems in absence of a registered user. If a non-registered person is witnessed in the instrument room without registered user an "instrument usage without prior training"

is assumed which constitutes a breach of IDIP policy and a safety protocol violation. In those circumstances IDIP reserves the right to revoke access to its infrastructure and services for the person in question.

Only users with an active scientific project will be trained. "Active" is defined by "having a microscopy-compatible or cell-sorting-compatible sample to analyse". Training is also performed beyond the initial introduction to the microscope operation when necessary or requested. If a user did not use the instrument for a long time a "refresher" training session can be requested. Each instrument has a training slot reserved on a weekly or monthly basis.

1.4 Booking

Booking of the equipment including the image processing workstations before usage is obligatory without exception. Even if the equipment is momentarily free it needs to be booked before usage.

Booking is performed exclusively via the online IDIP booking system using the personal account.

Equipment cannot be booked more than 2 weeks in advance, not more than 3 times a week and each booking slot must not exceed 4 hours. To ensure compliance and prevent overbooking, mentioned booking rules are programed into the IDIP booking software and therefore it is not possible to violate them. If longer time slots are required or more long-term planning of experiments is required, IDIP staff must be contacted. Long lasting experiments (long time lapses) should be scheduled outside peak usage hours (between 18:00 – 9:00). A deviation from these rules is possible if a particular experimental setup demands it. Any deviation needs to be approved by the IDIP staff.

Booking can be deleted or edited up to 24h before the booked date without consequence. If the booking is deleted or edited less than 24h before the booked time, user fee charges may still apply (see user fee section for more details).

Any deviation from these rules needs to be approved by IDIP staff.

1.5 Equipment Usage

Any equipment as well as the rooms themselves have to be handled with great care.

Before use the instrument needs to be visually inspected and damage or problems reported to the IDIP staff immediately.

Relevant biosafety, work safety and laser safety instructions must be followed.

If anything unusual is observed during use (such as strange or loud sounds, alarm, smoke, explosion etc.) the room needs to be vacated immediately and occurrence reported to the IDIP staff.

After usage the objective lenses, stage area and bench area need to be cleaned and all personal items removed. The microscopy unit has to be left after use in the same conditions as provided and must be free of any kind of contamination.

After finishing the session, the user needs to check if the system is booked later on the same day and if not the last user needs to switch off the instrument.

The user needs to register the time point of start and end of his/her work in the provided logbook as well as any problems or damages occurred during his/her use.

Parts or documents belonging to the equipment must not be taken out of the room where the instrument is located.

1.6 User fee system

To keep the IDIP infrastructure operational it is necessary to raise the necessary funds. This is partly done through user fees and partly through institutional and third party funding. Different user fees apply for "internal" and "external" users. The user fees for internal users cover the specific, project-related, instrument operating costs, necessary upgrades and replacement, instrument-related consumables as well as project-specific instrument adaptations within the framework of the applicable third-party funding agency guidelines. Indirect costs (electricity, cleaning, general room maintenance etc.), VAT, instrument depreciation and IDIP staff costs are not covered by the user fees. The fee for external users

includes operating costs, staff costs, indirect costs (40% overhead) and VAT (19%) in addition. The fees are adapted according to the type of instrument used. For very long time-lapse measurements (several days) a special rate can be arranged. The user fee will be the same for all the users within the same category (internal or external).

User fees are decided by the IDIP Steering Committee based on suggestion by the Head manager of IDIP and considering the user fee allowances of grant agencies. User fees of IDIP will generally be similar to those for use of technically similar equipment at the Nikon Imaging Center at Heidelberg University, unless specific differences apply.

Equipment maintenance cost and user fee income is specified in the annual report and provides the basis for potential adaptation of user fees. If the user fee system generates surplus funds or does not cover the necessary expenses, user fees for the respective instrument/group of instruments will be recalculated and adjusted accordingly for future use. The user fee system will be annually reviewed by the IDIP Steering Committee during the Steering Committee meeting to make user fee adjustments when necessary.

A detailed system usage time log is presented to the group leader together with the bill twice a year (in May and November). In addition, group leaders are able to monthly check the current status of the group's usage online *via* the IDIP user management system to help monitoring the costs.

Detailed user fees are specified in the annex to allow change of user fees without altering the general IDIP statutes.

2. Data policy

Management of the acquired data is at the sole responsibility of the user. Data are allowed to remain stored on the system's local hard drive for 2 weeks after which they will be automatically deleted. There is no backup or protection of the locally saved data in IDIP and IDIP takes no responsibility in potential data loss accidents. The users are encouraged to transfer the acquired data upon completion of their booked session. Since the BSL-3 contained environment precludes physical transfer of data on e.g. external drives out of the BSL-3 area, the microscope-operating computer is connected remotely to the central imaging server of IDIP and data can be retrieved using the in-house IT infrastructure of the CIID. Large

data sets can also be transferred directly to the Large Scale Data Facility of Heidelberg University using the high-speed IT infra-structure (10Gb/s optical fibres), which connects the CIID building with the University computing center (URZ). Data from the BSL-2 containment area can be transferred on a suitable external hard disc. It is recommended to archive the original raw data in the file format used by the microscope software.

3. Safety policy

Proper safety policy implementation is crucial to minimize the risk of injury associated with usage of IDIP infrastructure. Prior to training, a comprehensive "Terms of Use" document that covers general and microscopy-specific usage rules is signed by each user. In addition, each user is briefed about the potential hazards and safety rules during the introductory training session. Compliance with laser safety and bio-safety necessitates the organization of an annual user training seminar. These seminars are organised in the CIID annually for all personnel and presence of the IDIP users is required. This ensures the establishment and maintenance of high safety compliance standards necessary for maximum human safety.

IDIP infrastructure complies with the University of Heidelberg general and work safety rules. IDIP maintains all equipment and performs experiments in certified BSL-2 and BSL-3 laboratories according to the respective regulations of the University of Heidelberg. IDIP cannot be responsible for any personal injury or property damages resulting from the improper use of the equipment or violation of IDIP Terms of Use and Safety Policy. IDIP infrastructure-specific safety aspects are discussed below:

3.1 Laser Safety

Laser devices encountered in the IDIP belong to class 3B and class 4. Lasers from these classes could potentially cause human injury. Each user is briefed about these hazards during the initial training session and annual laser safety seminar. Both, IDIP microscopy rooms and the instruments are labelled with internationally recognised laser illumination warning signs.

3.2 Gas Safety

The demand for live cell imaging necessitates placement of CO_2 supply in the IDIP microscopy rooms. CO_2 is needed to achieve an enriched CO_2 (5%) atmosphere (suitable for most of the live cell imaging experiments) in the microscope environment control box. The CO_2 supply is installed in the room as a dedicated gas outlet in the wall. The room ventilation rate ensures that the CO_2 concentration cannot reach the level hazardous to human health (>5,000ppm).

The rooms containing liquid nitrogen, are equipped with an O_2 sensor. In the case of visual and audible warning the users must vacate the room immediately and notify the IDIP staff.

In the case of explosion of a mercury-based light source the room can fill up with toxic mercury vapour and needs to be vacated immediately. However, the vast majority of light sources in IDIP are based on LED, therefore eliminating this danger.

3.3 Biosafety

The general safety rules that apply to any area exposed to genetically modified organisms (GMOs) also apply to IDIP microscopy rooms. GMO related documentation is solely the user's and group leader's responsibility. IDIP cannot be held responsible if such documentation is missing or incomplete.

In addition, IDIP infrastructure is designed to allow research on various pathogens. For this reason, the entire infrastructure is placed under BSL-2 or BSL-3 safety containment according to respective regulations of the University of Heidelberg. All users working with known or potential human pathogens or other potentially biohazardous agents must comply with Heidelberg University Biosafety Guidelines. IDIP holds a database of biohazard agents on which research has been granted within the CIID, together with the biological agent-specific risk assessment as well as description of proper work practices, decontamination methods, and/or specialized personal protective equipment. IDIP is recording what types of infectious organisms are examined using the IDIP infrastructure. Documentation thereof is implemented in the booking procedure where users need to specify the type of infectious agent they are working with. In the case research needs to be conducted on a pathogen which is not registered within the CIID (and therefore not in the IDIP database) or on a new pathogen, the user (group leader) needs to contact the Heidelberg University Biosafety Office as well as the BSL-3 management office to pursue the necessary clearances. The training can

be organised only after the required clearance has been obtained and forwarded to the Head manager of IDIP.

Each IDIP microscopy room and the cell-sorting room are labelled with biohazard signals indicating which infectious agent is in use. Instructions for cleaning and decontamination procedures in the case of spilling accident are located in each room.

IDIP is recording what types of pathogens are examined using its infrastructure. Documentation thereof is implemented in the booking procedure where users need to specify the pathogen they are working with. When material needs to be transported from the BSL-2 laboratories into the IDIP area it must be carried within BSL-2 certified container. It is not allowed to transport BSL-3 material outside the BSL-3 designated area without prior inactivation.

4. Publication and acknowledgment policy

If published results were acquired/analysed using the IDIP infrastructure (e.g. microscopes, workstations, software etc.) and/or IDIP staff consultation services a statement in the form "We would like to acknowledge microscopy support from the Infectious Diseases Imaging Platform (IDIP) at the Center for Integrative Infectious Disease Research Heidelberg" needs to be entered in the **acknowledgment** section of the publication and a pdf of the published paper needs to be sent to the Head manager of the IDIP for internal quality management and reporting to the granting agency.

If IDIP staff is actively involved in research projects in a collaborative manner beyond providing basic IDIP infrastructure and consultation, respective IDIP members are regarded as **co-authors** in the respective publication in addition to the acknowledgment statement.

Annex

User fees as of September 1, 2019

Instrument		
Leica cryoCLEM	Category 1	€ 7.2/h
Nikon TiE		
VisitronSystems TIRF		
Leica SP5		
Luxendo InVi-SPIM		
STORM	Category 2	€ 13/h
Leica SP8 DLS		
PerkinElmer Spinning Disc		
Nikon/Andor Spinning Disc		
Abberior Instruments STED	Category 3	€ 20/h
LaVision BioTec Multiphoton		
BD FACS Aria		
Image processing workstations		€ 0

Booked sessions can be cancelled, but for cancellation at short notice (< 24 h), fees are charged at half-rate. If the vacant slot is then booked by another user, these fees will not be collected.