Lab compendium

(as of 01.09.2022)

Institute of Botany - Molecular Cell Biology (Nick-Lab) Karlsruhe Institute of Technology
Fritz-Haber*-Weg. 4, Building 30.43
76131 Karlsruhe

*Fritz Haber (1868-1934) was a German chemist, who, together with Carl Bosch developed a technical process atmospheric nitrogen into ammonium, which is the base for mineral fertilisation and thus for the "Green Revolution", a central core for global food security. For this achievements he was awarded the Nobel Prize in 1919. However, Fritz Haber also harboured a dark side: he was one of the leading people driving the use of toxic gas during the First World War.

His wife, Clara Immerwahr (by the way the first female Chemistry Ph.D. in Germany, was so desperate about this activity that she committed suicide in the night of the celebrations for the first application of toxic gas in Ypern (Belgium) using Haber's own gun. After the war, Haber became head of the Deutsche Gesellschaft für Schädlingsbekämpfung (Degesch, the German Society for Pesticides) and was involved in the development of Zyklon B, the poison used in the German concentration camps for the industrial killing of millions of people. Haber himself did not witness this use of his invention. As Jewish German he emigrated from the "Third Reich" and died in 1934 in Switzerland, on the way to Haifa.

The initiative to rename the street into Fritz-Haber und Clara-Immerwahr-Weg, failed, but in the meantime, we have got faculty approval for naming two neighbouring auditories by the two names to keep the memory alive.

Five Golden Rules

Each community needs a common way, how things should run, how one should behave in this or that situation, whom one should inform in case that this or that happens, and so on. Most of this framework is operational and pragmatic, sometimes complex, and therefore difficult to remember. However, they are just the consequences of some basic rules. Usually, a handful of rules are sufficient*, if they are understood and followed by everybody, because from these rules, the other norms and agreements can be derived easily.

*Dzhingis Khan was running his gigantic empire ranging from China to Poland with a set of 5 rules that were written up on half a page. We will not copy them – our community runs on different principles, i.e. individuality, while the Dzhingis Khan system ran on obedience, which is a completely different thing…

Here, are our five golden rules and a few implications that follow from them

Rule 1: Be reliable

When you say that you will do something, do it. When you are out of the lab for some time, tell it. When you cannot participate in one of the regular meetings, tell it. We do not have a fixed starting and ending time – it is science, and not a factory – but we expect you to be around in the core time of the day (9:30 a.m till 3:30 p.m.) When you book equipment and do not need it, release the booking.

Rule 2: Be responsible

Behave in a way that if everybody would behave this way, the lab would be a good place (translating the Categorical Imperative of Immanuel Kant). When equipment breaks, tell it. When a chemical is going to run out, order it or tell it. When you notice a problem, inform about it. Responsibility also means that you treat those that have been placed under your guidance in a responsible way: students or lab assistants working for you are not slaves, but deserve that you teach them, explain the background of that what they are doing, give them clear time plans, and help them to acquire what they do not know.

Rule 3: Be cooperative

When somebody needs help, help. When you notice that things could be organised more efficiently, tell. When you know something that might be useful for your neighbour, tell. Do not hide tools or chemicals in secret places to have a safe stock – rather tell that there is a bottleneck, such that we can search for solutions. By the way, we sometimes do random checks and if we find your secret stock, this is really embarrassing…

Rule 4: Be honest

When you have a (real*) problem, no matter, whether on the professional or on the personal level, tell. Your supervisors have a long experience with different types of problems and will treat it confidentially. When you face failures with your experiments, do not try to hide, this will lead nowhere. Science lives on professional handling of failure, not on faked success. The earlier a problem is recognised, the easier it is to fix it. Nobody will eat you, when you tell about a problem – in the opposite.

*We are not talking here about trivial things, such as “how do I send a parcel somewhere”, or points that are explained here in this compendium. These, you should be able to handle yourself –we are not in a kindergarden.

Rule 5: Communicate

When you run experiments, make labels, such that the others know, what it is and by whom it is. When you talk about your data, always try to slip into the brains of those who listen and think about that what you know and they do not know. Make these points explicit. Talk about your work, be interested in the work of the others. Science is a social endeavour in the first place. New knowledge always comes from connecting the non-connected. How can you connect, when you remain for yourself?

Note: By “communication” we mean talking WITH each other, not talking ABOUT each other. This is gossip, and gossip is not worthy of the scientists we want to be. You should not engage in that, and we will not tolerate gossip, because it is destructive.

1 Phone and e-mail list

Telephone list (as of 09/2022)

For private calls dial the **password 123 0000** in front of the regular phone number!

If you change your office place, please inform your supervisor!

Emergency University		**43333**
police		**110**
fire department		**112**
KIT-Campus South **0721/608 -**		
	Room Nr.	**direct dial**
Prof. Peter **Nick**	502 (5. floor)	42144
Sekretariat Jochen **Krüger**	501 (5. floor)	42142
Technical Staff Sabine **Purper**	518 (5. floor)	46885
Dipl. Biol. Maren **Riemann**	003 (ground floor)	41948
Postdoc Annette **Häser**	Building 30.28	46886
Postdoc Gabi **Jürges**	504 (5. floor)	42143
Postdoc Adnan **Kanbar**	504 (5. floor)	42143
Postdoc Michael **Riemann**	503 (5. floor)	42993
Postdoc Sascha **Wetters**	517 (5. floor)	
Postdoc Beatrix **Zaban**	518 (5. floor)	
Botanical Garden		42145
Lernzentrum		46886

e-mail: botanik1@lists.kit.edu (to join the list, please contact Michael Riemann).

If you need to contact the entire Biology you have to join the list *biologieturm*. To do so write an e-mail to the following address: *sympa@lists.kit.edu*. Put the following command into the reference line, and replace Firstname and Familyname by your personal inforrmation: *subscribe biologieturm Firstname Familyname*. Do not put any text in the message field. After being registered you can write to this e-mail address to reach other institutes: **biologieturm@lists.kit.edu**

2 Homepage

Nick-Lab
http://www.botanik.kit.edu/botzell/

On the Nick-Lab webpage you will find a link called „intranet“. You can get access to this internal information (**username**: theseus, **password**: ariadne) and find information relevant to the daily life in the institute, but also background on constructs, cell lines or mutants.

Many machines or devices have to be booked via an online system using interactive calendars which is can be found following this link:
https://team.kit.edu/sites/nick-lab/_layouts/15/start.aspx#/SitePages/Welcome.aspx

To be able to use the system you have to register first (contact michael.riemann@kit.edu). Please use Firefox as a browser. You have to be either in the KIT web or linked via vpn to the KIT net. Login to the page is with your KIT credentials.

3 Institute meetings

Institute Seminars: Mo, 9:30-10:45 - room 506+507

Postdocs, PhD students, Master, Bachelor students report about their projects, followed by discussions. Please find the programme on our webpage (see 2.). Around 3-4 times a year we have a journal club trying to summarize the most recent literature.

Subgroup Meetings:

regular meetings with informal reports on the work progress, trouble shooting, and discussion.

Plant Stress Group: We, 9:15-11:15 - room 506+507
Cell Biology Group: Thu, 10-12 - room 506+507
Applied Biodiversity Group: Thu, 10-12 - room 506+507

schedule is sent around to the group members and hung out to the blackboard in the 5th floor

4 Lab duties ("Spüldienst")

We do not have lab servants. Lab duties are shared between lab members. This is organised in teams. One team is responsible for lab order over one week an for refilling pipette tip boxes over another week. The updated plans are attached in the in room 508.1 "Spülküche" (520). Handover to the next team is on Wednesdays.

Note: Friday 4 pm till Monday 9 am is WEEKEND – No Spüldienst! If you use big amounts of glassware in the weekend, you have to autoclave/wash/sort in used stuff by yourself. If you take out large amounts of sterile glassware you have to sterilize and fill up again for Monday!

Duties and responsibilities of the "Spüldienst":

Note: The responsibility for our lab belongs to all of us and not just to those who are currently on duty. In case that, while not being on duty, find something wrong or dirty, you should not ignore this, just because you are not on duty. Duties are for organization, but as individuals we are all be responsible for the system, we are living in.

- **Autoclave solid and liquid S1-Waste, contaminated flasks and culture tubes, wash, dry and return to their correct place:**
    - ⇨ Please select the "Waste destruction" Program to autoclave any kind of waste
    - ⇨ **Centrifuge tubes and flasks should be autoclaved standing upright with some water inside and covered with lid/aluminum foil!**
    - ⇨ After autoclaving soak glass tubes with water and prewash using a circular brush
    - ⇨ Dispose the autoclaved solid waste in the black container behind the Institute
- **Collect used glass and plastic ware from the basement, wash, dry and sort into the correct place**
    - ⇨ Wash plastic and glass tubes/falcons in an upright-down position, otherwise they are not rinsed properly
    - ⇨ Glassware is washed with the **Program D and activated dry function**
    - ⇨ Plastic ware (Rice grow boxes) is washed with **Program G WITHOUT dry function** Do not dry plastic ware in the oven, some plastic boxes might deform!
    - ⇨ Light items should be fixed with metal grids so they don't fly around in the dishwasher (baskets AND the upper shelf).
    - ⇨ Wet glassware should be dried in the drying cupboard at 80°C (Do not reset the temperature, turn only the clock timer) before being sorted in.
    - ⇨ Please control the level of the water cartridge, dishwashing detergent and clean the sieve inside the dishwasher after use.
- **Sterilize items in the "Please autoclave" box**
    - ⇨ Autoclave liquids and media ONLY in the autoclave on the right side (Tuesday and Thursday cell culture medium is prepared – the autoclave might be occupied!)
    - ⇨ **Bottles and flasks should not be filled more than 2/3 of their volume!**
    - ⇨ For tip boxes/Eppendorf tubes please select the Program "Instruments" using the left autoclave or standard program of the left autoclave
      Please check before sorting in if ALL items are dry!
- **Fill the heat sterilization chamber Tuesdays and Fridays with an adequate amount of culture tubes, 100 ml, 250 ml, 300 ml, 1 L, 2 L and 3 L Erlenmeyer flasks, sterilize and sort sterile glassware into the drying chamber**

⇨ Sterilization conditions: 4 hours at 180°C (Check the settings!). The sterilization chamber should not be opened until it has cooled down to room temperature
Please check EVERY day if there is enough sterile glassware. Fill up if required!

PLEASE KEEP THE SCULLERY CLEAN AND TIDY!!!

For each room there are room teams that organise lab order there - if you not problems contact the members of these teams. On the other hand: instructions by the room responsibles are legally binding, according to the principle "He, who bears the responsibility, has also the authority ". Please find their composition on this webpage: https://www.botanik.kit.edu/botzell/intranet/931.php (username: theseus, password: ariadne)

5 -80°C freezers

We have two -80°C-freezers in the basement (room -114):

1. Freezer ZELLBOT 1 nd is for public use. Each user can get a slot for 3 boxes, please contact Michael Riemann to arrange this or if additional space is required. Please note: at regular intervals, ZELLBOT 1 will be checked and cleared. Non-registered samples will be discarded without further notice!
2. Freezer ZELLBOT 2 is **not** for public use. Here, we store our "Arche Noah" (samples of central importance of the lab). For access to ZELLBOT 2 please contact Michael Riemann.

6 Ordering

Forms for ordering can be found here: http://www.botanik.kit.edu/botzell/252.php. Fill in the form and submit it electronically. Orders will be placed once in a week (Tuesday morning).

- Materials for the lab: Sabine Purper
- Materials for molecular biology: Gabi Jürges
- Office materials: Herr Krüger

Important: Forward bills and delivery notes to the secretary as soon as possible because we otherwise loose price reductions usually offered by the companies.
Note: If you have very, very (!) urgent cases and cannot wait till next Tuesday, you have to contact Sabine Purper and ask for an exception. (Background: the ordering process is quite complex, and orders that are out of pace, cost a lot more work)

7 Mail

Mr. Krüger goes every morning at 10:00 am to the University Post Office. Outgoing letters which should be send via the University should be brought to the red basket in his office (Room 501). **Note:** Letters brought after 10 am will be send the next day!

Kommentiert [M1]: Hier müsste man nochmal mit Herrn Krüger reden, wie das nun gehandhabt wird. Die Post wird ja nun von Hausmeister in die Briefkästen im EG geliefert und auch den Postausgang nimmt er dort mit. Meines Wissens geht Herr Krüger „nur“ noch für Spezialfälle (z.B. Expresssendungen direkt zur Poststelle.

If you have urgent mail after 10 am, you have to bring it to the University's post office by yourself (24 h-library, Building 30.51, Basement, entrance Northface (opposite to main entrance of mensa). phone 42030.

Mailboxes for incoming mail are in Room 501, the office of Mr. Krüger .

Samples for sequencing are collected in a box in building 30.44 in the ground floor. Samples will be picked up from Monday to Friday at 5:00 pm and brought to GATC in Konstanz.

8 Autoclave, pure water supply

These machines are in room 520 (Nick lab).

Nobody uses the autoclave without instruction
Nobody uses the pure water supply without instruction
(Sabine Purper)

General rule: Media, tips, tubes, etc. and waste are autoclaved separately.

9 Dry ice

Dry ice can be ordered at anorganic chemistry (Tel.: 43780) and picked up the next day if available ($10^{\underline{30}}$ Uhr – $11^{\underline{30}}$, $13^{\underline{30}}$ Uhr – $14^{\underline{30}}$ in building 30.45, basement). For larger amounts ordering from a company might be needed.

10 Liquid nitrogen

Liquid nitrogen is available at the Institute for Physics (Building 30.23) Monday to Friday at 8 -11 am. Large amounts (usually we get 30 litres at once) can be taken from a large tank outside the building. Small amounts (up to 10 liter) can be taken from a small tank in the basement also in the afternoon. There are user lists for each institute in the basement. Please enter the amount of liquid nitrogen, and your name into that list.

11 When you are ill, go to a business trip, go for vacation

There are different systems, depending on whether you have a fellowship or on the payroll of the institute

Ph.D. scholars

Illness: send a mail to Peter Nick
Vacation: ask for a leave from Peter Nick at an appropriate time before
Important: you are responsible to organise your experiments, cultures, and teaching obligations accordingly, and also that your lab duties are fulfilled (e.g., by asking somebody for the favour to do it for you).
Business trip: see below

Payroll:

Illness: send a mail to Herr Krüger (jochen.krueger@kit.edu) and contact him when you are back again
Vacation: fill a vacation form (you get this at Herr Krüger) before your leave.
Important: you are responsible to organise your experiments, cultures, and teaching obligations accordingly, and also that your lab duties are fulfilled (e.g., by asking somebody for the favour to do it for you).

Business trip:

you have to fill a form with the details of the trip before you leave. You can get this form at Herr Krüger, you fill the first page and deliver it to Herr Krüger, **before you leave.** This is important to ensure that you have insurance coverage in case of accidents. To reimburse your costs after the trip, you have to fill the second page of the form with the respective details and of course your bank account data. Please keep in mind that reimbursement will be provided only when you hand in the forms earlier than 6 months after the trip. In special cases (flight, conference), it is also possible to organise payments in a way that you do not have to prefinance the costs, but it is your responsibility to discuss this with your team leader in time. Collect and deliver the forms at Herr Krüger (room 501). Note: Travel cancellations insurances have to be paid privately (ca. 30 €).

12 Library

We have a small library in room 504 with textbooks, but also Ph.D. and Master theses. Books are expensive (a volume often costs 150-200 €), some of them are not available any more. Therefore, these books should remain there. In case you have very important reasons to borrow a book, you have to register this at the intranet:
https://www.botanik.kit.edu/botzell/intranet/1542.php

Please note: printing and copying of papers is not allowed, because it will cause that the institute has to be quite substantial licence fees. So, stick with the e-versions.