

Czarkwiani Lab Handbook

based on the recommendations of the SAFE Labs initiative (<https://safelabs.info/>)



Preface

Before I was even close to starting my own lab, I have had my own experiences in academia that taught me a lot about what kind of group leader I would and would not want to be if given the opportunity. When I came across [SAFE Labs](https://safelabs.info/) – **Starting Aware Fair & Equitable Labs**, their focus on building a positive work culture for wellbeing and productivity, with considerations over equity, fairness and sustainability, immediately resonated with me. Especially, the dedication to transparency is something I personally think is highly conducive to creating a work environment with good communication. Here I have attempted to adopt the Handbook to our team; in its present form, our SAFE Guide includes all commitments that are meant to be *publicly documented* according to the Handbook. More detailed procedures will be indicated in Lab internal documents.

Diversity statement

Our lab is committed to building a diverse and inclusive scientific community in line with the guiding principles of the TU Dresden (<https://tu-dresden.de/tu-dresden/organisation/zentrale-universitaetsverwaltung/dezernat-9/diversity-management/index>). We believe that groundbreaking science is driven by the creative energy that emerges from a mix of perspectives, backgrounds, and life experiences. To that end, I actively welcome and mentor researchers from all cultural, socioeconomic, gender, and geographical backgrounds.

Lab code-of-conduct and values

As a research team, our goal is to foster a supportive and collaborative environment where every member feels valued, respected, and empowered to contribute their unique insights. Further, we aim to uphold the "No Asshole Rule" (Robert I. Sutton, Random House, 2007) as well as the following four key values of our team:

Fun - a research career is already hard enough. The erratic working hours, constant failure, rejections, lack of stability, difficult experiments... at the very least we aim to strive to make the work fun by upkeeping team spirit, cooperation, kindness, and sharing joy in science.

Accountability - we believe science is a noble pursuit and we aim to minimize bias, conflicts of interest, and socio-economic influence on our research. That means we commit to conducting rigorous research, use appropriate experimental design, and adhere to the rules of Good Scientific Practice (GSP) in all aspects of our work and interpersonal relationships.

Respect - in my view, every person on this planet is deserving of respect and kindness. Regardless of institutional or societal hierarchies, every person should be treated with kindness and consideration as we all tumble through the vast universe on this tiny round rock and deal with our human lives. It is important to not limit respectful conduct to communication alone but also respecting their time, personal circumstances, privacy, work-life balance, and acknowledging their contributions.

Transparency - this pillar is crucial for good communication, and good communication is the solution to 99% of problems we encounter in the lab. It relates not only to being transparent about our work, including insights gained, difficulties encountered, and any mistakes (errors are an integral part of learning and development), but also on the part of the PI to be as transparent as possible about the lab. This will be implemented by regular updates from the PI in the form of state-of-the-lab talks, which will include information on lab management, policies, budget, goals, failures, grant applications etc.

AI tools

AI has integrated itself into the very fabric of modern life. Below are policies of the lab concerning the use of AI in the research environment:

Tools available:

TUD provides access to all staff members to an integrated and approved AI tool - You.com

(Un)acceptable uses:

People are getting more and more creative with finding applications for AI tools, therefore, rather than specifying what people can use it for, I find it easier to list the unacceptable uses.

- plagiarizing writing or art
- directly copying AI output with no verification or validation (facts, citations, code, logic)
- substituting reading of full journal articles with AI summaries (in the context of journal clubs or reading vital literature for the research)
- inputting sensitive data to AI tools lacking appropriate data-protection policies

Reports, write-ups, and manuscripts really benefit from the human component in my opinion. Although I am not against the use of AI as a support tool it should not be used to fully replace you as an individual doing and writing about science or communicating with other humans.

Sustainability

The TUD has a general sustainability strategy (<https://tu-dresden.de/tu-dresden/nachhaltigkeit/strategie-und-vision>) and I encourage people to get familiar with and strive for sustainability as an important aspect of our research culture.

Some specific examples are listed below but I hope we can all participate in contributing to increasing sustainability within our lab.

Travel: Dresden is a good center for sustainable travel due to its geographical location (close to major cities like Berlin, Prague, Leipzig, Wroclaw) and abysmal flight options. Since there are not many connections from the Dresden airport it is often not only more sustainable but also easier to take the train or bus when traveling a distance of less than 8 hours. The city itself has a good transport network with buses, trams and ferries and it is extremely bicycle friendly.

Recycling: Germany has a clear recycling concept and infrastructure both in homes and in labs. Team members get instructed on correct disposal of hazardous waste and are

requested to check safety information before discarding products they are not familiar with. Both in and outside the labs we have recycling bins for paper and plastic, and everyone is encouraged to use these for non-hazardous waste.

Ordering: We try to minimize shipping waste by placing bulk orders and being considerate and communicative about what is needed and when.

Lab sustainability: I encourage everyone to be conscious about reducing plastic and other lab waste which is very high in research laboratories. There are various creative ways to make good use of limited resources including re-use strategies, switching to glass when possible, or even 3D printing specialized tools for minimizing waste. Make sure to switch off equipment when not in use or when there is no risk of damaging it, do not keep lights on for no reason, do not throw away things when they can be up-cycled by other groups and generally follow common sense.

Lab language

The lab language is **English**. Any professional conversation, oral and written, during work activities must be in English to remain inclusive to the very international scientific community of the CMCB and TU Dresden. However, it is important to be aware that a big chunk of university administration and bureaucratic procedures are conducted strictly in **German** (including many important documentations such as contracts, animal licenses, permits etc.). Administrative help is available to help with navigating these challenges. The University offers some assistance in learning the German language, which can also come in handy for integration into the wider Dresden community outside of the scientific bubble. Finally, everyone is of course free to converse in their **native language** whenever there is no risk of leaving people around you feeling excluded from participating in work-related activities.

List of lab members

Will be regularly updated on the lab website (<https://czarkwianilab.github.io//team/>) and institutional website (<https://tu-dresden.de/cmcb/crtd/forschungsgruppen/crtd-forschungsgruppen/czarkwiani/people>).

Working hours, remote working and vacation

A career in research can be very fun and rewarding, challenging and stressful, overwhelming and consuming, at times boring and uneventful. It is all of those things at different times. Therefore, the PI encourages people to maintain a healthy work-life balance, which is essential to staying healthy, energized and have the capacity to withstand the difficulties such as failures, rejections and lack of security. We thus strive to be respectful of one another's time demands in that:

- everyone is expected to clearly communicate scheduling, availability, absences
- everyone is expected to be on time to meetings
- everyone is expected to take full advantage of vacation days and public holidays
- everyone is expected to be a team player and contribute to lab duties which include weekend and holiday axolotl feeding duties (rota system)

The general policies of the lab for working hours, remote working, and vacation are listed below. Everyone has a different daily rhythm and times at which they feel most productive. Everyone has different challenges in their private life or caring responsibilities. Nevertheless, always feel free to discuss your personal working style and schedule demands with the PI directly.

Working hours - total working hours are generally regulated by contracts in Germany and I expect people to adhere to them. We consider the core working hours to be from 9:00 - 16:00. This means that any mandatory activities like lab meetings, journal clubs, and seminars will only be scheduled within these times. Sometimes there are project-specific demands or responsibilities which require us to be in the lab longer on some days or outside of the core working hours as we work with live animals and some procedures take longer to do. There is no need for overwork and the PI expects people to compensate longer working days by reducing work on other days to balance it out. Please communicate this!

Remote working - although the core of research work is laboratory-based and is best done in a team, there are a variety of tasks which can be done remotely and in isolation (such as reading, writing, data analysis on a computer, figure preparation etc). If you feel you can be more productive and carry out these tasks more efficiently at home, in a coffee place or on a beach than in the office then feel free to do that. Again - please communicate this!

Vacations - the PI is a strong believer that time away from the lab is not only crucial for one's mental health but can also be an important source of inspiration and new ideas! Rest is thus taken very seriously. Everyone is expected to take their allocated vacation days and is not expected to come in on weekends or national holidays unless it is absolutely necessary (for example axolotl duties) or if they chose to work on these days and take a normal day off. Again - you guessed it - please communicate this!

Meetings schedule

In the lab there is an expectation for active participation in the following types of regular activities (scheduled in the shared calendar):

- weekly lab meetings (rotating journal clubs, project discussions, joint group meetings and state-of-the-lab PI presentations)
- bi-weekly departmental seminars (CMCB life science and CRTD PhD/Postdoc seminars)
- regular one-to-one meetings with PI (the frequency of each will be adjusted to the needs and career level of individual lab members)
- team-building activities (e.g. lab retreats, outings, celebrations)

Expectations for lab meetings and one-to-one meetings:

- please come prepared, whether you are presenting, discussing a paper at journal club or just wanting to discuss data, experimental design, troubleshooting, ideas, or specific requests (time-off, training/conference attendance). Some meetings can easily just be an email.
- do take notes - when discussing your projects it is important to make notes about what we discuss for your future reference. If there are specific deadlines, points or to-dos that we agree on it is good to have that in writing so that there are no misunderstandings at a later date
- lab meetings are expected to be casual, open, and free for the flow of ideas. The PI encourages everyone to ask questions and participate in discussions. For project presentations you need to include sufficient introduction for all lab members to be on the same page, the "why am I doing that?", information on experimental design, troubleshooting, failures, mistakes, and analysis strategies and not just polished results.
- journal clubs will have two formats - the mini and the in-depth. Mini JC will have every person from the lab giving a short 3-minute presentation of a chosen article of interest. In-depth JC will have one lab member presenting one publication or preprint in detail and encourage an exercise in critical thinking by examining the results, methodology and interpretations of that paper. Ideally those will be of some relevance to the group.

Authorship

What constitutes authorship versus acknowledgement is widely discussed and people's opinions can vary on the subject greatly depending on cultural backgrounds, sensitivities, personal ideology, institutional policies, historical context and more. I do not believe there is a correct answer to this question, but what can be done is to

communicate and clearly agree on mutually beneficial definitions and thus keep the potential for disappointment to a minimum and the contributions highlighted.

- We aim to remove the taboo from discussing authorship by having open conversations about it as early in the project as possible and throughout any big changes (starting collaborations, changing roles, joining or departing from the lab etc.)

- As a general rule we aim to follow CREDIT taxonomy for defining contributions (<https://credit.niso.org/>)

- For handling authorship disputes the best way is clear communication. As this can be a sensitive topic a mediator may be recommended when an agreement cannot be reached by all parties.

As a guide the following are typically accepted as “acknowledgement” level contributions rather than constituting authorship (though exceptions can be made)

- contributing a commonly available reagent/piece of equipment/animal material: we often ask the community for sharing a reagent or piece of equipment and that is considered collegial behaviour and there should not be an expectation of authorship-level contribution to a project. IF the reagent/animal material is difficult to obtain, has been made by the person themselves at their cost and time expense and effort, then it might be deemed an authorship-level contribution. If the person also helped you use the equipment in a way which requires scientific idea generation or analysis then it may also be deemed an authorship-level contribution.

- facility usage - there are clear guidelines at CMCB for paid facility usage and acknowledgement

- reading and commenting on a manuscript draft with no prior significant intellectual contribution to the project

- non-independent or routine experimental contributions. For example, if a rotation student is taught techniques and carries out standardized protocols, stainings, imaging, and figure prep or if a research technician conducts standard protocols at the request of the project leader and the results end up contributing to a publication, but there was no independent intellectual contribution to the design or analysis of the experiment, then that persons contribution will be acknowledged but they will not be an author on a publication. On the other side, if that person has an independent scientific idea for which experiment to perform or how to significantly improve an experimental procedure or has generated a large amount of data which is indispensable for the publication of a manuscript based on these results, they might be considered an author.

- participating in regular lab organization duties, reagent preparation, project discussions, or animal care and material collection/generation (injection of eggs, tissue collection with no experimentation, RNA/DNA extractions etc)

Roles and expectations of lab members

Research teams here at CRTD are composed of members with different roles and backgrounds - administrative assistant, technical assistant, volunteer students, Masters students, PhD students or postdocs. These roles, which may correspond to different career stages and seniority, typically come with different duties, responsibilities and expectations. These will be discussed at hiring and onboarding. We expect everybody to contribute to scientific progress according to their skills; we encourage all members to supervise and mentor less experienced teammates. Depending on the length of stay with us and on the experience level, everybody is generally expected to contribute to the lab organization and general interest activities, such as maintenance of reagents and specific animal care.

Output expectations: Researchers in different roles will spend different amounts of time in the lab. Furthermore, technical challenges and other unknown or unforeseen aspects may delay projects. It is hence difficult to predict how many papers each team member will publish. As a rule of thumb, the following applies:

- PhD students: PhD candidates need to finish their PhD within 3-4 years. Projects are selected and adjusted so that it should be possible to have at least a paper draft by this timepoint. While this is the minimum, the aim is to have a first-author manuscript on biorxiv and likely submitted by the end of the PhD. Due to the collaborative nature of our work, students can expect to be contributing author on at least a second paper.
- Postdocs: While postdoc contracts will usually be for 24 months, the PI clearly communicates funding availability and expected total duration of the postdoc (due to the nature of axolotl work it is difficult to have a project in a publishable state in less than 3 years, though collaboration projects might be different). The aim is to have at least one first-author paper in that time-frame and to likely contribute to multiple projects in the lab. Changes to funding or anticipated duration and publications will be communicated openly and timely. Conversely, postdocs may decide to move on to new positions and challenges before a publication has been achieved.
- Master students / interns: Master theses usually last for at least 6 months. The main purpose of a thesis is for the student to learn one or more practical techniques, to understand all steps of a scientific project, to get insights into analysis of data, and to practice scientific writing and figure making, as well as scientific communication. The actual content and output are less important. However, if a student contributes a relevant data set which is included in a publication, they will certainly be granted authorship as detailed in the CRediT Taxonomy guidelines.
- Technicians: Technicians' contracts may be more variable and depend on needs and agreements. If technicians' contributions fulfill the CRediT Taxonomy guidelines, they will be authors on papers.

Funding opportunities and policies

There are various opportunities for funding for the PhD and postdoctoral phase in Germany, however which one is appropriate for you will very much depend on your future goals and personal circumstances. This career stage has very specific challenges and it is important to really think through the decision to pursue a PhD or postdoc and be as informed as possible about what might come next. The PI is happy to discuss and advise on the available funding schemes and highly encourages everyone to join the CMCB postdoc community, which is an important exchange platform for people in similar situations. Here is a list of some of the major potential sources of funding for postdocs:

- Postdoctoral contract via a third-party funding granted to the lab (for example ERC or DFG grants to the PI)
- Postdoctoral contract via fellowships directly to the postdoc (for example MSCA or EMBO postdoctoral fellowships)
- Postdoctoral scholarships (Alexander von Humboldt Foundation, TU Dresden postdoc fellowship schemes)
- Pathway to independence schemes, might be with or without employment contract (DFG eigenestelle, Maria Reiche postdoctoral fellowship)

What is crucial to note is the difference between an employment contract and a tax-free scholarship. There are different benefits and disadvantages to each. Most importantly, although the monthly salary may be higher when on a scholarship, the lack of public insurance, pension, parental-leave, or unemployment benefits has to be noted and the financial cost calculated depending on your personal circumstances. Independently acquired funding like a postdoctoral fellowship can be very useful for demonstrating independence for the next step in the academic career and can be highly beneficial on a CV. Most of the fellowships and postdoctoral contracts have a duration of 24 months, therefore for long-term projects it might be worth looking into multiple lines of funding. The PI commits to having open conversations about individual career planning and needs and try when possible, to support the postdocs with bridging funding opportunities and help with grant writing.

Visa availability and support is a complex topic since this depends on the type of position and country of origin. Please consult the German federal information website (<https://www.auswaertiges-amt.de/en/visa-service/visabestimmungen-node>), University information (https://tu-dresden.de/gsw/phil/irget/ipllm/bewerbung/visum?set_language=en) and the institute's international office here (<https://tu-dresden.de/studium/im-studium/beratung-und-service/international-office>). It might be possible to cover visa costs, which can be discussed during interviewing, hiring, and onboarding.

Conference/training attendance

The PI encourages all lab members to seek and apply for training opportunities to develop new expertise and networking, and we value initiatives to disseminate the lab research at conferences or outreach events. Depending on funding availability and specific circumstances, we aim at providing one opportunity per year to each lab members – this of course remains as a rule of thumb and strategies will be discussed case by case.

We expect lab members to discuss their intentions prior to applying to any event, in order to define priorities, agree on the budget and the eventual work that will be disseminated. We consider conferences and courses as an enriching opportunity, and we expect any lab member attending such an event to make the best use of it. Also for this reason, in general we encourage lab members to present their scientific results, even if of course several factors need to be considered, such as the stage of the project.

Individual fellowships might include an additional budget for conferences and courses, but in general we strive to provide equal travelling opportunities to all lab members. We encourage lab members to seek additional funding in order to cover the costs, and to behave responsibly with regard to travel expenses.

Joining the lab

Before arrival:

- every new lab member (unless very short stays like internships or research visits) will have been introduced to the lab either online or in person when possible
- financing has to be settled and agreed on (contract, scholarship, volunteering)

On arrival:

- some resources for international arrivals to Germany can be accessed via TUDs Welcome Center or via student programs (Masters programs/DIGS-ILS). Postdocs are encouraged to join the CMCB postdoc community
- CRTD online check-in procedure (including receiving a transponder for opening doors, IT access, etc)
- Introduction to animal facilities (meeting with Axolotl facility staff)
- 1-o-1 meeting with the PI where some or all of the following points are covered (depending on the role of the team member): (a) this handbook, (b) access to lab calendars, data server, communication channels and lab notebooks, (c) general expectations including work hours, presence, communication, meetings (d) necessary courses and licenses, (e) next steps for practical training and project identification
- Lab tour - assigning a workstation, introduction to rooms, equipment etc
- Arranging a time for the work safety introduction

New lab members that join our team often have previous commitments. We encourage lab members to complete and publish research from their previous positions. To balance this with current project responsibilities, please follow these guidelines:

General Allocation: The PI expects the group member to responsibly dedicate as much time to finalizing previous commitments as they deem necessary as long as it does not interfere directly with essential lab-based activities and duties, or puts a disproportional strain on other members of the lab.

Deadline Exceptions: We understand that deadlines for paper resubmissions or conferences require intensive focus. During these critical periods, you may dedicate more time as needed. Please communicate with me in advance so we can plan accordingly.

Epilogue

The take-home message of this document is that communication really is the key to solving almost any and all problems that may arise in an international, intercultural team. We will strive towards always improving the communication and supporting members to speak up in a variety of different situations. As the PI, I promise to commit to being as approachable and available as possible, to delegate tasks whenever necessary, to take responsibility for decisions, to be understanding of mistakes made and to support the lab members in their individual career pursuits.



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Biom mineralization | Gravity Sensing | Regeneration

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