

KNMFi User Guidelines

Version 2023

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Welcome to KNMFi

KNMFi is a high-tech platform for information-driven structuring and characterizing a multitude of functional materials at the micro- and nanoscale. We pride ourselves on a collaborative approach with our users, offering a portfolio of technologies and expertise which can be applied to solve challenging requests. You do not need to be able to operate the equipment to be a KNMFi user, our technology experts are on hand to accompany you from proposal idea through to publication of the results.

What does KNMFi offer?

KNMFi offers a broad portfolio of nano and micro structuring and characterisation and information technologies. The technologies which may be combined into process chains, are located in several institutes at KIT and are organised in three virtual laboratories:

KNMFi Laboratory for Micro- and Nanostructuring combines an impressive set of constructive bottom up and ablative top down structuring and replication technologies.

KNMFi Laboratory for Microscopy and Spectroscopy develops and implements a wide range of (correlative) microscopy and spectroscopy techniques for materials characterization.

KNMFi Laboratory for Simulation and Data Management coordinates activities in terms of digitalization, data handling and information management.

The technologies currently on offer can be found on the web page <http://www.knmf.kit.edu/technologies.php>

Eligibility: Who can access KNMFi?

Researchers from universities, research organisations and industry from anywhere in the world may access our facilities. These are termed **external users**.

Researchers from Helmholtz Association Research Centres, including all researchers employed by KIT. These are termed Helmholtz Association Users **ha users**.

How can I access KNMFi and what does it cost?

Proposals are submitted on the KNMFi online application form in response to an open call. The first step is to Create a user account in the KNMFi proposal submission system (<https://proposal.knmf.kit.edu/ksp/>) then you will receive login details which allow you to submit a proposal. In advance of submitting a proposal, users are required to discuss their idea with KNMFi scientists. Contact details of the corresponding scientist can be found with each technology on the web page. If you need advice on which technologies to select please contact the User Office.

For external users, proposals may be submitted at any time and are evaluated following the close of the current open call. Urgent work can request fast-track access (see **fast-track proposals**) and if appropriate conditions are met can be given the go-ahead before the call end. There are two calls for proposals per year. The deadlines are 15th January and 15th June. These proposals are first assessed for feasibility by KNMF scientists and subsequently reviewed by an independent Peer Review Board (PRB), and if the PRB recommends the project to proceed then the access is free of cost.

Helmholtz Association users (employed by KIT or other Helmholtz Association Research Centres) can submit proposals (“ha-proposals”) at any time. Following the feasibility assessment proposal are reviewed by an internal review panel of Helmholtz senior scientists. A result is aimed for within six weeks of submission of a proposal.

Partners in third party funded projects are invited to be KNMFi users as soon as KNMFi staff enters the projects in the KNMFi proposal submission system.

Public research

Public research is for projects where the results are intended for publication. **For the conditions relating to publishing results obtained within a KNMFi project please refer to the section [Publication of results](#).** These proposals are subject to independent peer review. Public research projects, approved by the independent peer review board are supported by the HGF funding of KNMFi and therefore not subject to a charge.

Proprietary access

Proposals for proprietary access may be submitted *via* the on-line application form; alternatively, it is also possible to arrange the work directly with the research groups involved. Proprietary access is fully confidential, not subject to peer review and publication of the results is not required. The costs are based on full cost recovery and negotiated on an individual basis.

Create a user account

In order to open an application form you need to create an account. To do this enter the requested information under the link <https://proposal.knmf.kit.edu/ksp/user/create>. Please make sure that you do not create multiple accounts without prior check with the User Office. Accounts are discriminated by the associated email addresses.

Help, I have forgotten my password

You can receive a new password under the link: <https://proposal.knmf.kit.edu/ksp/auth/receiveNewPassword>; you will need to enter your user name. You will be sent a new password. If you do not know your user name please contact the User Office.

Help, I have forgotten my user name

Please send a message to the User Office knmf-useroffice@kit.edu . The user office will respond as soon as possible and remind you of your user name. You can then enter it to receive a new password.

Before submitting a proposal

Before you submit a proposal you should

1. Formulate your idea
2. Select the necessary technologies
3. Discuss your idea and requirements with the technology experts
4. Decide which type of proposal you are requesting
5. Complete the application form.

If you do not know which technologies are most suitable for your request then the User Office will direct you to an expert.

Types of proposal

There are four types of proposal available to external users:

Standard (st): a standard proposal is for Proposals are submitted on the KNMFi online application form in response to an open call. The first step is to Create a user account in the KNMFi proposal submission system (<https://proposal.knmf.kit.edu/ksp/>) then you will receive login details which allow you to submit a proposal. In advance of submitting a proposal, users are required to discuss their idea with KNMFi scientists. Contact details of the corresponding scientist can be found with each technology on the web page. If you need advice on which technologies to select please contact the User Office.

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Partners in third party funded projects are invited to be KNMFi users as soon as KNMFi staff enters the projects in the KNMFi proposal submission system.

Public research which is normally completed within a six month time frame. Several technologies may be combined in the proposal. Standard proposals are assessed by an independent peer review board within four to eight weeks of the close of the call. Users are notified of the peer review board’s decision by the User Office and in the online proposal submission system.

Long-term (lt): A long term proposal is for Proposals are submitted on the KNMFi online application form in response to an open call. The first step is to Create a user account in the KNMFi proposal

submission system (<https://proposal.knmf.kit.edu/ksp/>) then you will receive login details which allow you to submit a proposal. In advance of submitting a proposal, users are required to discuss their idea with KNMFi scientists. Contact details of the corresponding scientist can be found with each technology on the web page. If you need advice on which technologies to select please contact the User Office.

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Partners in third party funded projects are invited to be KNMFi users as soon as KNMFi staff enters the projects in the KNMFi proposal submission system.

Public research which takes place over a time frame longer than six months. Projects may run for up to two years. The long-term status can be requested at the end of the application form. Progress is monitored by submission of an interim report after twelve months. The project may be terminated if insufficient progress is made. Long-term proposals are assessed by an independent peer review board within four to eight weeks of the close of the call. Users are notified of the peer review board’s decision by the User Office and in the online proposal submission system.

Fast-track (ft): A fast-track proposal is for Proposals are submitted on the KNMFi online application form in response to an open call. The first step is to Create a user account in the KNMFi proposal submission system (<https://proposal.knmf.kit.edu/ksp/>) then you will receive login details which allow you to submit a proposal. In advance of submitting a proposal, users are required to discuss their idea with KNMFi scientists. Contact details of the corresponding scientist can be found with each technology on the web page. If you need advice on which technologies to select please contact the User Office.

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Partners in third party funded projects are invited to be KNMFi users as soon as KNMFi staff enters the projects in the KNMFi proposal submission system.

Public research which needs to be completed before the close of the current open call. These proposals are typically short term, requiring a maximum of five days access, and can be completed in a two week time frame. The fast-track status can be requested at the end of the application form. The status fast-track is dependent upon the availability of the equipment and personnel needed and will be assigned by the User Office. In order to maintain the quality of user projects at KNMFi fast track proposals are reviewed *a posteriori*.

Proprietary proposals (pr) are usually submitted by industry; these are handled with full confidentiality by the research institutes in which the technologies are located and are not subject to peer review.

Helmholtz Association proposals (ha) are for users employed by KIT or other Helmholtz Association Research Centres. Proposals should be submitted via the same application form on the KNMFi web page, they may be **standard** or **long-term**. If possible please indicate the relevant Helmholtz programme and topic on the form. **Ha proposals** are handled immediately after submission and reviewed by a Helmholtz review panel.

How do I submit an application to KNMFi?

The first step is to [Create a user account](#) at KNMFi and follow the steps details in Before submitting a proposal.

It is possible to save an application on-line and submit it at a later date. Only submitted proposals (marked "S") will be considered for peer review.

Before submission of a proposal the user is asked to confirm that (will be implemented in the KNMFi proposal system soon):

- The proposal has been discussed with the relevant scientific experts.
- The user accepts FAIR data principle and the standards relating to [Confidentiality, Data Protection, Good Scientific Practice](#).

What does a Co-proposer need to do?

Co-proposers can be named by the submitting user and will receive an email notification indicating the required steps. Co-proposers can accept or reject the role of co-proposer (or ignore the request). Co-proposers with an existing KNMFi account should be requested by using the email address that is associated with the account. If requested co-proposers are not yet KNMFi users they need to create a KNMFi account.

How can a Helmholtz Association researcher submit a proposal to KNMFi?

Ha researchers are those employed by KIT or one of the other Helmholtz Association Research Centres (HGF).

If you are interested in using KNMFi facilities, please contact the relevant technology expert to discuss your idea. **ha researchers** can create a KNMFi account. After validation of the in-house account (KIT or HGF) the navigation item “Create ha-proposal” appears in the KNMFi proposal submission system and you can submit a **ha-proposal** (institute/Helmholtz proposal).

When is the deadline for a proposal?

You can apply for access to KNMFi at any time. It is a good idea to submit proposals as early as possible. An early submission can help to fix inconsistencies or add supplementary information before the PRB evaluates the proposal.

External users: We have two calls a year and the deadlines are 15th January and 15th June. The deadline is at 12.00 midnight on the final date of the call. This is a strict deadline. Proposals received after this deadline will be referred to the next call end.

ha-proposals are not subject to deadlines and will be handled immediately after submission.

What happens after submitting a proposal?

Feasibility check

After the close of the deadline (**standard** and **long-term** proposals from **external users**), or immediately after submission (external **fast-track** and all **ha proposals**) the technology experts of the requested technologies assess the feasibility, and the expected time needed to carry out the work. They also comment on any previous discussions they had with the applicant and in the case of over-booked technologies may rate the priority for the proposal.

Peer Review of proposals

Each application by non-HGF users is assessed by the peer review board (PRB) according to the [assessment criteria](#). The PRB takes the comments of the KNMFi scientists into account however they will make an independent decision as to approve a proposal or not. In the case of oversubscribed technologies, the allocated time may be less than the amount requested, or proposals are put on a waiting list.

Ha proposals (from users at KIT or other Helmholtz Association Research Centres) are first assessed for feasibility by our technology experts. As with all proposals Users are required to contact the relevant experts before submission so that the feasibility can be clarified in advance and the delay from submission to result of the review is minimised. An internal review panel assesses the proposals in a rolling review procedure, and a result is expected within six weeks after submission.

What are the assessment criteria?

Scientific excellence and the relevance to KIT research within the Helmholtz Association's Research Field Information¹ (<https://www.helmholtz.de/en/research/research-fields/information/>) are the main criteria. In the case of returning users the success of previous work, proper reporting and high-value publications arising from the previous proposals are also considered.

The proposal must include sufficient information to allow the technology experts and reviewers to evaluate the feasibility and scientific excellence of the proposed work.

What are the possible outcomes of the peer review?

Proposers are informed of the decision of the peer review board. There are these possible outcomes:

- Proposal is accepted and may proceed
- Proposal is accepted under the condition that an open question is clarified; if clarified the proposal can proceed in the current call
- Proposal is accepted with restrictions
- Proposal is accepted but is put on a waiting list and will proceed in the current call if instrument time becomes available
- Proposal is rejected

What happens if a technology is over-subscribed?

If a technology necessary for an accepted proposal is over-subscribed the proposal will be placed on a waiting list. In the event that time becomes available before the end of the open call you will be informed that the work can proceed. If no time is available the proposal will be taken off the waiting list and you will be informed that the proposal can be resubmitted in the current open call.

Carrying out your KNMFi project

Following the recommendation of the peer review board that your proposal can proceed, you should contact the technology expert at KNMFi, to arrange the work.

When will my project start?

The technology experts involved with your successful proposal will discuss the timing of the work with you. **Standard proposals** are expected to be completed before the close of the next call date.

¹ Research themes within the Helmholtz Association Research Field "Information": *Correlative Characterization, Energy, Model and Data Driven Material Characterization, Virtual Materials Design, Computational- & Data-Intensive Science and Engineering, Supercomputing & Big Data Infrastructures, Engineering Secure Systems, Quantum Materials, Quantum Computing, Neuromorphic Computing and Network Dynamics, Molecular and Cellular Information Processing, Functionality by Information-Guided Design, Optics & Photonics, Adaptive and Bioinstructive Materials Systems, Scale-Bridging Designed Materials, Materials Information Discovery, Research Data Management*

Execution of the project

You are welcome to visit KNMFi to discuss your project, and the execution of the work. Information on Travel to KNMFi is given below.

Reporting and publishing your results

Access to KNMFi is supported by funding from the HGF, in order to secure future funding it is essential that we report on the success of user access to KNMFi.

We therefore request that our users submit a final report at the completion of the work using the template on the web page.

Publication of results

Users are expected to publish results in referenced high-impact journals. Please submit publications in the online proposal submission system or notify us of publications relating to your user project.

KNMFi has a collaborative approach to user access and requires co-authorship in accordance with DFG good scientific practice rules. “An author is an individual who has made a genuine, identifiable contribution to the content of a research publication of text, data or software.” In instances where the user carried out independent research and without identifiable contribution from KNMFi personnel, a straightforward **acknowledgement** of the use of KNMFi is required: *This work was [partly] carried out with the support of the Karlsruhe Nano Micro Facility (KNMFi, www.knmf.kit.edu), a Helmholtz Research Infrastructure at Karlsruhe Institute of Technology (KIT, www.kit.edu).* In the case where a journal does not allow acknowledgements a mention of KNMFi in the text suffices.

Confidentiality, Data Protection, Good Scientific Practice

KNMFi scientists are committed to the Statutes for Safeguarding Good Research Practice at KIT² Published October 5th 2021. This implements the legally binding German Research Foundations Code of Conduct “Guidelines for Safeguarding Good research Practice” DFG Code.

Article 7 of the above-mentioned KIT statute commits those involved in the review of proposals to confidentiality:

Article 7 Confidentiality and Neutrality of Review Processes and Discussions³

Researchers reviewing and evaluating submitted manuscripts, funding proposals, or personal qualifications and working in advisory and decision bodies are obliged to maintain strict

² <https://www.kit.edu/downloads/good-research-practice.pdf>

³ refers to DFG Code of Conduct, Guideline 16: Confidentiality and neutrality of review processes and discussions

https://www.dfg.de/download/pdf/foerderung/rechtliche_rahmenbedingungen/gute_wissenschaftliche_praxis/kodex_gwp_en.pdf

confidentiality. Confidentiality of foreign contents to which the reviewer or body member is given access also includes disclosure to third parties and own use. Researchers immediately inform the responsible office of potential conflicts of interest or bias relating to the research project reviewed or the person or matter discussed.

In brief:

- All proposals submitted to KNMFi will be handled confidentially by all parties involved in the management, review procedure and scientific discussion and execution of successful proposals.
- The external and Helmholtz peer review boards and the KNMFi scientists involved in assessing the proposals are committed to not disclose any information on the proposal to a third party.
- Personal data contained on the application form and in the KNMFi user account is used only for the processing of the application, the planning of the user project and for reporting including reporting the performance of KNMFi.
- Data produced in a KNMFi user project will be archived in an appropriate data repository and not released into the public domain prior to publication without the explicit consent of the user.
- Following publication of the results, the authors are required to release the relevant data to an open access portal.
- Users and KNMFi scientists are strongly recommended to use Electronic Laboratory Notebooks in order to facilitate good data management practices, data and documentation sharing among researchers, prove provenance and protect from data loss.

Travel to KNMFi

The majority of the technologies are located on the north campus of the KIT

Karlsruhe Institute of Technology
Hermann-von-Helmholtz-Platz 1
76344 Eggenstein-Leopoldshafen

Directions to KIT Campus North

Directions can be found under the link <http://www.kit.edu/kit/english/directions.php>.

Upon arrival, at the North Campus you will need to register at the gate: "Anmeldung". Please make sure you have your passport or photo identity card with you.

Eating and drinking at KIT North Campus

A canteen and is located on the campus. This operates on a cashless system. Guests can acquire a card which can be pre-uploaded with money. A KIT employee will gladly assist you.

<https://www.aserv.kit.edu/english/casino.php>

Get to know KNMFi

You are welcome to attend our annual user meeting at which training courses are offered on selected technologies, and users present their results.

If you would like to be informed of upcoming events, including the User meeting, then please open a user account.

Contact details

Karlsruhe Institute of Technology (KIT)
Karlsruhe Nano Micro Facility
KNMFi User Office
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76344 Eggenstein-Leopoldshafen, Germany
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