

iNEXT-Discovery Proposal Submission Guidelines

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1 User Guidelines

iNEXT-Discovery offers all researchers from academia and industry (from Europe and beyond) access to high-end structural biology instrumentation and expertise, and stimulates training of visiting users either by on-site hands-on instruction or by workshops and courses. iNEXT-Discovery access is meant to set off discovery in “translational” research, i.e. research using structural biology equipment for applications in biomedical, biotechnological, biomaterial, food or environmental sciences.

- **Access:** iNEXT-Discovery offers access to structural biology infrastructure at several well-known and well-equipped research institutes in Europe.
- **Eligibility:** Applicants may come from academia or industry and prior experience with structural biology is not required.
- **Impact:** Projects should be “translational”, i.e. relating structural biology research with applications in biomedical, biotechnological, biomaterial, food or environmental research. Every application will be carefully evaluated on its scientific merit, scientific quality of the applying team and technical feasibility.
- **Publication:** All applicants going through our peer-reviewed access procedures should have the intention to publish their data resulting from iNEXT-Discovery, with the exception of SMEs.

Relevant research data must be made available within one year after publication of the research results, or within five years after the visit, whichever comes first, unless otherwise agreed. All publications reporting results from iNEXT-Discovery access should be Open Access, and iNEXT-Discovery funding must be clearly acknowledged:

“This work benefited from access to [the Name of facility] and has been supported by iNEXT-Discovery, project number 871037, funded by the Horizon 2020 program of the European Commission”.

- **Proposals:** The proposal submission and review process aims to be efficient, transparent and quick, with an estimated turnover time of about 2-4 weeks.
- **Deadlines:** Applications for access can be submitted by all researchers at any time. We will also organize different calls with specific deadlines to specifically attract communities such as health, food and biotech research.
- **Instruct:** The application system for iNEXT-Discovery is being processed by Instruct-ERIC, the EU-Roadmap Landmark that participates in iNEXT-Discovery. All iNEXT-Discovery users are requested to register in Instruct's booking system ARIA, the subsequent application and reviewing is handled by iNEXT-Discovery.
- **Notifications:** Users will receive through ARIA an automated email confirmation of their proposal submission and of the outcome of the reviewing process for their requested access.

Two-tier reviewing: All submitted iNEXT-Discovery proposals are being peer-reviewed by external experts but need also approval from the host institute that was selected in the proposal. Depending on the requested access mode, scientific reviewing and reviewing by the facility may take place in different order. In several cases, the facility should be contacted before submission of the proposal, in case of 'routine access to synchrotrons for X-ray crystallography or SAXS' the host institute will be notified after a proposal has been peer-reviewed and approved. Even when Moderator/Reviewers have approved a submitted proposal, the host institute holds the right to decline the requested access on reasonable grounds (e.g. conflict of interest, capacity limitations, financial limitations).

Reimbursements: Reimbursements take place according to the host institute's rules. Before a visit, possibly even before proposal submission, please discuss directly with the host institute if the traveling to and accommodation at the host institute will be reimbursed and if this is a partial or full reimbursement. This is especially important when extensive visits are requested or when users are coming from outside Europe.

Help: Users, Moderators and Reviewers can contact the iNEXT-Discovery Project Administrator (h.wienk@nki.nl) for questions about the iNEXT-Discovery project and the status of their reviewing process. Technical questions with respect to ARIA booking system and proposal submission should be addressed to the ARIA helpdesk: support@instruct-eric.eu.

2 Moderator Guidelines

Submitted user proposal are forwarded to one of four iNEXT-Discovery Moderators for NMR, EM, X-ray and Biophysics access. The Moderators forward each proposal to 1-2 external experts for reviewing, provided that the proposal falls within the requested access type and matches to the selected host institute.

The Reviewers are invited by the Moderator as soon as possible after receiving the proposal. Moderators ensure that reports from at least two Reviewers are received for each proposal. In case a Reviewer takes longer than expected to submit his/her review, the Moderator can replace the Reviewers or act as the second Reviewer.

A thorough evaluation of the scientific excellence of the proposed work is essential to prioritize proposals, especially where platform capacity or funding is limited or towards the end of the project, when the EC-funding may be exhausted.

When two independent reviews have been received, the Moderator decides on one of two outcomes:

- Accept
- Reject

Moderators may contact Reviewers and/or iNEXT-Discovery Project Manager at any time for help and comments. The applicant will receive automatic notification from ARIA of the Moderator's decision including a clear explanation when the proposal is rejected.

3 Reviewer Guidelines

The peer-review by external referees is required because of EC regulations and is in principle anonymous to the users. The host institute will always have the final decision if access will be performed for an accepted user project, and also decides on the amount of measurement time that will be spent on any approved user project.

- iNEXT-Discovery access is requested by users using ARIA, by submitting short research proposals.
- Submitted proposals are forwarded by external Moderators to external Reviewers.
- Ideally, to speed up the proposal turnover, reviews should be returned in ARIA within one week. After a week, the Moderator may contact the reviewer about the status of the review.
- Each evaluation criterion must be scored.
- A too low score in any criterion (marked in red in Section 5) will suffice to reject the proposal.

The Moderator may contact the Reviewers at any time for help and comment on the proposal. The applicant will receive automatic notification from ARIA of the Moderator's decision including a clear explanation when the proposal is rejected.

4 Application step-by-step

i. Register

All potential researchers involved in the project, including visiting users, should **register with ARIA**: <http://inext-discovery.eu/submit-proposal/?t=inextdiscovery>. This will simultaneously register them with Instruct-ERIC.

ii. Login in ARIA

Go to the iNEXT-Discovery website (<https://inext-discovery.eu/>) and click in the Top menu the red button “Apply for Access”. **Login in ARIA** if not done yet.

1. Select Services

Different access opportunities are offered through iNEXT-Discovery. These are organized in different ways.

- Technology Tracks

Users select this when they already know which technology they want to use: solid state or solution state NMR, single particle cryo-EM (either from sample to 2D classes to structure, or from 2D classes to structure), or X-ray crystallography or Small-Angle X-ray Scattering experiments. Background knowledge is not essential: if necessary, users will receive expert guidance. User research proposals can be submitted and will be peer-reviewed on a continuous basis.

- Signature Access

For when users have a specific application in mind for their research. Signature access is offering fragment screening (X-ray or NMR-based), biophysics to obtain details in kinetics and thermodynamics of macromolecular interactions, EM/CLEM tomography experiments, X-ray imaging, in-cell NMR, serial crystallography, long-wavelength crystallography, or nano-crystallography. Like for the Technology Tracks, these access possibilities do not require prior experience with the technology requested: the experiments will be supervised by skilled specialists. User research proposals can be submitted and will be peer-reviewed on a continuous basis.

- Industry

All iNEXT-Discovery peer-reviewed access offers are also available for researchers from companies. As an exception, the European Commission allows access to SMEs without having the intention to publish their data. For commercial research group that want to avoid peer-reviewing and publishing: the EC permits direct mediation with individual iNEXT-Discovery facilities to provide access on a “Pay-for-Access” basis between the research group and the host institute. Potential Intellectual Property outcome is to be discussed between the parties involved, iNEXT-Discovery will not hold any IP.

- Thematic Calls

To attract extra researchers from non-structural biology communities, **iNEXT-Discovery will organize Thematic Calls dedicated to Health, Food, Biotechnology or Biomaterials research.** These Thematic Calls will be announced on the iNEXT-Discovery website with a clear deadline for proposal submission. If necessary, proposals will be pooled and prioritized before peer-review to optimize the available capacity.

Note: For most access possibilities, the host institute should have been contacted prior to proposal submission to discuss the feasibility of the project.

Please select the desired access and facility offering this service.

For example:

“Select NMR → Solid state NMR → Select Centre - Solid State NMR, CERM/CIRMMP, Florence, Italy”

2. Confirm Services

Add/remove another access possibility and/or continue with the application.

3. Enter Details

Below is a short explanation of the different fields in the form. For additional information, technology-specific Help-functions are included. Several fields are required, others are optional. Without accepting iNEXT-Discovery conditions on the (i) Intention to publish obtained data, (ii) Open Science policy and (iii) Data Protection policy, your project cannot be submitted.

Research Project Title: A clear title for the user project should be added.

Scientific background, significance and objectives: A short introduction into the research topic should be provided (2500 characters maximum). The background and rationale to the project should be included, as well as the expected impact and objectives of the research. When different samples and experiments are combined in a single proposal there should be evident coherence and translational value between them.

Project background in your lab & recent results: The proposal should contain sufficient preliminary data to show that the desired experimental work is feasible (3000 characters maximum). For instance, the material to be studied should be of sufficient quality and quantity, previous work should be added that justifies the requested experiments. For some proposals (e.g. synchrotron access) additional data on safety may be required.

Research required, requested: This field should clearly explain which experiments are necessary or desired to reach the objectives of the study (4800 characters maximum). Also, indicate here if you have contacted the facility of choice and, if so, who your host contact is.

Benefit for health, food, biotechnology or biomaterials: Information should be provided (2000 characters maximum) that clearly shows how the desired research is or can become important for development and discovery of biomedical, biotechnological, biomaterial, food or environmental applications.

Expertise with requested technology: The applicant should indicate if he/she/the team is an Experienced user of the requested technology, a Non-expert or an Early career scientist. This will help the facility to judge if the requested research matches their access and support capacity.

Estimated number of access units: The number of access units (usually the number of measurement days) for the desired experiments to be performed should be estimated. One should realize that this is indeed an 'estimate':

- During or between measurement sessions it can be discussed with or decided by the facility to reduce the number (for instance when the quality or quantity of samples is insufficient and the institute's capacity would be wasted).
- It can also be discussed with or decided by the facility to increase the number of access units (for instance when the experiments are going well, but the requested number of access units is too low to perform the necessary experiments to complete the study).

Relevant publications: A few relevant publications (3-5) may be included to back up the proposal. Applicants are encouraged to include publications of their own research to show their strength in the field, but may also include other relevant references.

Files & figures (PDFs preferred; Max 100 Mb): A file may be added with information on protocols and/or illustrative results with clear legends (e.g. gels showing protein purity, NMR HSQCs, initial EM data, etc.).

Ethical concerns / Safety concerns: The facilities must know if there are any ethical or safety issues related to the requested research. The facilities can also decide to reject the proposal if the desired experiments do not comply with their laboratory regulations on ethics and/or safety.

Related iNEXT-Discovery/ INSTRUMENT project: If the applicant has a related iNEXT-Discovery / INSTRUMENT project, the PID code of this project may be entered here.

Complete all fields with details of the planned research. Push "Save Proposal" to store and interrupt the submission, push "Save & Continue" to proceed with the application.

4. Add Team

All team members added to the project described must be registered in ARIA. Contacts/collaborators from the facilities should NOT be included! The User profile will be the Reviewer's main source of information about the applicant and the team. Only scientists identified in this section will be eligible for being reimbursed for their visit to the host institute once the proposal is approved.

Principal Investigator: The principal investigator is the main applicant and scientist allowed by their organization to apply for grants. He/she is responsible for sample preparation and will be the owner of the collected data and responsible for storing them according to iNEXT-Discovery regulations (unless he/she agreed otherwise with the facility).

Home Lab Colleagues: All other team members that will be involved in the proposed research.

5. Exclude Reviewers

The Moderator will select 2-3 Reviewers from our pool of volunteers. All Reviewers are independent from the host infrastructures. The applicant can request to exclude from our pool a maximum of two reviewers to avoid conflicts of interest.

6. Check Submission

This allows the proposal to be carefully inspected before submission. After submission, your “Dashboard” can be used to check and follow its status.

7. Submit Proposal

Submit Proposal, agree to terms or participation, then Submit Proposal again. Users, Moderator and selected Facility(s) will receive email notification of your submission.

Submitted proposals are assigned to an external Moderator (not an iNEXT-Discovery partner) who has been assigned for the different technologies. This Moderator will assign 2-3 external Reviewers, that specialize in the field of research requested. Decisions on proposal Acceptance / Rejection should be communicated to the applicants within 4 weeks. If this is not the case, please contact the Project Manager (h.wienk@nki.nl). Once a proposal is accepted, please read the facility’s access guidelines.

5 Scoring

Proposals will be scored according to the following criteria:

1. Scientific Excellence

→ 6. Internationally Outstanding; 5. Excellent; 4. Good; 3. Average; 2. Satisfactory; 1. Not Competitive)

Proposals should be of high scientific quality, with a clearly defined background and innovative goal.

2. Relevance for Translational Research in Health, Biotechnology, or nanomaterials

→ 3. Highly relevant; 2. Possibly relevant; 1. No translational component

The aim of iNEXT-Discovery is to be “translational”, i.e. to connect structural biology research to applications in biomedical, biotechnological, biomaterial, food or environmental research.

3. Scientific Track Record

→ 2. Outstanding team; 1. Sufficient

Researchers with a remarkable track record in their respective field of science should be awarded an “outstanding” status; this mark is to be reserved for the top 10-20% of the applicants.

4. Technical Feasibility

→ 3. Feasible; 2. Suboptimal; 1. Not feasible

Proposals must contain sufficient information to demonstrate that the experimental work is feasible: materials should be of sufficient quality and quantity, there should be data supporting the scientific approach, and safety or ethical issues must need to be addressed where appropriate.

Even if a host institute agrees with the feasibility of a proposal, the reviewer may express their doubts about this.

The overall threshold score for acceptance: 10 points