The GATE system for beamtime proposals at GSI

PART 1: General procedure for submission of beamtime proposals

Starting in 2021, GSI makes use of GATE (General Access Tool to the Experimental facilities of GSI), a website-based system for the overall handling of processes connected with beamtime for users and related service, in particular user management and the steps from submission of proposals to beamtime assignation and documentation. In principle, GATE closely follows the processes that are already established, but provides a more efficient framework that should be less error-prone. The procedure is:

- GSI opens a call for beamtime proposals, announced via the user mailing list and the usual webpages.
- A proposer of an experiment and the co-authors register within the GATE system with their personal data.
- Within GATE, the proposer chooses the appropriate Program Advisory Committee (PAC) for submission, fills in webforms with details of the proposal and requirements, and uploads a PDF proposal file. Data entry during editing can be interrupted and continued at any time until submission, e.g. allowing clarifications with the respective Link Scientist. However, once submitted, no further changes can be made.
- The call ends on the pre-defined day, no further submission is possible.
- The responsible GSI personnel is notified by GATE (link scientists, safety groups, and responsible persons for the experimental areas and for host lab resources), and assesses the proposals with respect to safety and technical feasibility, entering their assessments into GATE.
- During the PAC meeting, proposals are evaluated and ranked in a (A, A-, B, C)-scheme as recommendation to the Scientific Directorate.
- Once the Scientific Directorate of GSI has decided on the results, the GATE system sends e-mails with results and numbers of granted beamtime shifts to the proposer. This allocation note includes the comment texts of the reviewers.
- The GSI beamtime coordinator creates a beamtime plan, and the times of scheduled experiments are entered into GATE.
- The proposer of a granted experiment names a responsible experimentalist for this experiment, who in turn names the actual on-site experimentalists of the experiment. All on-site participants must be registered in GATE. The responsible experimentalist also indicates possible safety-relevant changes before running the scheduled experiment, which will be assessed by the Safety Groups.
- The experiments take place.
- In the “After the Experiment Time” section within GATE, the proposer is asked to submit a short report on first beamtime results. Publications resulting from the beamtime are to be referenced in GATE.
- The beamtime block ends and the process repeats with the subsequent call for proposals.

In case of problems with GATE, please contact GATE-Help@gsi.de

PART 2: Details of the proposal submission process and nomenclature

Proposal Submission

- The person who actually submits the proposal is called the PROPOSER. This person has to register within GATE before starting the submission process (https://gate.gsi.de). All correspondence related to the proposal submission, evaluation and decision will be addressed to this person. The Proposers tasks are (can be transferred to the Responsible Experimentalists later in the process): nominate the team for running the experiment on site (Experimentalists); ensure that the Experimentalists observe respective regulations, especially on safety; ensure that information on the experiment incl. safety aspects are correct and complete; inform the Link Scientist about any alteration concerning the prospective experiment; ensure that GSI/FAIR is acknowledged correctly in publications.
- All CO-PROPOSERs (co-authors) of a proposal need to register before they can be connected with the proposal by the PROPOSER. CO-PROPOSERS are all persons that are involved in the experiment and as such will appear in resulting publications. The individual CO-PROPOSERS need to make themselves connectable (i.e. visible in person search results), (click “yes” in Privacy section, -> Personal section, -> Personal data, -> end of the page: “Privacy”). For proposals, where an entire FAIR (sub-) collaboration participates, the collaboration can be selected and only members coming on-site to the experiments have to be added individually.
- Submission of a beamtime proposal starts in the section "My Proposals / New proposal" in the menu on the left side. The PROPOSER chooses the relevant Program Advisory Committee (PAC) of the call and supplies the "General proposal data" such as title, abstract etc. Some fields are explained on a separate webpage. A PDF file of the proposed experiment is to be uploaded here. This may be done now or at a later stage after editing the following sections. Its content and structure are explained here:

  https://www.gsi.de/g-proposal_structure (for G-PAC proposals),
  www.gsi.de/mat-proposal_structure (for Mat-PAC proposals),
  www.gsi.de/bio-proposal_structure (for Bio-PAC proposals) and
  www.gsi.de/proposal_structure (for PPAC proposals).

  Please note that changes will be lost if instead of using the buttons “save” or “next step” one uses the quick bars on top of the page.
- In the next section, the PROPOSER adds all CO-PROPOSERS (co-authors) to the proposal (or selects a collaboration, if applicable) in either of those three ways:
  - (i) selecting each Co-Proposer individually via “Search co-proposer”.
  - (ii) copying the list of Co-Proposers from a previous experiment, where one was (Co-)Proposer; the resulting selection of Co-Proposers can be modified;
  - (iii) selecting a FAIR sub-collaboration, if the entire collaboration is part of this proposal.
- The PROPOSER chooses the experimental facility to be used (e.g. SIS18) – if more than one are offered in this ‘Call’. In the following step on “Technical details”, depending on the conditions of the PAC in question, more than one facility (e.g. UNILAC), target station, or modes of beam operation (main, secondary, parasitic) might be selected, if needed for the scientific objectives.
- In the section “Technical requirements” the PROPOSER chooses the "target station" (experimental area) to be used and the corresponding "Preferred Link Scientist", who advises the proposer on details entered in the proposal forms (e.g. beam specifications, host lab resources). Some target stations indicate different sources of the beam, e.g. "HTA" and "FRS-

HTA". In the latter case, the beam comes from / via the FRS. The PROPOSER contacts the LINK SCIENTIST well before submission to discuss parameters entered for the foreseen proposal. A mail with this aim is to be sent via GATE (in submission section) or separately.
The PROPOSER specifies the technical details of the proposal such as requested shifts, required ion beam, intensities etc. For Bio-PAC questions on samples are to be answered; this option is not available for other PACs.
If more than one experimental facility (e.g. UNILAC, SIS18, etc.) or target station is requested, a second "technical requirement" is selected and completed. The same is true for a second mode of beam operation (main, secondary, parasitic).

- In the following sections safety-relevant information are given, and required host lab resources indicated (e.g. from detector or target laboratory).
- If reports on previous experiments have been entered in GATE, the PROPOSER may select those that are related to the new proposal in section "Previous results".
- Before submission, the PROPOSER is reminded to discuss the proposal with their LINK SCIENTIST; a mail with proposal details (PDF: Preview Proposal) and possible comments of the PROPOSER is to be sent to the LINK SCIENTIST. If necessary, the PROPOSER then can adjust the entries according to their discussion and submit the proposal. This discussion with the Link Scientist should be initiated well before the deadline!
- Note: The PDF "Preview Proposal" might not show changes done in the proposal forms. A new PDF of the final status will be created by submission (and sent to Proposer and Co-Proposers).

After Proposal Submission

- Upon submission, neither the PROPOSER, the LINK SCIENTIST nor the PAC Scientific Secretary are able to make changes or additions to the proposal.
- Further responsible GSI personnel is notified by GATE for an assessment of the proposal with respect to safety and technical feasibility. They provide their assessments via GATE. Please note: Requests of Host Lab Resources entered in the form serve as indication for the respective department only. Once a proposal is granted, the Proposer will contact the respective department to discuss the request and agree on service to be provided.
- In the check for technical feasibility and safety, questions may arise which the PROPOSER is to answer as soon as possible. Proposals that have passed those checks will be discussed and evaluated by the PAC.
- Upon recommendation of the PAC, proposals are granted by the Scientific Directorate and the PROPOSER is informed about the outcome and further steps to be taken. The description below assumes that beam time has been granted.

PART 3: Further process with granted experiments

Preparing Experiment Time

- The PROPOSER nominates a "RESPONSIBLE EXPERIMENTALIST" in the section "Preparing Experiment Time" who will be in charge of administering the preparation and conduct of the experiment on site. PROPOSER and RESPONSIBLE EXPERIMENTALIST can be identical. All correspondence regarding the actual conduct of the experiment on site will be addressed to the RESPONSIBLE EXPERIMENTALIST.

- In preparation of the experiment, the RESPONSIBLE EXPERIMENTALIST is asked for a SAFETY CONFIRMATION, i.e. about safety-relevant changes in their experiment since proposal submission. Questions on safety issues are to be answered promptly by the RESPONSIBLE EXPERIMENTALIST.
- Experiment team: The RESPONSIBLE EXPERIMENTALIST is also responsible for identifying within GATE all EXPERIMENTALISTS, i.e. participants who will perform the experiment on site, incl. him- or herself. Those EXPERIMENTALISTS need to be registered within GATE and allow being visible in other users' searches. The GATE-Admin (+ PAC Scientific Secretary?) can copy the list of Experimentalists from one to another experiment.
  Before the scheduled experiment time starts, the RESPONSIBLE EXPERIMENTALIST enters the Experimentalists' time of presence on the campus in GATE, which might exceed the time of the scheduled experiment.
  When the RESPONSIBLE EXPERIMENTALIST closes the nomination of the team with the button "finish registration", the Experimentalists are informed, and relevant information is shared with the Welcome Office (WEO).
  The RESPONSIBLE EXPERIMENTALIST cannot add further persons / change times of a closed experiment team, except by submitting a "change request", which requires some manual input and therefore will take some time.
- Then, each EXPERIMENTALIST can modify (but need not confirm) the time of their presence on-site in section "Preparing experiment time".
  Latest 2 weeks prior to the visit further personal data and upload of documents required for accessing the campus are to be entered in "Personal section" / "Personal data": under "Edit personal data". Special cases are:
  - EXPERIMENTALISTS having a valid GUEST AGREEMENT and a GUEST CARD also need to be nominated into the experiment team, and enter/update their address in "Personal data". As long as previous documents are not integrated into GATE it helps if users upload their ID and HID related to their guest agreement. Welcome Office will inform them, if further information is missing.
  - Persons from GSI/FAIR need not upload any documents, as they already have access to the campus.
  - Double affiliations with GSI/FAIR: There are different backgrounds for a double affiliation with GSI/FAIR; the Welcome Office will inform them what is needed, e.g. a guest agreement is needed.

- Information on EXPERIMENTALISTS and their intended stay is transferred to WEO, where processes for obtaining access to the campus (guest cards), e.g. personalized guest agreement or invitation letters for visa are handled. Thus, a separate registration via the webpages of Welcome Office is not needed.
  Part „What happens next" in WEO webpage explains, what happens once the information and documents are transferred from GATE: See www.gsi.de/welcome, click "Guest-Registration", middle of the page: „What happens next". Or directly this webpage and the part "What happens next":
  https://www.gsi.de/work/organisation/stabsabteilungen_stellen/welcome_office/howto_register.

- Safety processes to obtain access to radio-protected controlled areas are described here: https://www.gsi.de/en/work/organisation/staff_units/radiation_protection/entrance_requirements_to_gsi_controlled_areas.
    - A valid medical certificate of a medical radiation protection examination;
    - A valid certificate of the GSI general safety instruction and the GSI general radiation protection instruction - both are online instructions which can be done with the GSI tool INSTRUCT (https://www-sist.gsi.de). The user registers there with the GSI Weblogin, and indicates the name of respective Local Contact Person (LCP). Only then the LCP can assign this person all needed safety instructions.
    - The user ideally bring their own official dosimeter to GSI: They will get an electronic dosimeter, additionally. If it is not possible to bring an official dosimeter, it can be issued in consultation with Safety & Radiation Protection/Personal Dosimetry. This application needs to be done well in advance at http://www.gsi.de/request. When they want to apply for an official dosimeter from GSI, the user has to have the valid medical certificate and the valid instruction certificates by hand.

After Experiment Time

- Once the experiment is finished, the PROPOSER is asked to submit a short report (section "After the experiment time"), possibly also a feedback.
    - A quick Feedback on Beamtime is asked sometimes after an experiment run. If denying its transfer to the Link Scientist of one's proposal, only GATE Admin and PAC Scientific Secretaries will see it, but not the Link Scientist of that experiment.
    - The Short Report is asked some weeks after the experiment and among others can serve as "Previous results from GATE experiments", and as such can be attached to later proposals. It also serves as report in case of TNA funding. Additionally, excerpts can be used by GSI/FAIR as information for authorities like councils of GSI/FAIR. Accordingly, the report should be formulated for non-specialists. The permission "allow transfer to link scientist" will permit the Link Scientist to see this report. The button "public report (visible in web)" is not applicable, as GSI will NOT place users' reports on any public webpages. If marked "not public", only Reviewers and GATE Admins will see it.
- The GSI/FAIR management expects results from experiments to be published in a reasonable time, incl. reference to the facilities used. For correct referencing of GSI/FAIR see mail on granted beamtime or in one of your proposals ranked A/A-: Further/Important next steps, Publication Policy.
- Publications resulting from the experiments are to be referenced in GATE under „My Proposal / Proposal list", in column „Action: submit doi".