

# Access to the Duke (SMIF) Titan Krios

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## About the Duke Titan Krios

The Titan Krios located in the Duke Shared Materials Instrumentation Facility (SMIF) is a cryo-transmission electron microscope (TEM) designed for high resolution studies on frozen specimens. The Krios is currently optimized for single particle imaging. Additional capabilities will be added in the future.

## Krios Usage Request:

Priority for Krios use will be given to researchers at Duke and the MMC (Molecular Microscopy Consortium, including NIEHS, Duke, UNC-Chapel Hill, and NCSU). External entities are encouraged to collaborate with a researcher from one of these entities, as the Duke Krios schedule is anticipated to be filled by researchers from these entities. Users external to Duke and the MMC can submit samples to the Krios Proposal Review Committee (KPRC), but will have lowest priority.

Researchers interested in high resolution data collection using the Krios will be required to submit a proposal. Specimen optimization screening sessions will have the lowest priority, and will currently be allowed if Krios time is not used by high resolution data collection projects that have already been screened. For high resolution data collection proposals, the aim is to demonstrate that the specimens are ready for high resolution data collection.

Requests for Krios usage should be submitted in pdf format to [krios@duke.edu](mailto:krios@duke.edu). The project request submission form can be found on the SMIF web site at <http://smif.pratt.duke.edu/node/55048>. Requests for multiple measurement sessions can be made within the same proposal for specimens that are closely related and have been previously shown to behave similarly under cryo-EM conditions (e.g. a particular complex with different ligands or binding partners).

## Proposal Handling and Sample Scheduling

Proposal submissions will be time stamped by the SMIF staff upon receipt, and forwarded to the Krios Proposal Review Committee (KPRC). The function of the KPRC is to review Duke Krios proposals weekly; meeting via teleconference is acceptable. The KPRC is composed of the SMIF Director, the Duke SMIF Staff Krios Lead, the MMC director, and two faculty members from Duke. The high resolution data collection proposal evaluation will be based on the assessment of preliminary data. The SMIF Staff Krios Lead will administer the execution of the evaluation process.

The result of the evaluation will be communicated to the applicant within seven days. Approved proposals will be assigned an approval code. Proposals that are not approved for Krios measurements will have the opportunity to work with SMIF Staff and/or the MMC to revise the proposal toward successful re-evaluation. Resubmitted proposals will receive a new time stamp.