



NCCAT : National Center for CryoEM Access and Training

GUP Proposal Guide ver 0.2 2021

Mission of NCCAT

The mission of NCCAT is twofold: to provide nationwide access to advanced cryogenic electron microscopy (cryoEM) technical capabilities, and to assist users in the development of cryoEM skills needed for independent research. NCCAT will provide access to state-of-the-art equipment, including high-end microscopes and direct detectors, as well as specimen preparation robots, screening microscopes and all the other ancillary equipment required to solve structures to the highest possible resolution using cryoEM methods.

Types of access

Early access to NCCAT in will primarily provide access to high-end cryoEM instrumentation. As NCCAT scales up operations other access categories will be brought online. This initial cycle will support single particle cryoEM data collection on one of our existing Titan Krios instruments using a Gatan K2 direct-electron detector. Applicants should have pre-screened cryoEM samples with pre-processing results (representative micrograph, 2D class averages, and initial reconstruction if available) from the same batch of grids to be submitted for data collection at NCCAT.

User Review Committee Process

General User Proposals (GUPs) will be scored in the following categories: (i) Aims & Impact; (ii) Feasibility & Data; (iii) Proposed Experiments; (iv) Goals & Expectations; (v) Expertise & Resources. The User Review Committee (URC) will score these aspects on a scale of 1 (excellent) – 5 (poor) and also have the option to provide additional comments. If there is not enough information on which to base a review the proposal will receive a score of NR (no review).

This guide is to assist with the application process and should not be submitted as an application. All applications must be submitted through our online system.

NCCAT GUP Proposal Application

Fields marked with an * are required

User information fields.

First Name *

Middle Initial

Last Name *

Email *

Phone

Lab Name *

Institution/University *

Address *

City *

US States *

Zip

Country *

Proposal fields.

Be concise. The combined text in all the fields should roughly fit on 1 page with Arial 11pt font.

Project Title *

Please provide a brief title that describes the project. (80 characters or less)

Scientific Document

Either in separate upload sections or uploaded pdf document (2 page or 1000 word maximum)

Project Abstract *

Abstracts should concisely summarize the project impact. Please note that abstracts and a limited set of project demographics will be sent to the National Institutes of Health (NIH) on a quarterly basis as part of the required project reporting. (150 words or less)

Aims & Impact *

Please state the specific objectives of your project. Include the scientific and technological importance of your project. (150 words or less)

Feasibility & Data *

Provide information and preliminary data for the samples associated with this proposal that impact feasibility of cryo-EM studies: molecular weight, stability, homogeneity, sufficient concentrations, etc. Experimental preliminary data may include: SDS-PAGE gels, SEC traces, negative-stain EM, preliminary cryo-EM screening, etc. Reference all uploaded figures and provide a brief description as appropriate. (300 words or less)

Proposed Experiments *

Describe the work to be conducted at the national center during the awarded project period. For each aim and/or sample under investigation, provide a detailed description of the experiment(s) to be performed and expected outcomes. Strength of justification can affect the overall science and resource scores. (150 words or less)

Goals & Expectations *

Please describe the goals for this project. This section should also include a justification for specific instruments requested, if any, and for the estimated allocation of time for each experiment. (200 words or less)

Expertise & Resources *

Describe the team's expertise in CryoEM sample preparation, microscope operation, and data interpretation. Please state the available cryoEM and/or computational resources that your team has access to. (200 words or less)

Figures/Preliminary Results *

Provide scientific figures with captions to reference within the feasibility & data section. (1 page supplemental, pdf)

All key personnel named in the application should upload a NIH biographical sketch.

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
 Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME:

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE:

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY

A. Personal Statement

B. Positions, Scientific Appointments, and Honors

C. Contributions to Science