2DCC-MIP Proposal Process

Proposers are encouraged to contact an advocate from a 2DCC **user support group** prior to submitting a proposal to help make the submission most effective. Proposal materials are submitted online via the **proposal submission portal**.

A. Research Project Proposals

Research project proposals are submitted on a rolling basis or in response to topical solicitations.

Required Materials

- ➢ Cover Page – Automatically generated from information the user provides in the online proposal submission portal
- ➢ Proposal – File upload of one PDF arranged in the following order
  - ➢ 3 page Project Description including **broader impacts** of the work
  - ➢ References (no page limit)
  - ➢ 2 page NSF-format Biographical sketch of all project personnel, except students (**Template**)

Proposals should follow standard NSF GPG format requirements for **margins and font size**.

Three-Page Project Description Content – The project description section should answer the following questions:

What is the scientific significance and long-term impact of the project?

How does your project align with the goals of the 2DCC in chalcogenides for next generation electronics?

What 2DCC resources and expertise would be used?

How will the users' expertise contribute to success?

What work will be performed at your home institution(s) to support the proposed work?

What are the broader impacts of the proposed work?

You need not provide a highly detailed schedule of facilities use. These are arranged at a later date for successful proposals in coordination with the user support group.

If your proposal is recommended for support by the user proposal review committee, a technical area scientist from the **user support group** will contact you to develop the details of your experiment. All selected proposals are expected to go through a safety and facilities review prior to the beginning of the experiment.

Review

Research project proposals will be evaluated by external experts on a user proposal review committee (UPRC) to avoid conflict-of-interest. The 2DCC executive leadership team will identify a minimum of three external reviewers for each proposal. Reviewers are chosen for their scientific and/or technical expertise from the scientific and technical community at large.

*Confidentiality***:** Reviews will be conducted in strict confidence including content and reviewer identity and will only be shared with 2DCC staff and the UPRC. Dissemination of project summary information (e.g., title, PI name) is limited to NSF reporting and 2DCC user logistics.

Evaluation Criteria: Research project proposals are reviewed in accordance with NSF primary review criteria for Intellectual Merit and Broader Impact and additional criteria.

Additional Review Criteria for 2DCC User Research Project Proposals:
1) To what extent is the proposed research aligned with 2DCC priorities and to what extent will it make significant scientific or technological advances and produce outcomes for dissemination?
2) Is the project plan feasible for execution at the 2DCC in terms of scope?
3) Is the user properly prepared to make efficient use of the 2DCC?
4) To what extent is the research mutually beneficial to the 2DCC and the user's institution?
5) To what extent are 2DCC's unique capabilities necessary for the project's success?

Scoring
The research project proposal will be scored by the user proposal review committee
Ratings categories: Excellent, Very Good, Good, Fair, and Poor

B. Sample-only Proposals
Sample-only proposals are for standard materials that are routinely synthesized at the 2DCC. Current Available Samples

Required Materials
- Cover Page – Automatically generated from information the user provides in the online proposal submission portal
- Proposal – File upload of one PDF arranged in the following order
  - 1 page Project Description including **broader impacts** of the work
  - References (no page limit)
  - 2 page NSF-format Biographical sketch of the PI (**Template**)

Proposals should follow standard NSF GPG format requirements for **margins and font size**.

One-Page Project Description Content – The project description section should answer the following questions:
What are your material needs and characteristics? Specify details (e.g., material composition, sample size and quantity, doping, etc).
What is the scientific or technological motivation of your research project?
How will the samples requested from 2DCC enable success of your project?
What are the broader impacts of your work?

Review
Sample-only proposals are reviewed by the 2DCC user support groups from the appropriate technical areas (synthesis, characterization, and theory), and recommendations for selection are made to the executive leadership team on a rolling basis.

Evaluation Criteria: Sample-only proposals are reviewed in accordance with NSF primary review criteria for *Intellectual Merit* and *Broader Impact*, and *additional criteria*.

Additional Review Criteria for 2DCC Sample-only Proposals:
1) To what extent is the composition and/or proposed analysis of the sample aligned with 2DCC priorities; to what extent will it make significant scientific or technological advances and

produce outcomes for dissemination (e.g., publications)?
2) Is the user properly prepared to make efficient use of the 2DCC sample?
3) How is the sample beneficial to research at the user's institution?
4) Why are 2DCC's unique capabilities necessary for the project's success?

Scoring
Sample-only proposals are reviewed by the 2DCC executive leadership team.
Ratings categories: Excellent, Very Good, Good, Fair, and Poor

C. Project Priority

The 2DCC will accept as many top-ranked proposals as the capacity of the facility will allow. Capacity can (and will) change based on the portfolio of projects; therefore, the executive leadership team will contribute to decisions on a balanced portfolio of selected projects.
Additional Criteria for decisions on priority may include:
➤ PI is from a minority serving institution, a predominantly undergraduate institution or is from a group traditionally underrepresented in STEM disciplines
➤ PI is a first-time user of the 2DCC
➤ PI has used the facility previously and is in good standing (e.g., project reports up to date; user adherence to data policy for publication and acknowledgement)

D. Term of Support

Proposals will not be approved for additional support beyond the proposal validity period (sample-only proposals are active for 1 year; research projects are active for 2 years) or agreed upon budget. Users must submit subsequent proposals for further use once project funds have been expended or after the proposal validity period, whichever is earlier.

E. Costs

The cost structure of 2DCC access and use is governed by the requirements set forth by the National Science Foundation (NSF) in the programmatic terms and conditions of NSF cooperative agreement DMR-1539916.

Access to the 2DCC is free for non-proprietary research of academic and government institutions, for which cost-recovery based expenses (e.g., materials and supplies, personnel time, equipment maintenance) are covered by NSF funds. Industry, international, and any proprietary research projects will be charged for use of the facility based on cost recovery.

On-site users are responsible for their own living expenses and travel costs. Limited travel funds are available for users from minority serving or predominantly undergraduate institutions.

Once selected to use the facility, the **user support group** advocate will work with the user to estimate the amount of project support, including supplies that are needed to complete the project.

F. 2DCC Facility Policy Summaries

The following are policy summaries. Detailed versions are in the **2DCC User Policies and Procedures document.**

Project Reporting

Users are required to submit a project report at the midpoint of their award term and a final project report within 30 days of completion of their project. Proposals submitted by former users who have not submitted their annual or final project reports may be rejected without review.

Publications

Non-proprietary Data: Users are obligated to inform 2DCC of publications based on research involving 2DCC samples, research or its resources which will be included in 2DCC annual reports to NSF. 2DCC policy for its personnel and users is to publish relevant findings expeditiously in the peer-reviewed literature regardless of the data originator or owner.
Proprietary Data: Proprietary data are not expected to be published.

Co-authorship of publications resulting from user projects is governed by accepted scientific practices, and may include 2DCC-affiliated faculty or staff scientists when such individuals make substantive contributions towards fundamental discovery, data analysis, or novel samples.

Acknowledgement

Users must **acknowledge** NSF cooperative agreement DMR-1539916 in all publications.

Data Management

In exchange for use of the facility and its resources, users subscribe to the 2DCC **data management policy**. The policy is reviewed annually to adjust to user community needs.