

Call for MicroED Application Proposal 2025

Institute for Protein Research (IPR) is now accepting non-proprietary proposals for Microcrystal Electron Diffraction (MicroED).

1. Microcrystal Electron Diffraction (MicroED)

MicroED (Microcrystal Electron Diffraction: Rotation method for the electron diffraction) is a crystallographic technique to collect diffraction images from thin ($< 1\mu\text{m}$) 3D crystals in a powdery sample. Even when traditional X-ray experiments can obtain only power diffractions, MicroED experiments might be able to acquire diffraction patterns from single crystal(s) and solve the structure of complex natural products or synthetic organic materials. IPR implemented an automatic data acquisition system capable of analyzing samples of polymorph mixtures and/or samples where the abundance of good crystals is low. Please see <https://github.com/GKLabIPR/MicroED/wiki> for the details of our set up and successful examples. Since the method is still under development, applicants must operate the electron microscope with a responsible IPR member.

Microscopes

JEM-2200FS (JEOL)

200kV, TVIPS F416 camera, in-column ω -filter

Talos Arctica (Thermo Fisher Scientific)

200kV, Ceta Camera, Falcon3 direct electron detector

2. Requirements

- Researchers who belong to academic organizations.
- Proposals must be non-proprietary.

3. Valid Term of the Application

1 year. From April 1, 2025 to March 31, 2026.

4. How to Apply

Required documents: Application Form (Original)

* Application Form and Guidelines for applicants (this document) can be downloaded from the website.
(<http://www.protein.osaka-u.ac.jp/joint>)

Submission Deadline: December 2, 2024 (Mon.)

Send to: Project Team of Joint Usage / Research Center,
Institute for Protein Research, Osaka University
E-mail: tanpakuken-kyoten@office.osaka-u.ac.jp

5. Contact

Professor Genji Kurisu, Institute for Protein Research, Osaka University

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6. Proposal Review

The proposal will be reviewed by the Panel on Joint Usage/Research, and the decision will be informed to the applicant in mid-March, 2025

7. Usage Reports

“Research Report” must be submitted within one month after completion of the experiment.

8. Publication

When the research results are published in journals, the researchers should describe that the research has been conducted under this program. For example, the following sentence should be added to an acknowledgment section:

“This work was (in part) performed under the Collaborative Research Program (MicroED) of Institute for Protein Research, Osaka University.

9. Others

- Researchers should be responsible for their own health insurance during their stay at IPR.
- Although preliminary (P)XRD experiments are not required at the time of application, we prioritize samples that could not be solved by traditional X-ray methods but with a confirmed crystallinity. Please include (P)XRD data if available. We recommend synchrotron beam lines when the crystals are large enough ($>$ a few micrometers).