

# Caltech | Funding Memo

**Title:** Dynamic Imaging

**Funding Agency:** Chan Zuckerberg Initiative

**External Deadline(s):**

08/23/2022 05:00 PM PDT (Full Proposal)

**Cognizant Office:** Office of Sponsored Research/Office of Foundation Relations

**Description:**

The Chan Zuckerberg Initiative (CZI) invites applications in the field of dynamic imaging that will support the development of new tools or significant enhancements of existing tools to monitor biological processes in motion, across time, and across spatial scales.

**Frequency:** First-time opportunity

**Award:**

- Because hardware, software, and protocol development projects that may be supported by this RFA likely require different resourcing levels, a budget limit has not been set on a per project basis. Proposed budgets should reflect the project scope.

**Indirect Costs:** 15% of Modified Direct Costs

- Indirect costs may not be assessed on capital equipment or subcontracts, but subcontractors may include up to 15 percent indirect costs of their direct costs.
- **Caltech's minimum overhead rate is based on the award's annual gross funding. Please refer to the [FY22 Annual Rate Memo](#) for applicable minimum overhead requirements. Applicants must work within their division to account for the required overhead via an approved MORA form.**

**Duration:** 30 months

- Awards will be 2.5 years (30 months) in duration with an expected start date of March 1, 2023.

**Discipline(s):** Biology and Biological Engineering; Chemistry and Chemical Engineering; Engineering and Applied Science; Physics, Mathematics, and Astronomy

**Eligibility:** Research Faculty, Tenure-Track Faculty, Tenured Faculty

- Applications may be submitted by domestic and foreign nonprofit organizations, public and private institutions, such as colleges, universities, hospitals, laboratories, units of state and local government, and eligible agencies of the federal government.

- Each application should designate one Principal Investigator (PI) as the Coordinating Principal Investigator (Coordinating PI).
  - The Coordinating PI will act as the administrative contact between CZI and all PIs on the grant (Co-PIs). The Coordinating PI must submit the application on behalf of all PIs.
  - The Coordinating PI must be affiliated with the institution submitting the application, and grant funds will be awarded to that institution, which will take responsibility for distributing funds to any other institutions. Note that institutions outside the U.S. may not subcontract to U.S. institutions, so please be mindful when selecting the Coordinating PI/institution.
  - Each application should have a minimum of one PI (Coordinating PI), but may designate up to three total PIs (one Coordinating PI and up to two Co-PIs).
  - PIs may only serve as the Coordinating PI on one application, but may serve as a Co-PI on applications different from the one they submitted.
  - Co-PIs may serve as a Co-PI on multiple applications.
  - PIs/Co-PIs on one application may be employed at the same or at different institutions.
  - PIs and Co-PIs must hold a PhD, MD, or equivalent degree.
- PIs and Co-PIs must each run laboratories in which they control their budget, their space, and their research. Independence in an academic setting is typically demonstrated by a full-time faculty appointment, a tenure-track position, allocated space, a start-up package, and institutional commitment as defined or verified in a letter from a department chair or equivalent.
  - Caltech researchers other than tenure-track faculty will need to obtain approval from the Division Chair and Vice Provost for Research prior to submitting an application.
- Meta employees, including employees of any subsidiary Meta entities, as well as employees of Chan Zuckerberg Initiative, LLC, are not permitted to apply.
- CZI reserves the right to request budget changes prior to award.
- CZI reserves the sole right to decide if an applicant and applicant organization meet the eligibility requirements.
- CZI welcomes applications from any country, provided the proposed work is compliant with the United States Treasury Department's Office of Foreign Asset Control (OFAC) sanctions program.
  - While applicants from all countries are welcome to apply, because of required ongoing compliance with U.S. sanctions and export controls, an applicant's funding eligibility may need to be reassessed if the applicable laws and regulations change at any time
- CZI seeks investigators who will contribute to a collaborative interdisciplinary network and the advancement of the dynamic imaging field.
  - Investigators and members of their labs will participate in annual meetings of all funded groups, smaller meetings focused on specific biological or technical topics, and regular webinars.
  - Investigators and CZI staff will work together to identify resources and technology that can drive the imaging field forward.
  - Investigators will commit to rapid dissemination of all resulting data, protocols, code, reagents, and results prior to publication through resources such as protocols.io, GitHub, Addgene, and preprints.

- CZI particularly encourages applications from:
  - Researchers in disciplines outside of biomedicine who bring new technology, resources, or frameworks to studying cellular and molecular processes;
  - Women, underrepresented minorities, and members of underserved populations; and
  - Early-career investigators, defined as principal investigators who have been in an independent faculty role for less than six years at the time of application, i.e., starting after their first position after August 2016.
- Please review CZI's data, publication, and dissemination policies in the [RFA](#).
  - To accelerate scientific discovery and collaboration, CZI supports a consent, sharing, and publication policy for open and rapid dissemination of proposal results, including methods, data, and reagents, and a policy for software development that maximizes accessibility, reuse, and shared development.

### **Research Areas of Interest:**

- The long-term goal of this RFA, part of CZI's Frontiers of Imaging effort, is to drive technology development aimed at measuring cellular and molecular processes in real time in intact, living systems. Priority will be given to proposals for methods developed for imaging in intact tissues or primary cells rather than immortalized cell lines. Preliminary data is encouraged but not required.
- Examples of research themes include:
  - Development, detection and/or tracking of multiple labels (e.g., multi-spectral Raman microscopy, hyperspectral imaging, tracking of multiple single particles labeled with different probes);
  - Development of new dynamic reporters (e.g., reporters for protease activity, kinase activity, cellular ion concentration fluctuations, protein-protein interaction, organelle specific chemical labeling, mechanical or electrical forces);
  - Development of correlative methods for temporal studies (e.g., correlative light and electron microscopy with a dynamic imaging component);
  - Adaptation of static methods for dynamic imaging (e.g., improvements of liquid cell electron microscopy); and
  - Hardware, software, algorithm or biological probe development to obtain high-resolution dynamic measurements in deep tissue or in large volumes (e.g. 4D/5D imaging at cellular resolution in whole organs, 4D/5D cell microscopy at super-resolution).
- Successful outcomes for this RFA could include:
  - Development of new chemical probes, biological tools, and hardware for imaging molecular and cellular processes over time;
  - Development of new protocols for imaging cellular and molecular processes over time, and;
  - Development of new computational techniques and algorithms for detection, tracking, and analysis of targets of interest.

### **Research Exclusions:**

- This RFA is not intended to support question-driven basic or translational research, clinical trials, or drug development.

### **Post-Award Obligations:**

- Financial statements and progress reports will be due at the conclusion of each grant year.

- Grantees of funded projects will be required to participate in regular meetings, including annual scientist meetings. Travel support for these meetings will be provided by CZI separately from the requested grant funds.

**Recent Caltech Recipients:**

- None, New Opportunity

**Guidelines & Other Information:**

Overview: <https://chanzuckerberg.com/rfa/dynamic-imaging/>

RFA and Application Instructions: <https://chanzuckerberg.com/wp-content/uploads/2022/06/Dynamic-Imaging-RFA-FINAL-COMBINED-1.pdf>

Institutional Approval Form: <https://apply.chanzuckerberg.com/protected/resource/eyJ0ZnJlljogOTQ1ODEyNDksICJ2cSI6IDE2ODQ2Nn0/>

Application Portal: <https://apply.chanzuckerberg.com/>

Please notify the Foundation Relations team if you anticipate making a submission or if you have any questions regarding this opportunity. We are here to help ensure that Caltech's proposals are competitive. We can assist with proposal development and advise you on the routing of your paperwork. Interested researchers should work with their division grant manager to prepare the budget, the MORA form, and the Division Approval Form (DAF). Submissions and awards for this grant program will be processed through the Office of Sponsored Research.

Opportunity ID: 1178