NSF-CREST
Center for Cellular and Biomolecular Machines
University of California, Merced
5200 North Lake Road
Merced, California 95343
ccbm.ucmerced.edu

CCBM Funding Mechanisms
Begins Fall 2021

We are pleased to call for applications for the following CCBM funding mechanisms:

Type	Funding Level	Page
Seed Project Awards	Up to $5,000	5
Research Enhancement Awards	Up to $10,000	6
CCBM Fellowship Awards	Includes fellowships, tuition, and fees + up to $2,500 for materials/supplies/equipment	8
Travel Awards	Up to $1,500 / limited duration	10
Training Awards	TBD / limited duration	11

The details listed above are applicable for the majority of the CREST center's duration from 2021-2026.

Please note that we will be able to provide a higher number of these awards in 2021-2022 than we will in subsequent years, due to some additional funds remaining from Phase I (2016-2021).

Except for CCBM Fellowship Awards, there are no deadlines to apply at this point.

There are no maximum limits for how many times individuals can apply for fellowships and other funding. There *will* be a preference for those who have not been funded.

Proposals for funding will be reviewed by CCBM faculty leadership, as well as CCBM faculty.

Application Procedure and Requirements

- All applications should be submitted electronically in combined pdf format. Label your pdf submission "LASTNAME_Firstname_Award_Type_Term_Year_Date.pdf." Date should be follows: "01.01.22"
- If your proposal is awarded, you will receive additional details (i.e. award letter or message, CCOA to charge for expenses, instructions regarding labeling purchase and travel requests, etc.)
- All related publications, presentations, posters, etc. must acknowledge support from: NSF-CREST: Center for Cellular and Biomolecular Machines at the University of California, Merced (NSF-HRD-1547848 and NSF-HRD-2112675).
- Funds will be awarded on an ongoing and competitive basis, subject to their availability.
- Awarded funds must be used within 12 months of award date generally. In some cases, an earlier date may be required.
- All proposed purchases are subject to University of California policies and regulations.
- Materials/supplies/equipment purchased with awarded funds will remain the property of the University of California.
- For materials/supplies purchases: Students/faculty must include all center-related information with the purchase requests (i.e. order request labeled clearly with award type, faculty lab / including project information, project justification that discusses item as part of CCBM award, original backup documents) so that the CREST leadership can easily identify these orders. Students should also notify leadership when ordering items. Once awarded, students should make purchases and keep track of expenses in a shared Excel with detailed information.
- If you are considering laptop or computer purchases, please note that such requests will require a strong justification explaining why the laptop or computer is necessary to conduct the research. Such requests may require special approvals and may not be approved.

NSF Reporting Categories (to be provided as requested)

*Gender (Female, Male, or Not Reported)
*Ethnicity: (Hispanic or Latino, Not Hispanic or Latino, Not Reported)
*Race: (Black or African American, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Asian, White, Not Reported)
*Disability: (Select Yes is any of the following apply--Deaf or serious difficulty hearing, Blind or serious difficulty seeing even when wearing glasses, Serious difficulty walking or climbing stairs, Other serious disability related to a physical, mental or emotional condition; No; Do not wish to provide)
*Citizenship (U.S. Citizen, Permanent Resident, U.S. National)

Questions? Contact: Carrie Kouadio, CCBM Executive Director, ckouadio@ucmerced.edu; 209-228-3608 (o); 217-898-3522 (c)

Apply Here

CREST / Synopsis of Program:

The Centers of Research Excellence in Science and Technology (CREST) program provides support to enhance the research capabilities of minority-serving institutions (MSI) through the establishment of centers that effectively integrate education and research. MSIs of higher education denote institutions that have undergraduate enrollments of 50% or more (based on total student enrollment) of members of minority groups underrepresented among those holding advanced degrees in science and engineering fields: African Americans, Alaska Natives, American Indians, Hispanic Americans, Native Hawaiians, and Native Pacific Islanders. CREST promotes the development of new knowledge, enhancements of the research productivity of individual faculty, and an expanded presence of students historically underrepresented in science, technology, engineering, and mathematics (STEM) disciplines. CREST Postdoctoral Research Fellowship (PRF) awards provide research experience and training for early career scientists at active CREST Centers.

CREST Center awards provide multi-year support (typically 5-years) for eligible minority-serving institutions that demonstrate a strong research and education base, a compelling vision for research infrastructure improvement, and a comprehensive plan with the necessary elements to achieve and sustain national competitiveness in a clearly defined area of national significance in science or engineering research. Successful Center proposals will demonstrate a clear vision and synergy with the broad goals of the CREST Program and the Human Resource Development Division with respect to development of a diverse STEM workforce. CREST Centers are expected to provide leadership in the involvement of groups traditionally underrepresented in STEM at all levels (faculty, students, and postdoctoral researchers) within the Center. Centers are required to use either proven or innovative mechanisms to address issues such as recruitment, retention and mentorship of participants from underrepresented groups.
https://www.nsf.gov/pubs/2018/nsf18509/nsf18509.htm#toc

Seed Project Awards: Materials/Supplies/Equipment

Teams comprised of two or more CCBM faculty members are eligible to apply for Seed Project Awards which will cover expenses related to research efforts related to the NSF-CREST Center for Cellular and Biomolecular Machines (CCBM). Note that though each team must have at least two faculty members, additional individuals are welcome to contribute to the proposals. The award is intended to cover research expenses for materials/supplies/equipment costs.

These awards will be for $5,000 per funded project, for new, collaborative projects. Funds are intended to jumpstart the projects. These awards are focused on innovation, collaboration, and interdisciplinary research with the goal of providing funds for a novel project in order to produce preliminary results.

Allowable Expenses:

- Research/lab supplies, materials and equipment
- Books, reports, journals and publication costs
- Computational equipment/computer software directly related to CCBM research project
- Recharge fees (core research facilities or other shared/institutional research resources)

Unallowable Expenses:

- Salaries, travel expenses, professional society dues, curricular materials, administrative items, office supplies/equipment and office furniture

Application Process:
Applicants should submit a single pdf document containing:

- A description of the proposed project, who will be involved and any additional justification for the award (one page max).
- An overview budget and budget justification for the proposed project that breaks out general categories of expenses (one page max).
- An up-to-date CV for the faculty applicants

Awards will be made based on the following criteria:

- Quality of the proposed research, its collaborative nature, and its fit with the CCBM research mission.
- Potential for beneficial outcomes (papers, presentations, etc.).
- Diversity/equitable distribution.
- Duration of affiliation and level of participation with CCBM.

Research Enhancement Awards: Materials/Supplies/Equipment

Teams comprised of one or more CCBM faculty members and one or more current CCBM Scholars are eligible to apply for awards covering expenses related to proposed research efforts related to the NSF- CREST Center for Cellular and Biomolecular Machines (CCBM). Note that though each team must have at least one faculty member and one CCBM Scholar, additional individuals are welcome to contribute to the proposals.

$10,000 per funded project will be provided. The award is intended to cover expenses for project materials/supplies/equipment costs.

The student on the team will be in charge of deciding what is needed (in consultation with the faculty member) and purchasing items. It is required that the awarded faculty member will support one student team member for one semester with other funds—and the student must not teach in that semester—in order to allow sufficient time to be given to the project. Students will give a 20-30 minute presentation at a thrust meeting and provide a one-page report at the end of the funded semester.

Allowable Expenses:

- Research/lab supplies, materials and equipment
- Books, reports, journals and publication costs
- Computational equipment/computer software directly related to CCBM research project
- Recharge fees (core research facilities or other shared/institutional research resources)

Unallowable Expenses:

- Salaries, travel expenses, professional society dues, curricular materials, administrative items, office supplies/equipment and office furniture

Application Process:

Applicants should submit a single pdf document containing:

- A description of the proposed project, who will be involved and any additional justification for the award (one page max).
- An overview budget and budget justification for the proposed project that breaks out general categories of expenses (one page max).
- An up-to-date CV for the primary faculty applicant
- An up-to-date CV for the primary CCBM Scholar applicant [for graduate students, include current graduate GPA; graduate training start date at UC Merced; progress towards PhD degree; expected time to graduation; publications, presentations, posters, awards; any other academic achievements; and citizenship information using NSF categories--U.S. Citizen, Permanent Resident, Other Non-U.S. Citizen, U.S. National, Not Reported].
- Awards will be made based on the following criteria:
- Quality of the proposed research, its collaborative nature, and its fit with the CCBM research mission.
- Potential for beneficial outcomes (papers, presentations, etc.).
- Diversity/equitable distribution.
- Duration of affiliation and level of participation with CCBM.

For graduate students, the following will also be considered:

- Academic accomplishments (e.g., publications, presentations).
- Credentials (e.g., current graduate GPA).
- Student progress towards degree (e.g., year in program, achievements relative to time in program).
- A description of results from any previous CCBM fellowship funding.

Graduate student qualifications:

- Applicants must be current CCBM Scholars.
- Applicants must currently be enrolled in at least 12 units in a PhD graduate program, and expect to maintain this enrollment through the academic year in which applicant is applying.
- Applicants must be in good academic standing.

CCBM Fellowship Applications
For Spring 2022

Due Friday, October 15, 2021, 5:00 pm Pacific

We are pleased to call for applications for CCBM Fellowships.

The NSF-CREST Center for Cellular and Biomolecular Machines sponsors CCBM Fellowships to provide support to outstanding continuing graduate students from the CCBM Scholar cohort, in order to facilitate their focus on their research. The award is intended to relieve the Fellow from service obligations for full-time attention to research relevant to the research mission of CCBM. Fellowships will cover tuition, fees, and stipend equivalent to a GSR and are meant specifically for costs of attendance (i.e. tuition, fees, books, and supplies) and for general support (living, transportation, and personal expenses) necessary to support the pursuit of educational and career goals. Fellows will also be expected to actively participate in center activities, including regular thrust meetings and at least one center event per semester. Fellows must also complete all center reporting and data collection requirements. In conjunction with two or more faculty advisors, each student may submit one fellowship application. Students should be co-mentored, but the project does not need to be collaborative.

We plan to make 5-9 awards for Spring 2022. Generally 10 awards will be provided per year (5 in fall and 5 in spring) for most of Phase II (2021-2026). **Please note that we will be able to provide a higher number of awards in 2021-2022 than we will in subsequent years, due to some additional funds remaining from Phase I.**

Up to $2,500 will also be provided per awarded student for materials and supplies. Awarded materials/supply funds must be used by June 30, 2022.

- CCBM Fellow benefits provided, as well as other requirements: https://ccbm.ucmerced.edu/education/graduate
- Center funding opportunities: https://ccbm.ucmerced.edu/funding-0 (to be updated in fall 2021)

Guidelines
Proposers should provide all the information pertinent to the criteria listed below.

Regarding the research proposal, proposers should write up to two pages (single-spaced, 11 point font, 1 inch margins, any figures or tables in-line) to describe the research project and activities to be conducted over the semester.

Descriptions should be specific, well-defined, and written in clear general terms with appropriate background and context suitable for review by a non-expert in your specific area of research. Proposals should also highlight the collaborative nature of the work and explain the scholarly outcomes that are expected to come from the support (i.e. papers to be submitted, proposals prepared, conferences presentations expected).

Proposals must also include a letter of support co-signed by two faculty advisors who are CREST CCBM faculty (full or affiliate, see details below). The letter should address the qualifications and merits of the applicant, plus the impact that this fellowship would have on the progress of the CCBM related project, the completion of the student's degree, and the student's career goals. The letter should also address a plan for how the co-mentoring will be carried out.

Current CCBM Faculty Listing

Qualifications

- Both faculty advisors must be CCBM faculty members (full or affiliate). At least one of those must be a full CCBM faculty member (see list above).

- Applicants must be current CCBM Scholars (as of application deadline).
- Applicants must currently be enrolled in at least 12 units in a Ph.D. graduate program and expect to maintain this enrollment through the academic year.
- Applicants must be in good academic standing.
- Applicants must be either U.S. citizens, U.S. nationals, or permanent residents, as per National Science Foundation (NSF) funding guidelines.
- Fellowship support may not be combined with other sources of support (e.g. other grant funds).

Criteria

Grants will be awarded on a competitive basis, and it may not be possible to fund all worthy proposals. The CCBM Executive Committee will coordinate proposal review based on the following criteria (in no particular order):

- Quality of the proposed research, its collaborative nature, and its fit with the CCBM research mission.
- The student's academic accomplishments (e.g., publications, presentations) and credentials (e.g., current graduate GPA).
- Student progress towards degree (e.g., year in program, achievements relative to time in program).
- Potential for beneficial outcomes (papers, presentations, timely completion of the degree).
- A description of results from any previous CCBM fellowship funding.

After ranking applications, the CCBM Executive Committee will set a cutoff line for funding and make awards. The number of awards will be based on funds available.

Reporting Outcomes

Fellowships support specific research projects by researchers, and a full report will be requested concerning the outcomes at the end of semester to be included in materials for assessment and NSF Annual Report preparation.

Application

A complete application must contain the following items, in the specified sequence. The file can be continuous (i.e., a new page is not needed for each section), but each section should be clearly labeled. The advisors' letter of support may be included in the application pdf or sent separately to Carrie Kouadio by the deadline.

1. Cover/summary sheet information: Student name; Advisor name and rank; School; Contact information; Project title; Abstract of proposal (150 words maximum); current graduate GPA; year started graduate training at UC Merced; progress towards Ph.D. degree (e.g., prelim passed, qualifying exams, years in program with PIs); expected time to graduation; and NSF demographic information (see page 3).
2. Research Description (two pages maximum including citations).
3. Human Subjects and/or Animal Use approval information if applicable.
4. Advisors' letter of support.
5. CV listing all of the student's publications, presentations, posters, exhibits, performances, awards, and any other academic accolades.
6. Detailed budget for up to $2,500 for supplies and materials, with budget justification.

If you are considering laptop or computer purchases, please note that such requests will require a strong justification explaining why the laptop/computer is necessary to conduct the research. Such requests may require special approvals and may not be approved.

Please note that since this is a competitive proposal, incorrect formatting, file types and content omissions will likely result in your proposal receiving a low priority score.

Travel Awards

CCBM Scholars are eligible for awards up to a maximum of $1,500 for domestic travel related to their research efforts. Grants will be awarded on an ongoing and competitive basis.

The award is meant to offset travel expenses to a professional conference or workshop. Students should ideally have submitted an abstract for an oral or poster presentation or have received an invitation for an oral presentation. Participation in a relevant summer/winter school or workshop will also be considered as an appropriate use of these funds.

The applicant should submit a single pdf document containing the following (ideally 6 or more weeks in advance of planned travel):

- A summary of the conference/workshop to be attended and any additional justification for the award (no more than one page). For conferences, the proof of abstract submission or the letter of invitation must be included.
- A full budget for the proposed travel including a tentative itinerary and estimated travel costs.
- An up-to-date CV including current graduate GPA; graduate training start date at UC Merced; progress towards PhD degree, expected time to graduation, publications, presentations, posters, awards, and any other academic achievements. Please also include Citizenship Information/NSF categories (U.S. Citizen, Permanent Resident, Other Non-U.S. Citizen, U.S. National, Not Reported), so the correct account can be charged [in accordance with National Science Foundation (NSF) funding guidelines].

Awards will be made based on the following criteria:

- Fit with CCBM research mission
- Excellence [quality of abstract, scientific impact, scientific audience, invited (yes/no)]
- Financial need

Qualifications

- Applicants must be current CCBM Scholars.
- Applicants must currently be enrolled in at least 12 units in a PhD graduate program, and expect to maintain this enrollment through the academic year.
- Applicants must be in good academic standing.

For approved travel expenses, the student will be reimbursed after the travel occurs. The traveler will submit receipts and back-up travel documentation to campus (after travel occurs).

Training Awards

As part of the awarded NSF-CREST Supplement, we are pleased to call for applications for Training Awards. CCBM affiliates (graduate students, staff, and faculty) are eligible for training awards related to their research efforts. Grants will be awarded on an ongoing and competitive basis, subject to availability of funds.

The award is meant to offset expenses for a training experience, research exchange, workshop or summer/winter school.

There are 2 types of opportunities that these awards are aimed at; examples of options are provided in detail below. Type 1: Cross-disciplinary training as part of national and international graduate student cohorts from institutions from around the world. These occur in workshops and summer schools across the country that are internationally renowned for the caliber of instructors, quality of instruction and the outcomes – large fractions of these cohorts go onto become faculty and research scientists at universities, national labs and industry. These programs provide not just technical training, but invaluable networking opportunities that many faculty members have had and would like to make available to our center's graduate students.

Type 2: Specialized technical training workshops and small, intensive research workshops for advanced graduate students, project scientists and junior faculty. The training workshops will be critical to provide expertise in technical areas currently not represented at UC Merced and research workshops will help CCBM affiliates stay abreast of the latest developments and provide collaborative opportunities with leading researchers in the field.

Some suggested options for trainings include the following: Boulder School, KITP Advanced School/UCSB, COMSOL Workshop, Mass Spectrometry Course: Q Exactive Biotech Operations, Cold Spring Harbor Laboratory Courses, and Gordon Research Conferences, discussed in more detail here.

The applicant should submit a single pdf document containing the following (at least 6 weeks in advance of planned training):

- A summary of the training experience with reference to full information on the training, as well as any additional justification for the award (no more than one page).
- A full budget for the proposed training including a tentative itinerary and estimated travel costs.
- An up-to-date CV [For graduate students, make sure to include current graduate GPA; graduate training start date at UC Merced; progress towards PhD degree, expected time to graduation, publications, presentations, posters, awards, and any other academic achievements. Please also include Citizenship Information/NSF categories--U.S. Citizen, Permanent Resident, Other Non-U.S. Citizen, U.S. National, Not Reported--so the correct account can be charged (in accordance with National Science Foundation funding guidelines)].

Awards will be made based on the following criteria:

- Quality of the proposed training and its potential for improved CCBM research collaborations which could result/expand/be refined, and its fit with the CCBM research mission.
- Duration of affiliation and level of participation of affiliation with CCBM

For students:

- The student's academic accomplishments (e.g., publications, presentations) and credentials (e.g., current graduate GPA).
- Student progress towards degree (e.g., year in program, achievements relative to time in program)
- Potential for beneficial outcomes (papers, presentations, timely completion of the degree).
- A description of results from any previous CCBM fellowship funding.
- Equity of awards (across gender, underrepresented groups, thrust area, aiming to provide 1 award to as many students as possible)

Graduate student qualifications

- Applicants must be current CCBM Scholars.
- Applicants must currently be enrolled in at least 12 units in a PhD graduate program, and expect to maintain this enrollment through the academic year in which applicant is applying.
- Applicants must be in good academic standing.

For approved training expenses, the center will aim to have costs paid in advance, wherever reasonable and possible. For any other costs, the awardee will be reimbursed after the travel occurs; the traveler will submit receipts and back-up documentation to campus (after travel occurs).