



**NATIONAL SCIENCE FOUNDATION  
4201 WILSON BOULEVARD  
ARLINGTON, VIRGINIA 22230**

**NSF 17-125**

## **Frequently Asked Questions (FAQs) for NSF 17-581, CISE Research Infrastructure (CRI)**

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43. My institution is a primarily undergraduate institution. Can I submit a CRI proposal to upgrade our computer science department's labs and resources to provide better educational opportunities to our students?

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## PRELIMINARY PROPOSAL SUBMISSION

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### 1. Do I need to submit a preliminary proposal for Community Infrastructure Planning (CIP) projects?

Yes, all CRI projects, including planning proposals, must submit preliminary proposals by the preliminary proposal due date to be eligible to submit full proposals.

### 2. When should I hear back about my preliminary proposal?

You should hear back in early December about your preliminary proposal. Preliminary proposals are reviewed internally at NSF by program directors and the feedback is advisory only. You will receive either an "Encourage" or "Discourage" message indicating whether your proposal is a good candidate to be expanded to a full CRI proposal.

### 3. What does it mean to get an "encourage" response to my preliminary proposal?

An **encourage** finding generally indicates that the proposal appears to be responsive to the CRI program guidelines and is a candidate for further development relative to the CRI solicitation. "Encourage" simply tells you that the general research emphasis and plan you

have for your infrastructure aligns with the CRI solicitation. It is not necessarily an indicator of how well the proposal might do as a full proposal under CRI programmatic review.

**4. I received a "discourage" response to my preliminary proposal. Can I still submit a full CRI proposal?**

A **discourage** finding generally indicates that the proposal is typically not responsive to the CRI program, is more suited to another NSF opportunity, and/or has serious conceptual flaws that would not benefit from further development as a full CRI submission. You can still submit a CRI proposal but it probably has a low potential for funding as formulated in the preliminary proposal.

## **FULL PROPOSAL SUBMISSION**

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**5. How do I submit my proposal for review by a particular CISE Division?**

When submitting your proposal, you may select a particular CISE Division. This will indicate to the CRI program officers where you think the best fit is. CRI proposals are grouped thematically, often pursuant to the participating CISE Divisions. CRI program directors will consider the division to which you submit your proposal as well as other factors when determining the best thematic grouping for assigning your proposal to a panel for review.

**6. Are collaborative proposals allowed or encouraged by the CRI program?**

Many CRI proposals are submitted as collaborative proposals. Since CRI involves infrastructure that often "resides" at one location, the collaborative nature of the project needs to be clearly demonstrated and justified. Since CRI funds the infrastructure and not the research that the infrastructure enables, collaborative partners should have a distinct role in establishing the infrastructure for the proposal to be a viable collaborative CRI submission.

**7. If I did not submit a preliminary proposal, can I still submit a full CRI proposal?**

No, you must submit a preliminary proposal to be eligible to submit a full CRI proposal.

**8. Can I change the research focus described in my preliminary proposal on my full proposal?**

No, your full proposal generally needs to align with the research focus described in your preliminary proposal.

**9. Can I add co-PIs and collaborative partners not indicated on my preliminary proposal to my full proposal?**

No, you may only include co-PIs and collaborative partners identified in your preliminary proposal.

**10. Are there limits to the number of CRI proposals an institution can submit?**

Yes, an institution can submit no more than 3 Institutional Infrastructure proposals.

**11. How many co-PIs can there be on a CRI submission?**

NSF guidelines allow for a single PI and up to four co-PIs. Since CRI proposals are infrastructure proposals, be sure that co-PIs have a role in establishing the infrastructure as well as participating in any research that the infrastructure enables.

## **BUDGET**

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**12. Can faculty salary support be included in a CRI budget? If so, are there limits to the amount of faculty support?**

A limited amount of faculty support can be included in a CRI budget. Typically faculty support is directly related to the faculty role in establishing the proposed infrastructure. If the infrastructure involves primarily equipment, the amount of faculty support should be very small. If the infrastructure involves development of software resources or other resources involving significant personnel time, modest faculty support can be included in the CRI budget. CRI proposals should clearly describe the roles and responsibilities of the faculty and justify any faculty support requested in the budget.

**13. Can graduate students be funded with CRI budgets?**

CRI budgets can support graduate student involvement in the development of the proposed infrastructure. CRI funds do not support graduate student or undergraduate student research using the infrastructure. Requests for graduate student support must clearly justify the work and time that the graduate students will spend in establishing the proposed infrastructure. Budgets need to carefully justify personnel expenses, including faculty, students, and other personnel, and identify the unique contributions of each person to the development of the infrastructure. CRI proposals that request significant funding for graduate students do not usually request significant faculty support.

**14. Can operational expenses be included in CRI budgets?**

CRI funds operational expenses on Community Infrastructure proposals only. CRI limits funding of operational expenses to \$250,000 per year. These expenses need to be clearly detailed and justified in proposal budgets.

**15. Does CRI fund research using resources and infrastructure developed by CRI funding?**

No, CRI funds establishing the infrastructure only and does not fund any subsequent research that might use the infrastructure.

**16. Do I need firm quotes for equipment requested in my CRI proposal? What do I do if these costs change before my project is funded?**

You need to provide a basis for the equipment costs that are in your budget. Such a basis

may be firm quotes or prices from other sources. Often costs and equipment models change between the time the proposal is submitted and funded. Once a project is funded, you will need to work with your university to procure the equipment and determine the final costs. If you are notified by NSF of the intent to fund your proposal, you may check and update your figures before the budget is finalized and an award is issued.

**17. Can my institution contribute cost sharing to a CRI proposal? What types of institutional commitments are expected in a CRI proposal?**

Inclusion of voluntary committed cost sharing is prohibited on CRI proposals. Typically CRI expects institutional commitments to house the infrastructure and to operate the infrastructure. NSF also expects a plan whereby the institution sustains the infrastructure following the end of the NSF support. These commitments should be expressed descriptively and not in terms of specific dollar amounts.

**18. Can travel be included in CRI budgets?**

Travel related to establishing the infrastructure may be included in a CRI budget. For Collaborative Institutional Infrastructure projects, travel necessary for collaborative partner coordination may be requested. Community infrastructure projects may also request travel to engage communities or to conduct community workshops.

**19. Do I need to include funds to attend a CRI PI meeting in my budget?**

Community infrastructure projects need to include funds to attend a CRI Community Infrastructure PI meeting in Washington, DC, during each year of the award. Institutional Infrastructure budgets should not include funds for travel to PI meetings.

**20. We will need to renovate a facility to house the CRI infrastructure. Can we include building/renovation costs in the CRI budget?**

No, CRI does not support building or renovation of structures or purchasing of office furniture needed for CRI infrastructure.

## **INSTITUTIONAL PROPOSALS**

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**21. How can I determine whether my project is an Institutional or Community Infrastructure project?**

Institutional infrastructure includes infrastructure and resources that will be used solely by the proposing institution or institutions in the case of a collaborative proposal. Community Infrastructures are developed for a diverse community of researchers across the country. Sometimes these lines can blur, but the factor that best determines which track (Institutional or Community) you should pursue is analysis of the researchers who will use the resource and how that group is to expand and be involved with the ongoing development and management of the infrastructure in the future.

**22. Will CRI support an Institutional proposal that funds infrastructure solely for my research and my use?**

Typically CRI funds Institutional Infrastructure to support a focused group of faculty researchers rather than a single researcher.

**23. Can we request upgraded computational resources to faculty across our campus or state, including those in the computer and information sciences, as a CRI Institutional project?**

CRI supports infrastructure enabling a focused research agenda; it does not support resources that will be used to support research, including research involving computational science, broadly across a campus. Likewise, the research agenda must be focused within the domain of the computer and information sciences rather than a variety of topics from faculty across the computer and information sciences department(s). Please refer to the CRI solicitation for links to other infrastructure programs that might support basic institutional infrastructure.

## **PLANNING PROPOSALS**

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**24. I am not sure whether I should submit a Community Infrastructure New (CI-New) or Community Infrastructure Planning (CI-P) proposal. Is there a way to figure out which one is best for our purposes?**

Typically successful CI-New proposals build on prior community groundwork, testing and development of possible prototypes, and clear definitions of the type of resource being developed. Successful CI-New proposals demonstrate community need for the infrastructure and community commitments to use and develop the infrastructure.

It is best to assess where you are in the development process. If you are still exploring ideas and have not had time to get community feedback and develop community support, then a planning award might be the best option. If, however, you are further along in the process and can provide a compelling case for new Community Infrastructure, then a CI-New proposal may be the best option. This is a matter to discuss with other community collaborators as you start preparing a CRI project proposal.

**25. Can travel be included in planning proposals?**

CI-P proposals may include travel for community engagement purposes.

**26. How competitive is the competition for CI-P awards?**

Just as with the other CRI project types, only a small number of CI-P proposals are funded. The CI-P proposals are reviewed by CRI panels that look for resources that will best impact the CISE research communities and expand CISE research frontiers. CI-P projects must demonstrate a significant vision that will be developed through a sound planning process resulting in a full CRI Community Infrastructure proposal.

**27. What results are expected from a CI-P proposal?**

CI-P proposals should result in full CRI Community Infrastructure proposals that demonstrate evidence of the decisions and outcomes of the planning process. This would include ways in which community input influenced the design of the infrastructure, plans for community involvement in the future development and use of the infrastructure, results of tests of prototypes, and general community support for the proposed infrastructure.

**28. Part of my planning activity involves developing and testing a prototype resource with community feedback. Can funding for prototype development be included in planning proposals?**

A CI-P proposal could include funds for prototype development and testing. The planning proposal needs to strike a balance between development activities and community activities. Most successful CI-P proposals dedicate a sizable portion of the requested funds for community engagement in addition to internal resource development activities.

**29. Do I need to document community support for, and involvement in, our CI-P project?**

Yes, community support and involvement is a key element of all successful CI-P projects.

**COMMUNITY RESOURCES/PROJECTS**

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**30. I would like to develop a community testbed to support research in a focused area. Are testbeds allowed in CRI proposals?**

Yes, testbeds are allowed and encouraged in CRI proposals. You should clearly justify the need for the testbed and show why the research that the testbed will support cannot be done with other existing resources.

**31. Can funds for outreach to communities, including travel, be included in CRI Community Infrastructure proposals?**

Yes, CRI Community Infrastructure proposals can include funds for community engagement and outreach.

**32. Do I need to include sample research projects in Community Infrastructure proposals?**

Some sample research projects that clearly demonstrate the focus of the research that is enabled are usually part of a Community Infrastructure proposal.

**ENHANCEMENT PROJECTS**

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**33. My project involves an enhancement to existing infrastructure that was not funded by CRI. Is this an Institutional or Community Infrastructure New (II-/CI-New) or Institutional or Community Infrastructure Enhancement (II-/CI-EN) project?**

Enhancements to existing infrastructure, regardless of the source of the initial funding, should be submitted as II-/CI-EN projects.

**34. We are enhancing our outdated infrastructure by completely replacing it. Is this an II-/CI-New or II-/CI-EN project?**

If the infrastructure requested is totally new, then it is an II-/CI-New project.

**35. I want to include all the letters of support I have from the community for the enhancement. The solicitation says that letters of support cannot be submitted. What can I do?**

The solicitation provides specific details about documents that should be included as part of the Supplementary Documents for a proposal. While you must include letters from organizations that document collaborative arrangements, letters of support cannot be included.

Some PIs construct PDF files of letters of support and include links to these files in their project descriptions. It is up to the reviewers to decide whether to view the information at these links.

## **GENERAL**

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**36. How do I find out what has been funded by the CRI program in the past?**

Visit the CRI program webpage ([https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=12810](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12810)).

Look at the links at the bottom and click on "What has Been Funded (Recent Awards Made Through this Program with Abstracts)".

Alternately, you can go to the NSF website (<https://www.nsf.gov>). Click on the Awards tab at the top of the page, and then use the search box that appears and type in **CRI** as the search criterion to see a list of awards made through the CRI program.

**37. Does NSF have other infrastructure programs that might be more appropriate for my project?**

NSF has a number of infrastructure programs. CRI is a fairly specific program funded by the Computer and Information Science and Engineering (CISE) Directorate to support its researchers. See Section II of the CRI solicitation for a list of other infrastructure programs that you may consider.

**38. My competitive CRI proposal was declined. Can I get a small grant to get started while I wait to re-submit next year?**

Unfortunately we are not able to fund such requests.

**39. How broad can the research focus be? For instance is "computer science" or "computational science" appropriate?**

Broad areas such as "computer science," "computational science," and "Big Data" typically do not represent focused research agendas but rather aspects that might apply to a large range of research problems and researchers. The research focus needs to be clearly within the CISE sub-disciplines and concentrated on a specific group or category of research problems.

**40. Can CRI infrastructure be used by non-CISE researchers?**

Yes, CRI infrastructure can be used by non-CISE researchers. CISE researchers must be the primary users, and CISE researchers must be involved in the leadership of the CRI project and the resulting research that is enabled.

**41. I am the director of the campus computer center. Can I submit a CRI proposal to purchase a new cluster or upgrade campus resources to provide more computational power to the research faculty at my university?**

This project is not appropriate for CRI. Please see Section II of the CRI solicitation for a list of other infrastructure programs that may be better suited institution-wide resources.

**42. I am a faculty member in astrophysics and I would like to write a CRI proposal for infrastructure to support the computational aspects of my group's research. Is that a suitable topic for a CRI proposal?**

No, CRI projects need to focus on CISE researchers and their research activities. While projects in astrophysics often use computational science and significant computational resources, the focus of the research is usually to advance the field of astrophysics rather than to advance the field of computational science or CISE disciplines.

**43. My institution is a primarily undergraduate institution. Can I submit a CRI proposal to upgrade our computer science department's labs and resources to provide better educational opportunities to our students?**

Proposals whose primary focus is education and outreach are not responsive to the CRI program. CRI projects must first have a strong research basis. CRI projects are also encouraged to have strong educational and broader impacts related to the research agendas that underlie the corresponding CRI proposals.

## **FAQ FOR FUNDING CRI PROJECTS**

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**44. Can I get a Research Experiences for Undergraduates (REU) supplement to my funded CRI project?**

A REU supplement could be possible. Note that the CRI program funds establishing the infrastructure and not the resulting research. REU supplement requests for CRI awards need to include a research vision related to the work of the funded CRI award, namely establishing

the infrastructure. Generally, it is very difficult to develop an appropriate REU project that truly is in the spirit of the CRI award and that involves actual research. Since supplemental funding requests are handled by the cognizant program officer overseeing an award, check with your program officer about availability of REU supplemental funding as well as the suitability of REU for your CRI award before submitting such a request.

CISE typically posts an announcement on its website (<https://www.nsf.gov/dir/index.jsp?org=CISE>) or sends out a Dear Colleague letter (DCL) noting the availability of REU supplement funds just after the beginning of each fiscal year. This announcement has information about submitting a REU supplement request as well as a priority date for submission. Look for this announcement.

**45. Since CRI does not fund the actual research, should I include research results in my annual reports?**

Yes, research results and publications document the impact of an award.

**46. I am moving to another university. Can I take my CRI project and resources with me?**

In general, NSF makes awards to organizations and not to individuals, so you should talk to your university administrators and sponsored research office. In the case of CRI awards, since infrastructure is involved, there may be issues about the feasibility of moving the resources. In particular, since Institutional Infrastructure normally supports multiple faculty members within a university, moving the project might not be quite in the spirit of the original award. Community Infrastructure is often more easily moved but still has major challenges that must be addressed. You should also talk with your cognizant program officer.