



National Science Foundation
4201 Wilson Boulevard
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Frequently Asked Questions (FAQ) regarding: “Information and Intelligent Systems: Advancing Human-Centered Computing, Information Integration and Informatics, and Robust Intelligence” ([NSF 06-572](#))

The Division of Information and Intelligent System (IIS) in the Directorate for Computer and Information Science and Engineering (CISE) of the National Science Foundation recently released a new solicitation: “Information and Intelligent Systems: Advancing Human-Centered Computing, Information Integration and Informatics, and Robust Intelligence” (NSF 06-572)

(http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf06572.) Questions about this solicitation are answered below.

UPDATES AND REVISION FAQs

Q: What happened to the solicitations for “Advancing Collaborative and Intelligent Systems and their Societal Implications” ([NSF 05-551](#)) and “Science and Engineering Information Integration and Informatics” ([NSF 04-528](#))?

A. These solicitations have been archived; however, the topics are still supported by IIS and are all included within the new solicitation [NSF 06-572](#).

In 2006, proposal deadlines are on the following dates:

- October 19, 2006 for Large Projects;
- November 2, 2006 for Medium Projects; and
- December 6, 2006 for Small Projects.

In subsequent years, we anticipate similar deadlines.

(For additional information on project size classes, please refer to the Financial/Budget FAQs Section, which appears later in this document.)

Q. What is the difference between the new “Information and Intelligent Systems” solicitation and the prior solicitations?

A. The structure of this solicitation reflects the new IIS organizational structure. The two solicitations that are being replaced by this solicitation were interim steps in the reorganization (i.e., [NSF 05-551](#) - Information and Intelligent Systems and NSF 04-528 - Science and Engineering Informatics and Information Integration). This current solicitation better clarifies and defines the clusters, and more closely maps to the new IIS Division. In this solicitation, the Division intends to fund **three core technical areas**:

- Human-Centered Computing (HCC);
- Information Integration and Informatics (III); and
- Robust Intelligence (RI).

In addition to the three core technical areas, IIS will support research in two cross-cutting technical areas:

- Human-Robot (and/or Agents) Interaction (HRI); and
- Information Privacy and Security (IPS).

IIS also intends to fund **curriculum development** (IISCD) activities that have the potential to greatly improve higher education in IIS core and cross-cutting areas. Projects should result in new knowledge and prepare future generations of professionals in IIS areas of research and education.

Q. What's the difference between Human-Centered Computing, Information Integration and Informatics, and Robust Intelligence?

A. The Project Description in the new solicitation describes each technical area in detail. Below is a synopsis of each:

1. Human-Centered Computing (HCC) encompasses a rich panoply of diverse themes in Computer Science and IT, all of which are united by the common thread that human beings, whether as individuals, teams, organizations or societies, assume participatory and integral roles throughout all stages of IT development and use.
2. Information Integration and Informatics (III) adopts the view that digital content has various stages of refinement and maturity, which can meet diverse sets of needs and serve many purposes. In this view, the hierarchy of refinement and structure proceeds from data to information to knowledge to understanding and, finally, to decision or action as well as to new applications supported by appropriate and necessary digital technologies.
3. Robust Intelligence (RI) encompasses computational understanding and modeling of the many human and animal capabilities that demonstrate intelligence and adaptability in unstructured and uncertain environments.

IIS Program Officers will group the proposals that are most similar into panels where they can be reviewed together by a group of experts. Some panels may span across the HCC, III, or RI areas. If your research topic covers more than one area and you are not sure which area to submit to, contact an IIS Program Officer for assistance. (See the Contacts Section below.)

ELIGIBILITY REQUIREMENT FAQs

Q. What restrictions are placed on proposals submitted to [NSF 06-572](#)?

A. The following restrictions apply to [NSF 06-572](#):

- **Organizational Limit:** Proposals may only be submitted by the following: 1) Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the US associated with educational or research activities; and 2) Universities and colleges: US universities and two- and four-year colleges (including community colleges).
- **Limit on Number of Proposals per PI:** In response to this solicitation, an investigator may participate as PI, Co-PI, Senior Personnel or Paid Consultant in no more than TWO (2) proposals.
- There is no limit on the number of proposals an organization may submit.

Note that this limit on the number of proposals per PI only applies to submissions to this solicitation. If you currently have funding through other NSF, CISE or IIS programs, or have proposals pending in other CISE or IIS competitions this year, you may still submit two proposals to [NSF 06-572](#).

Q. Are government labs, for-profit or international organizations allowed to submit IIS proposals?

A. No, only US two- and four-year universities and colleges and non-profit, non-academic organizations such as museums, observatories and non-governmental labs are eligible to apply. In some cases, for-profit firms and international organizations can participate in sub-awards. Please talk to a cognizant program officer before submitting such a proposal.

FASTLANE FAQs

Q. While making my proposal routing selections in FastLane, I am asked to select an NSF Unit. What NSF Units are applicable to [NSF 06- 572](#)?

A. The primary unit for a proposal submitted to [NSF 06-572](#) MUST be one of the three core technical areas, one of the cross-cutting technical areas, or Curriculum Development.



- **Core Technical Areas:**
 - Human-Centered Computing (HCC);
 - Information Integration and Informatics (III-COR or III-CXT); and
 - Robust Intelligence (RI).
- **Cross-Cutting Technical Areas:**
 - Human-Robot (and/or Agents) Interaction (HRI); and
 - Information Privacy and Security (IPS).

- CISE Education Research and Curriculum Development (IISCD)

Q. Do I have to make secondary routing choices?

A. Only proposers who incorporate curriculum development activities into their research activities must select "CISE Education Research and Curriculum Development" as the secondary unit for consideration.

In all other cases, a PI may select any other NSF unit as an additional unit. For example, suppose you want to propose a research project that studies information integration in the domain of astronomy and also carry out some curriculum development activities related to that research. Then, in FastLane, you would select:

-  Program Announcement / Solicitation / Program Description No., or In response to Grant Proposal Guide (GPG)
[NSF 06-572 - Information and Intelligent Systems.](#)
-  NSF Unit Consideration Current List of selected NSF UNITS:
 1. IIS - Information Integration and Informatics
 2. IIS - CISE Education Research and Curriculum Development
 3. AST - Astronomy and Astrophysics Research Grants

GRANTS.GOV FAQs

Q. Who needs to register in Grants.gov?

A. Before using Grants.gov for the first time, each organization must register and create an institutional profile at the Grants.gov site. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov apply website. Only the Authorized Organizational Representative (AOR) should register and submit the application package.

Registration only needs to be done once and then organizations can submit applications for funding opportunities through Grants.gov to any of the 26 grant-making agencies. The exact registration steps are available at: <http://www.grants.gov/GetStarted>.

PIs and staff at the Sponsored Research Office do not need to register in order to find an opportunity and download the application package.

Q. How long does it take to register a new organization in Grants.gov?

A. If your organization has not previously registered in Grants.gov, it can take up to two weeks for registration to be completed. Please register early to avoid any problems with submission of your proposal before the deadline. For more information see the registration checklist at: <http://www.grants.gov/assets/EbizRegCheck.pdf>.

Q. How do I find the IIS solicitation in Grants.gov?

A. Use the “Search for Grant Opportunities” (under Find Grant Opportunities) function. Enter any of the following criteria (in *italics* below):

Keyword Search: *Information and Intelligent Systems: Advancing Human-Centered Computing, Information Integration and Informatics, and Robust Intelligence (IIS)*;
Funding opportunity number: *06-572* (Do not put NSF at the beginning of this number.);
or
CFDA number: *47.070*.

The screenshot shows a Microsoft Internet Explorer browser window displaying the Grants.gov website. The address bar shows the URL <http://www.grants.gov/search/basic.do>. The website header includes the Grants.gov logo and navigation links: Grants, Applicants, EBiz, About Us, Resources, P.L. 106-107, Privacy, FAQs, Tech Library, Site Map, and HELP. A secondary navigation bar contains buttons for Get Started, Find Grant Opportunities, Apply For Grants, and Customer Support. The main content area is titled "Search Grant Opportunities" and includes tabs for Basic Search, Browse by Category, Browse by Agency, and Advanced Search. Below these tabs, instructions state: "To perform a **basic search** for a grant, complete the 'Keyword Search', the 'Search by Funding Opportunity Number', **OR** the 'Search by CFDA Number' field, and then click the 'Search' button below." There are three search input fields: "Keyword Search:", "Search by Funding Opportunity Number:", and "Search by CFDA Number:". Below these fields are "Search" and "Clear Form" buttons. A "Search Tips" link is located in the upper right corner of the search area. The left sidebar contains links for "FIND" (Search Grant Opportunities, Grant Opportunity Subscription Services), "QUICK LINKS" (Access the most requested information and features), "RESOURCES" (Posted Grant Opportunities within last 7 days, Available Grant Application Packages, Types of Grants, Grant Making Agencies, Additional Grant Resources, Download Active Grants in XML Format), and logos for Adobe Reader and Word Viewer. The Windows taskbar at the bottom shows the Start button, several open applications (NSF WinStation II, Inbox - Microsoft Out..., Document1 - Microsof..., Grants.gov - Find Gra...), and the system clock showing 12:41 PM on 12/14/2006.

Q. Why am I unable to view the Grants.gov application instructions and application package?

A. You must first download and install the PureEdge Viewer from the Grants.gov website at <http://www.grants.gov/DownloadViewer>.

Q. I am a Macintosh user and I am unable to view the Grants.gov application instructions and application package?

A. Please follow the instructions below:

(a) Read the special instructions for Macintosh users at:

http://www.grants.gov/GrantsGov_UST_Grantee/SSL/WebHelp/MacSupportforPureEdge.pdf.

(b) Use the Citrix package for Macs set up by Univ of Wisconsin:

<http://apple.doit.wisc.edu/grants.gov/>.

(c) If nothing else works, borrow someone's Windows machine.

Q. NSF requires that applicants submit attachments to applications through Grants.gov in Portable Document Format (PDF). How can I create these PDF files:

A. Please convert the file using one of the following methods:

1. Non-Adobe Acrobat Users can use the utility, "Convert Files to PDF" in FastLane available under Quick Links through Proposal Preparation or Research Administration. Refer to Section 3.2.1, Creating PDF Files in NSF's Grants.gov Application Guide for details.
2. Adobe Acrobat Users should refer to:
https://www.fastlane.nsf.gov/documents/pdf_create/pdfcreate_05.jsp?page=0
and
https://www.fastlane.nsf.gov/documents/pdf_create/pdfcreate_07.jsp?page=0 for details.

Q. I am submitting a collaborative project. How do I do that via Grants.gov?

A. Grants.gov will accept collaborative proposals submitted by a single lead organization that makes subawards. Collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system (<https://www.fastlane.nsf.gov/fastlane.jsp>). Chapter II, Section D.3 of the NSF Grant Proposal Guide provides additional information on collaborative proposals.

Q. What codes do I enter into the NSF Grant Application Cover Page?

A. For all proposals (whether HCC, III, RI, HRI, IPS or IISCD), please enter:

Funding Opportunity Number: 06-572

Division Code: 05020000

Division Name: Information and Intelligent Systems

AND

Then enter the appropriate code for the technical area you are submitting to:

<u>Technical</u>	<u>Program</u>	<u>Program Name</u>
<u>Area</u>	<u>Code</u>	
HCC	7367	Human-Centered Computing
III	7364	Info Integration & Informatics
RI	7495	Robust Intelligence
HRI	7632	Human-Robot Interaction
IPS	7486	Information Privacy & Security
IISCD	1709	CISE Educat Res & Curric Devel

Q. How do I answer box 17 of the SF 424?

A. Check off 17. b. "No - Program is not covered by E.O. 12372."

Q. I want to submit to more than one program/NSF unit for consideration (or request co-review). How do I do that in Grants.gov?

A. Please include the request for submission to, or co-review by, additional programs in the Single Copy Documents Section of the NSF Grant Application Cover Page.

Q. How much time should I allow myself if I'm submitting to Grants.gov?

A. You should allow yourself plenty of extra time if you are planning on submitting your proposal via Grants.gov. Registration for new organizations can take up to two weeks. In addition, it takes approximately two days to receive confirmation that Grants.gov received your proposal. To ensure your proposal is submitted before the deadline(s) for [NSF 06-572](#), you should submit it at least two to three days prior to the posted deadline.

Q. Where can I get more information on Grants.gov?

A. For more information on Grants.gov, please visit:

Grants.gov website:

<http://www.grants.gov>

NSF FY 2006 Grants.gov Implementation Strategy:

<http://www.nsf.gov/bfa/dias/policy/docs/grantsgovadvisory06.pdf>

FAQs for Proposals submitted through Grants.gov:

<https://www.fastlane.nsf.gov/fastlane.jsp;jsessionid=0e301438741147438774024?t=0&idx=0>

COLLABORATION FAQs

Q. If multiple organizations are cooperating in the proposed project, what are the mechanisms for submitting a proposal?

A. NSF has two mechanisms for submission of proposals from multiple organizations: 1) as a single proposal, in which a single award is being requested (with subawards administered by the lead organization); or 2) by simultaneous submission of proposals from different organizations, with each organization requesting a separate award. In either case, the lead organization's proposal must contain all of the requisite sections as a single package to be provided to reviewers (that will happen automatically when the procedures outlined in the GPG are followed.) All collaborative proposals must clearly describe the roles to be played by the other organizations, specify the managerial arrangements, and explain the advantages of the multi-organizational effort within the project description. If you submit a collaborative proposal, the title should begin with the acronym that indicates the core or cross cutting technical area, followed by a colon, then "Collaborative Research," followed by a colon, and the title. For example, HCC: Collaborative Research: Title. All organizations involved in the collaborative project should include exactly the same title for each proposal.

These collaborative proposals are described more fully in the Grant Proposal Guide (GPG) <http://www.nsf.gov/pubsys/ods/getpub.cfm?gpg>. The GPG also includes instructions for submission of these types of proposals.

Q. One of the organizations involved in our project is in an EPSCoR state. How do we get EPSCoR certification?

A. The NSF EPSCoR Office no longer requires certification by the relevant jurisdiction EPSCoR Office as part of the co-funding process. Therefore, participants from EPSCoR-based organizations that are involved in the proposed cooperative project may submit a collaborative proposal according to the corresponding submission instructions provided in the NSF Grant Proposal Guide (<http://nsf.gov/pubsys/ods/getpub.cfm?gpg>).

Q. How do I determine what size class my collaborative project belongs to?

A. The individual proposal budgets in a collaborative project should be added together to determine the size class.

FINANCIAL/BUDGET FAQs

Q. How will the IIS funds be divided across the different size classes of the solicitation?

A. To ensure that proposals with roughly comparable scope and objectives are reviewed together, IIS proposals are divided into three classes by budget size.

- Small Projects (up to \$450,000 total budget) up to 45% of available funds;
 - Medium Projects (\$450,001 to \$900,000 total budget) up to 45% of available funds;
- and
- Large Projects (\$900,001 to \$1,800,000 total budget) up to 10% of available funds.

Projects with budgets over \$1,800,000 will be returned without review. It is highly recommended that anyone submitting a Large Project speak with an IIS Program Officer before its submission to ensure that it is appropriate for this solicitation.

It is anticipated that up to 150 awards will be funded, with up to 100 awards in the Small class, up to 50 awards in the Medium class, and up to three awards in the Large class.

Anticipated funding is \$50,000,000 in FY 2007, pending availability of funds (\$45,000,000 for the core technical areas: HCC, III, and RI, and \$5,000,000 for the cross-cutting technical areas and Curriculum Development: HRI, IPS and IISCD).

PROPOSAL PREPARATION FAQs

Q. What needs to be included in the Project Summary?

A.

- The Grant Proposal Guide (GPG) (available at http://www.nsf.gov/publications/pub_summ.jsp?od_key=gpg) specifies that the Project Summary must clearly address in separate statements within the one page limit, both the broader impacts and the intellectual merit. Proposals that do not address both the merit review criteria in separate statements in the project summary will be returned without review.
- The Project Summary also must contain four key words, listed at the end. These key words should describe the main scientific areas explored in the proposal. Key words should be prefaced with "Key Words" followed by a colon and each key word separated by semi-colons. For example: **Key Words: data mining; artificial intelligence; social implications of IT; information privacy.**
- Proposals that incorporate curriculum development activities within a research project should briefly summarize the curriculum development activities in the Project Summary (and elaborate on them in the project description).

Q. As part of the Project Description, does a Coordination Plan have to be included in the 15 page limit?

A. Medium and Large projects must include a Coordination Plan. Up to three additional pages are permitted in the Project Description for this purpose only, allowing a maximum of 18 pages. Small projects do not require a coordination plan. Thus, the

maximum number of pages allowed in the Project Description of a small project is 15 pages.

Q. Do citations and references count against the project description page limit?

A. No. They should be included in the References Cited section of the proposal.

Q. Can I request an extension of time to submit a proposal?

A. No.

Q. What if there is an earthquake, fire or other disaster?

A. Please contact us immediately at iisgeneral@nsf.gov . We will make determinations on a case-by-case basis.

Q. Should proposals from non-profit research organizations address the broader impacts criterion and the integration of research and education?

A. Yes. Every proposal regardless of submitting organization will be evaluated on both NSF merit review criteria - the intellectual merit and the broader impacts of the proposed effort. Proposals that do not explicitly address both criteria will be returned without review. Integrating research and education should be addressed as well. Non-profit research organizations should take special care to explain how their proposals will provide these benefits.

Q. How is Curriculum Development included in proposals?

A. IIS Curriculum Development activities might be included in proposals in either of two ways. First, a proposal can focus exclusively on Curriculum Development in any area of IIS research and education or, second, the activities might be incorporated into a research proposal.

CONTACTS

Q. Whom should I contact if I have questions about [NSF 06-572](#)?

A. Here are the contacts for general inquiries about the type of research supported by [NSF 06-572](#), questions concerning FastLane, questions about Grants.gov, and administrative questions.

General inquiries regarding CISE Information and Intelligent Systems (IIS) should be made to: iisgeneral@nsf.gov or (703) 292-8930.

General inquiries regarding Human-Centered Computing (HCC) should be made to iishcc@nsf.gov or to a program director listed below:

- William Bainbridge, Program Director, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: wbainbri@nsf.gov
- Ephraim Glinert, Program Director, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: eglinert@nsf.gov

General inquiries regarding Information Integration and Informatics (III) should be made to iisiii@nsf.gov or to a program director listed below:

- Lawrence Brandt, Program Director, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: lbrandt@nsf.gov
- Stephen Griffin, Program Director, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: sgriffin@nsf.gov
- Le Gruenwald, Program Director, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: lgruenwa@nsf.gov
- Sylvia Spengler, Program Director, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: sspengle@nsf.gov
- Maria Zemankova, Program Director, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: mzemanko@nsf.gov

General inquiries regarding Robust Intelligence (RI) should be made to iisri@nsf.gov or to a program director listed below:

- Daniel DeMenthon, Program Director, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: ddementh@nsf.gov
- Tatiana (Tanya) Korelsky, Program Director, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: tkorelsk@nsf.gov
- C.S. George Lee, Program Director, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: csglee@nsf.gov
- Edwina Rissland, Program Director, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: erisslan@nsf.gov
- Kenneth Whang, Program Director, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: kwhang@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov.

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: support@grants.gov.

For Administrative Questions Regarding this Solicitation Contact:

Human-Centered Computing (HCC)

- Jacqueline S. Moore, Junior Project Specialist, Directorate for Computer & Information Science & Engineering, Division of Information and Intelligent Systems, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: jsmoore@nsf.gov

Information Integration and Informatics (III)

- Chantini Reid, Junior Project Specialist, Directorate for Computer & Information Science & Engineering, Division of Information and Intelligent Systems, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: creid@nsf.gov

Robust Intelligence (RI)

- Velma Swales, Junior Project Specialist, Directorate for Computer & Information Science & Engineering, Division of Information and Intelligent Systems, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: vswales@nsf.gov

OTHER SOLICITATIONS

Q. What other solicitations have been issued by the IIS division?

A. IIS is one of the primary organizations identified in the following solicitations:

- Advanced Learning Technologies, NSF 06-535
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf06535
- Collaborative Research in Computational Neuroscience (CRCNS), NSF 04-514
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf04514

- A variety of other solicitations involving IIS or CISE in collaboration with other NSF divisions and directorates can be found under Funding Opportunities (see http://www.nsf.gov/funding/pgm_list.jsp?org=cise&ord=date)

Research topics funded by one solicitation are typically not funded by other solicitations.