



**National Science Foundation**  
4201 Wilson Boulevard  
Arlington, Virginia 22230

**Frequently Asked Questions (FAQ) regarding: "Information and Intelligent Systems: Advancing Collaborative and Intelligent Systems and their Societal Implications" ([NSF 05-551](#)).**

The Division of Information and Intelligent Systems (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 Collaborative and Intelligent Systems and their Societal Implications," [NSF 05-551](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13503&org=IIS) ([http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=13503&org=IIS](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13503&org=IIS)). A few questions about this solicitation are answered below.

**Q: What happened to the solicitations for Artificial Intelligence & Cognitive Science, Computer Vision, Digital Government, Digital Libraries, Digital Society and Technologies, Human-Computer Interaction, Human Language and Communication, Information and Data Management, Universal Access, and Robotics?**

**A:** These topics are still supported by IIS and are all included within the new solicitation [NSF 05-551](#). In 2005, the deadlines are in the first week of May on the following dates:

- May 3, 2005 for Collaborative Systems, and Universal Access; and
- May 5, 2005 for Robust Intelligence, Digital Government, and Digital Libraries and Archives.

In subsequent years, the deadlines will be in the third week of April. Please see the solicitation for specific details.

**Q: What restrictions are placed on proposals submitted to [NSF 05-551](#)?**

**A:** The following restrictions apply to [NSF 05-551](#):

- **Organization Limit:** Proposals will only be accepted from 1) US colleges, universities, and organizations of higher education; 2) US independent nonprofit research organizations; and 3) US independent research museums.
- **Limit on Number of Proposals:** In response to this solicitation, an investigator may participate as PI, Co-PI or senior personnel in no more than TWO proposals annually. There is no limit on the number of proposals an organization may submit.

Note that if you currently have funding through other NSF, CISE, or IIS programs, or have proposals pending to other NSF, CISE, or IIS competitions this year, an investigator may still submit two proposals to [NSF 05-551](#).

**Q: While making my proposal routing selections in FastLane, I am asked to select an NSF Unit. What NSF units are applicable to [NSF 05-551](#)?**

The primary unit for a proposal submitted to [NSF 05-551](#) **MUST** be one of the core research or application areas.

## **Core Research Areas**

- **Collaborative Systems:** research fundamental to designing, extending, or evaluating the use or consequences of systems that facilitate collaboration between individuals and other people or machines. Collaborative Systems subsume topics from the prior IIS program areas of Digital Society and Technologies, Human Computer Interaction, and Information and Data Management.
- **Robust Intelligence:** research fundamental to the development of computer systems capable of performing intelligent tasks robustly and flexibly. Robust Intelligence subsumes topics from the prior IIS program areas of Artificial Intelligence and Cognitive Science, Computer Vision, Human Language and Communication, and Robotics.

## **Application Areas**

- **Digital Government:** research outcomes will improve access to: information and services provided by government; and, the workings of government. Research challenges are most often effectively addressed through interactions between the computing research community, the social, political, and behavioral science research community, and government agencies.
- **Digital Libraries and Archives:** research outcomes will lead to advances in both technical and policy issues concerned with the design and use of curated digital libraries and archives.
- **Universal Access:** research will lead to advances in computer systems technology so that all people can interact effectively with and leverage the full power of computing.

All proposals focused on making contributions to the application areas -- Digital Government, Digital Libraries and Archives, or Universal Access -- **MUST** select either Collaborative Systems or Robust Intelligence as a secondary area.

### **Q: Do I have to make secondary routing choices?**

**A:** If Collaborative Systems or Robust Intelligence is the primary area selected, you are not required to select a secondary area. Proposals selecting Universal Access, Digital Government, or Digital Libraries and Archives as a primary area must select either Collaborative Systems or Robust Intelligence as a secondary area.

In special cases, a proposal may select any other NSF unit as an additional unit. An example is shown below of the selections one might make to propose research that studies how astronomers can effectively collaborate via a digital library.



Program Announcement / Solicitation / Program Description No.,  
or In response to Grant Proposal Guide (GPG)

- [\*\*NSF 05-551 - Information and Intelligent Systems.\*\*](#)



NSF Unit Consideration  
Current List of selected NSF UNITS:

1. **IIS - DIGITAL LIBRARIES AND ARCHIVES**
2. **IIS - COLLABORATIVE SYSTEMS**
3. **AST - STELLAR ASTRONOMY & ASTROPHYSICS**

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

**A:** While the same research areas are covered, the new solicitation has an emphasis on basic research results that will have an impact outside the immediate research community. In the Robust Intelligence area, an example might include advances in automated reasoning that will impact computer vision or speech recognition.

The application research areas, Digital Government, Digital Libraries and Archives and Universal Access are encouraging innovations within particular domains of interest to the IIS Division, not simply the application of existing knowledge to them.

IIS is also encouraging proposals on policy and technical issues, including security and privacy, that relate to sharing information across boundaries.

The changes we initiated with this solicitation are intended to allow the division to operate within a broader funding structure with more interactions among research areas. Grouping many of the programs together will give us more flexibility to fund projects that do not fall entirely within one of the previous programs and to fund a small number of larger projects involving several principal investigators.

**Q: What’s the difference between Robust Intelligence and Collaborative Systems?**

**A:** The solicitation gives some general guidance on the relationship between the prior NSF Units and the ones currently in [NSF 05-551](#).

- **Collaborative Systems:** research fundamental to designing, extending, or evaluating the use or consequences of systems that facilitate collaboration between individuals and other people or machines. Collaborative Systems subsume topics from the prior IIS program areas of Digital Society and Technologies, Human Computer Interaction, and Information and Data Management.
- **Robust Intelligence:** research fundamental to the development of computer systems capable of performing intelligent tasks robustly and flexibly. Robust Intelligence subsumes topics from the prior IIS program areas of Artificial Intelligence and Cognitive Science, Computer Vision, Human Language and Communication, and Robotics.

The mapping between prior and new units is a guideline, not a strict rule. For example, work on autonomous robots would most likely fall under Robust Intelligence, while work on robot - human interfaces would most likely fall within Collaborative Systems. As always, IIS Program Officers sort proposals that are most similar into panels where they can be reviewed together by a panel of experts.

**Q: Whom should I contact if I have questions about [NSF 05-551](#)?**

**A:** Here are the contacts for administrative questions, questions concerning FastLane and questions about the types of research supported by [NSF 05-551](#):

1. Administrative questions concerning the submission of proposals should be directed to:  
Lisa R. Wilson (703) 292-8463 1125 S [lwilson@nsf.gov](mailto:lwilson@nsf.gov)

2. Questions concerning FastLane problems should be directed to:

FastLane Support Center: 1-800-673-6188 (7 AM to 9 PM Eastern Time • M-F)  
Email: [fastlane@nsf.gov](mailto:fastlane@nsf.gov)

3. Questions about the types of research supported by [NSF 05-551](#) should be directed to the program officer with expertise in the specific area of the proposal. The program officers and their general areas of expertise are below:

- William S. Bainbridge (703) 292-8930 [wbainbri@nsf.gov](mailto:wbainbri@nsf.gov) (Digital Libraries)
- Lawrence E. Brandt (703) 292-8930 [lbrandt@nsf.gov](mailto:lbrandt@nsf.gov) (Digital Government)
- Ephraim P. Glinert (703) 292-8930 [eglinert@nsf.gov](mailto:eglinert@nsf.gov) (Universal Access, HCI, Visualization)
- Stephen M. Griffin (703) 292-8930 [sgriffin@nsf.gov](mailto:sgriffin@nsf.gov) (Digital Libraries)
- Mary P. Harper (703) 292-8930 [mharper@nsf.gov](mailto:mharper@nsf.gov) (Human Language & Communication)
- C. Suzanne Iacono (703) 292-8930 [siacono@nsf.gov](mailto:siacono@nsf.gov) (Social Informatics)
- Edwina L. Rissland (703) 292-8930 [erisslan@nsf.gov](mailto:erisslan@nsf.gov) Director (Artificial Intelligence, Cognitive Science)
- Junku Yuh (703) 292-8930 [jyuh@nsf.gov](mailto:jyuh@nsf.gov) (Computer Vision, Robotics)
- Maria Zemankova (703) 292-8930 [mzemanko@nsf.gov](mailto:mzemanko@nsf.gov) (Data, Information and Knowledge Management)

**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 05-561](#)  
[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=12834&org=IIS](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12834&org=IIS)
- Collaborative Research in Computational Neuroscience, [NSF 04-514](#)  
[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5147&org=IIS](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5147&org=IIS)
- Science and Engineering Information Integration and Informatics [NSF 04-528](#)  
[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=9193&org=IIS](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=9193&org=IIS)

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](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. For example, proposals that make a contribution to bioinformatics should be sent to Science and Engineering Information Integration and Informatics ([NSF 04-528](#)) and not to Information and Intelligent Systems ([NSF 05-551](#)).

**Q. I am interested in educational applications of information technology. Should I apply to the [NSF 05-551](#) solicitation or to Advanced Learning Technologies, [NSF 05-561](#)?**

**A.** [NSF 05-551](#) does not have educational technology as an application area. The focus of the Advanced Learning Technologies program (ALT; <http://www.nsf.gov/alt>) is on integrative research built around well-defined learning and technology goals. Projects should advance research in both computer science and human learning. Large-scale studies, infrastructure, large-scale system development, or educational materials development will not be supported under this program. Educational foci for ALT projects must include an area of science, technology, engineering, or mathematics (STEM), or general cross-cutting skills directly relevant to STEM.

Proposers are strongly discouraged from submitting closely related proposals to the IIS solicitation and to ALT. If learning and educational goals are a primary motivation of a proposal, it should be submitted to ALT. The following contacts may answer questions about the ALT solicitation:

- Karen Kukich [kkukich@nsf.gov](mailto:kkukich@nsf.gov) (703) 292-8930
- Kenneth Whang [kwhang@nsf.gov](mailto:kwhang@nsf.gov) (703) 292-8930

**Q: How do I find previous awards made by the IIS division?**

**A:** NSF has a variety of search functions. One way, is to use

<http://www.nsf.gov/awardsearch/tab.do?dispatch=4> to search by “Element Code.”

The codes most related to the [NSF 05-551](#) solicitation are shown below. Note that these element codes are for prior awards and should not be used for new proposals.

1706 Digital Government  
6840 Robotics  
6845 Human Computer Interaction  
6846 Universal Access  
6850 Digital Society & Technologies  
6855 Information & Data Management  
6856 Artificial Intelligence & Cognitive Science  
6857 Digital Libraries And Archives  
7274 Human Language & Communication  
7339 Computer Vision