



National Institute of Justice

S O L I C I T A T I O N

Sarah V. Hart, Director

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Solicitation for General Forensic Research and Development for FY 2003

Notice: The Office of Justice Programs (OJP) requires you to submit your application for funding through OJP's online **Grants Management System (GMS)**. Access through the Internet to the GMS application system will expedite and streamline the receipt, review, and processing of requests for funding. Final applications will be accepted only through the online GMS applications system. To learn how to begin the online GMS application process, see "Section IV, How to Apply" in this solicitation. Call the toll-free GMS Hotline at 1-888-549-9901 for technical assistance. The GMS Hotline is available Monday through Friday, 7:00 a.m. to 9:00 p.m. eastern time.

APPLICATION DEADLINE:
February 27, 2003

U.S. Department of Justice
Office of Justice Programs
810 Seventh Street N.W.
Washington, DC 20531

John D. Ashcroft
Attorney General

Deborah J. Daniels
Assistant Attorney General

Sarah V. Hart
Director, National Institute of Justice

For grant and funding information, contact:
Department of Justice Response Center
800-421-6770

Office of Justice Programs
National Institute of Justice
World Wide Web Site:
<http://www.ojp.usdoj.gov/nij>

Solicitation for General Forensic Research and Development for FY 2003

I. Introduction

The National Institute of Justice (NIJ), the research, development, and evaluation agency of the U.S. Department of Justice's Office of Justice Programs, seeks to stimulate research and development of methods, techniques, and technologies that can enhance or increase the discriminatory power, applicability, and/or reliability of forensic analyses used in crime laboratories. Proposals that build or improve upon existing technologies, methods, or approaches as well as proposals based on new or novel technologies, methods, or approaches are encouraged to meet the goal of maximizing the value of forensic evidence to the criminal justice system.

This solicitation is directed toward **Forensic Science Research and Development** in the following areas:

- C Questioned Document Examinations.
- C All areas of Impression Evidence Examinations.
- C Crime Scene Response and Related Examinations.
- C Energetic Materials Examinations.
- C Postmortem Toxicology and Human Performance Testing.
- C Transfer (Trace) Evidence Evaluation.
- C Controlled Substance Examinations.
- C Digital Evidence Examinations.

Note: Forensic DNA proposals will not be accepted under this solicitation. NIJ publishes a separate, directed solicitation for proposals focusing on research and development in this area.

This solicitation includes a brief background on general forensics and NIJ's program, a general discussion on the areas of research required, substantive guidance for preparing your proposal, NIJ's selection criteria under this solicitation, NIJ's performance measures for this program, details on how to apply, and information about the awards that will be made under this program.

Applicants are encouraged to read carefully this year's solicitation as significant changes from previous years have been made.

II. Background

Forensic science is the application of established scientific techniques to the identification, collection and examination of evidence from crime scenes, the interpretation of laboratory findings, and the presentation of reported findings in judicial proceedings. Forensic evidence has played a crucial role in the investigation and resolution of thousands of violent crimes over the decades, and its value as an investigative tool is likely to increase in the coming years.

The fields encompassing the forensic sciences have greatly benefitted from the advances brought about by breakthroughs in broader areas of science and technology in recent years. As a result, it has become possible to characterize evidence from a crime scene with increased speed and accuracy while analyzing smaller sample sizes. However, the issues of high-throughput and customized case work analysis continue to be of concern to the forensic science community. Crime laboratories would greatly benefit from additional technical tools and innovations that can be appropriately validated, quality-controlled, quality-assured, and implemented for forensic use. Additional research and development must be performed to maximize the value of technology in examining crime scene samples that are often limited in quality and quantity and to effectively transfer new technologies to

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public crime labs that often operate under limited resources.

In February 1999, NIJ published *Forensic Sciences: Review of Status and Needs* (available at <http://www.ojp.usdoj.gov/nij/pubs-sum/173412.htm>). This publication details the consensus of a group of forensic practitioners, researchers, and administrators representing several State, local, and Federal forensic science organizations with the common goal of helping the forensic science professions. In the area of research and development, the elements recognized as pertinent at the time of this publication, and continue to be recognized today, include:

- Improvement of the resolution, sensitivity, and discriminatory capability of forensic techniques.
- Extension of current methodologies and technologies to new forensic applications.
- Identification of new analytes of forensic interest.
- Discrimination of potential sources of evidentiary materials.
- Elucidation of new characteristics and properties of materials having forensic importance.
- Reduction of the destructive steps included in the routine analysis of evidence.
- Enhancement of productivity, portability, and interoperability of forensic methods.

III. Areas of Research

Applicants are encouraged to view information about previous and ongoing NIJ-funded projects in the investigative and forensic sciences, which is available on the NIJ Web page at:

<http://www.ojp.usdoj.gov/nij/sciencetech/ifs.htm>.

This solicitation is directed towards forensic science research and development that falls into one of the following disciplines:

- C Questioned Document Examinations.
- C Impression Evidence Examinations.
- C Crime Scene Response and Related Examinations.
- C Energetic Materials (Explosives and Fire Debris Examinations)
- C Postmortem Toxicology and Human Performance Testing
- C Transfer (Trace) Evidence Evaluation
- C Controlled Substance Examinations
- C Digital Evidence Examination
- C Other disciplines that focus on the examination of physical evidence (excluding DNA)

Note: NIJ will consider only those proposals containing a research and/or development component. Applications proposing to evaluate, validate, or implement existing forensic technologies will not be considered, nor will other applications that do not meet the general goals of this solicitation.

IV. Substantive Guidance

Each of the forensic disciplines has specific aspects and concerns, including sensitivity, efficiency, precision, portability, and effectiveness. Applicants should have an appreciation of, and general familiarity with, the current methods employed in the relevant forensic discipline and should design proposals that clearly demonstrate the potential of the proposed research for advancing the use of forensic evidence. Consider not only building upon existing technologies, but also developing new and innovative solutions that may be beneficial in the future. Applicants are encouraged to include preliminary data, if available, as well as appropriate scientific and legal citations that

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will help demonstrate the contribution of the proposed project to the forensic science community. A list of objectives, approximate time line, expected deliverable(s), and commercialization plan (if appropriate) should also be included.

Applicants should also consider costs of the resulting technologies or tools. Public crime laboratories typically suffer from demand that is far greater than the available means. Cost factors can impede the timeliness in accepting new technologies. The technology therefore must be affordable as well as reliable and effective.

NIJ strongly encourages researchers to seek guidance from, or partner with, appropriate State or local crime laboratories. Such associations foster a greater understanding of the forensic needs and applications on the part of the applicant and may strengthen the scope of the proposed research plan. Cooperative agreements between U.S.-based organizations and international organizations are also encouraged. However, NIJ is unable to fund foreign companies directly.

This solicitation is open to a wide variety of proposals in order to achieve a balanced portfolio of product development. NIJ will consider proposals that focus on near-term tools and innovations that can be completed in a 1- to 3-year framework. NIJ also will consider longer term projects that may require multiple stages (and subsequent phases of funding) to develop a transferable product ready for crime laboratories. Feasibility and “demonstration of concept” projects will be considered where appropriate for such multiple stage projects, with the intention of developing future “demonstration of application” projects upon successful completion.

The following questions can be used as guidelines to ensure that proposals are framed appropriately to benefit forensic applications. As guidelines, the questions do not need to be explicitly addressed but can be used as implicit themes to be considered by the applicant.

- C What areas of forensics will the new technology/development you are proposing impact?
- C How do you plan to market/make available your technology/development to the forensic community?
- C How much will the technology/development cost to purchase and maintain?
- C How will your proposed technology/development impact on the reliability, affordability, and/or speed of forensic analysis?
- C What kind and extent of training will be required for the forensic community to use your technology/development?
- C What kinds of admissibility issues do you foresee for your technology/development in U.S. courts and how will those be addressed?

V. Selection Criteria

NIJ is firmly committed to the competitive process for awarding grants. All proposals are subjected to an independent, peer-review panel evaluation. The peer-review panel consists of members with academic, practitioner, technical, and operational expertise in the subject areas of the solicitation. Selection criteria used to evaluate proposals are as follows:

1. Quality and Technical Merit

- C Soundness of methodology, analytic, or technical approach.
- C Innovation and creativity.
- C Feasibility of proposed project; awareness of pitfalls.
- C Awareness of existing research and related applications.

2. Impact of the Project

- Understanding importance of the problem.
 - Potential for significant advance in crime prevention, law enforcement, courts, corrections, or other practice or policy areas.
 - Potential for advancement of scientific understanding of the problem area.
- C Relevance to practice, including development and demonstration in application domains (if applicable).
- C Affordable end products (if applicable).

3. Capabilities, Demonstrated Productivity, and Experience of Applicants

- C Qualifications and experience of personnel as related to proposed project.
- C Responsiveness to the goals of the solicitation.
- C Demonstrated ability to manage proposed effort.
- C Adequacy of proposed resources to perform effort.

4. Budget Considerations

- C Total cost relative to perceived benefit.
- C Appropriate budgets and level of effort.
- C Use of existing resources to conserve costs.
- C Cost-effectiveness of program or product for application in the criminal justice system (if applicable).

After peer-review panelists' consideration, Institute staff make recommendations to NIJ's Director based on the results of the independent reviews. Final decisions are made by the NIJ Director following consultation with Institute staff.

VI. Program Performance Measures

If you receive an award under this solicitation, you will be required to collect and report data that will enable the measurement of the effectiveness of NIJ's various technology assistance programs. The data will be collected and reported to insure compliance with the Government Performance and Results Act (GPRA), Public Law 103-62. Data on the proposed project will be collected and reported for each of the following performance measures:

- Number of research/development studies for forensic science techniques and tools.
- Number of projects researching characteristics and properties of materials having potential forensic applications.
- Number of prototypes/tools developed for forensic analysis.

Award recipients will be required to collect and report to NIJ on data that support these measures. Your assistance in obtaining this information will facilitate future funding planning and will allow OJP to provide Congress with measurable results of federally funded programs.

VII. How to Apply

A. How to Prepare and Submit An Application

The Office of Justice Programs (OJP) requires you to submit applications through its automated Grants Management System (GMS). GMS is an online system that is accessible through the Internet. It is intended to expedite and streamline the receipt, review, and processing of applications. Assistance is available via a toll-free telephone number (1-888-549-9901) from Monday through Friday between 7:00 a.m. and 9:00 p.m. eastern time.

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To use the GMS system, complete the following steps:

1. Using the Internet, go to: <http://www.ojp.usdoj.gov/fundopps.htm>. An online GMS Application Procedures Handbook is available on this page. It links directly to OJP's Grants Management System (GMS), which provides online help screens.
2. Select "Log on to the Grants Management System (GMS)" to obtain an OJP application for grant funding.
3. Applicants without a GMS password, click on "New User? Register Here," and follow the on-screen instructions to register with GMS. After registering, pick "Solicitation for General Forensic Research and Development for FY 2003."

Applicants with a GMS password, click on "Login." If your password has expired, you will receive an "Authentication Error" or "Unauthorized User" message. In this case, click on "Having Login Problems?" for assistance in updating passwords.

Note: The information for the authorizing official and alternate contact must be entered correctly. The authorizing official is the person authorized to accept grant funds in the applicant's organization (e.g., a corporate officer, Comptroller, Bursar). If the person applying online to GMS is not the signing authority, that person *must* list the authorizing official's name and contact information.

4. Complete the online application, including the three required file attachments.

After you submit the finalized application, the online system will inform you that the application has been received and sent to NIJ. The GMS system will provide an application identification number for future reference.

Questions about GMS will be answered by the toll-free GMS Hotline at 1-888-549-9901. The GMS Hotline is available Monday through Friday between 7:00 a.m. and 9:00 p.m. eastern time.

Note: You are *highly advised* to obtain access to the GMS online application system and initiate the process of preparing the application forms *as soon as possible!* If you procrastinate in undertaking these actions, you assume a greater risk that your application will not be submitted by the closing date and time or that your application will be incomplete at the time of its submission. Bear in mind that *the GMS Hotline is only available for use during a limited portion of each weekday*, as noted immediately above this text box.

B. What Must Be Submitted

The following is a list of application forms that *must* be completed and in your application package for it to be eligible for consideration of an award by NIJ:

- Application for Federal Assistance (SF-424). This form is completed as part of the GMS process.
- Certifications/Assurances. You will "sign off" on these certifications and assurances electronically through GMS.
- Budget Detail Worksheet. This is submitted as a single file *attachment* to the GMS-generated application forms. The file must include a Budget Detail Worksheet and a Budget Narrative. You must provide a *complete* Budget Narrative that includes a discussion of the purpose for *every* item, service, or personnel member listed in the Budget Detail Worksheet. A sample Budget Detail Worksheet is available at: http://www.ojp.usdoj.gov/nij/funding_app.htm.

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- Proposal.
This is submitted as a single file attachment. The file must include the following items:
 - < Proposal Abstract.
When read separately from the rest of the application, this is meant to serve as a succinct and accurate description of the proposed work. You must concisely describe the research goals and objectives, research design, and methods for achieving the goals and objectives. Summaries of past accomplishments are to be avoided, and proprietary/ confidential information is not to be included. Length is not to exceed 400 words. Use the following two headers:
 - **Project Goals and Objectives**
 - **Proposed Research Design and Methodology**
 - < Table of Contents.
List the contents of the sections of the Program Narrative
 - < Program Narrative/ Technical Proposal.
Your program narrative *must* be limited to 30 double-spaced pages, regardless of the amount of funding requested in the application, and must sufficiently specify and/or describe:
 - S The nature of the problem(s) addressed.
 - S Project goals and objectives.
 - S The methodology or approach to be pursued to achieve the project goals and objectives.
 - S The nature of the technology(ies) that are to be developed.
 - S A task plan that specifies the various tasks to be undertaken in performing the proposed project work.
 - S Key milestones (i.e., activity timelines) for each task specified within the task plan, as well as for key events or decision points within the project.
Note: Do not designate the project's milestones using actual calendar dates. Instead, specify the milestones as the duration in days, weeks, or (preferably), months from award by NIJ.
 - < References (i.e., bibliography).
 - < Appendices.
Appendices may include a list of previously received NIJ awards, including grant numbers; letters acknowledging collaboration in the proposed project by other organizations; or other proposal-relevant materials.
 - < Resumes.
Include resumes for key personnel who will participate in the proposed project, including subcontractors, consultants, and collaborating organizations. A single separate page must be included listing the names and affiliations of all key personnel. Indicate which of the persons on this list is the Principal Investigator, and include his/ her title, organizational affiliation, department (if applicable), address, phone, fax, and e-mail.
- Other Attachments.
A *single* electronic file containing each of the following items, collectively, must be submitted as an *attachment* to your application:
 - < Privacy Certificate.
 - < Assurance of Protection of Human Subjects Identification (Form 310).
 - < Geographic Areas Effected Worksheet.
 - < Disclosure of Lobbying.
 - < Negotiated indirect rate agreement (if appropriate).

C. Application Due Date

The completed application must be submitted in its entirety *by way of the online GMS system by February 27, 2003*. Extensions of the deadline will not be permitted. Faxed, mailed, or e-mailed applications *will not* be accepted.

D. Further Guidance and Information

For additional information on applying for NIJ solicitations, please read "Guidelines for Submitting Proposals for the National Institute of Justice-Sponsored Research."

Note: Instructions in this solicitation, including those for applying through GMS, supercede those provided within these Guidelines. The Guidelines are available via:

- C The NIJ web site at <http://www.ojp.usdoj.gov/nij/funding.htm>.
- C NCJRS at 1-800-851-3420 or from the Department of Justice Response Center at 1-800-421-6770 (in Washington, DC, call 202-307-1480.)
- C Fax at 1-800-851-3420. Select option "1," then select option "1" for NIJ, then enter code 1023 following the prompt).

If you need further assistance that is not related to the GMS online application process, contact the U.S. Department of Justice Response Center at 1-800-421-6770. Center staff can provide assistance or refer you to an appropriate NIJ professional. You may, for example, wish to discuss your prospective research topics with the NIJ professional staff.

VIII. About Awards

Award period. In general, NIJ limits its grants and cooperative agreements to a period of 12 to 36 months. However, longer budget periods may be considered. Funding availability for this solicitation is contingent upon appropriations.

For more information on the National Institute of Justice, please contact:

National Criminal Justice Reference Service
Box 6000
Rockville, MD 20849-6000
800-851-3420
email: askncjrs@ncjrs.org

View or obtain an electronic version of this document from the NCJRS Justice Information Center web site (<http://www.ncjrs.org>) or the NIJ web site (<http://www.ojp.usdoj.gov/nij>).

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