

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA)/
Microsystems Technology Office (MTO)
- **Funding Opportunity Title** – Young Faculty Award (YFA)
- **Announcement Type** – Initial Announcement
- **Catalog of Federal Domestic Assistance Numbers (CFDA)** – N/A
- **Important Dates**
 - Proposal Abstract due no later than 4:00 p.m. Eastern Time on 10/25/07
 - Proposal due no later than 4:00 p.m. Eastern Time on 1/10/08
- **Anticipated individual awards** – Multiple awards are anticipated.
- **Types of instruments that may be awarded** – DARPA intends to award grants (each at an average level of \$150,000 for 12 to 18 months) to young, university faculty.
- **The technical POC for this effort is:**
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RA 07-44

YOUNG FACULTY AWARD (YFA)



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SECTION I: FUNDING OPPORTUNITY OUTLINE

The Defense Advanced Research Projects Agency often selects its research efforts through the Research Announcement (RA) process. The RA will appear first on the FedBizOpps website, <http://www.fedbizopps.gov/>, and Grants.gov website at <http://www.grants.gov/>. The following information is for those wishing to respond to the RA.

DARPA would like to encourage new faculty members at institutions of higher learning to participate in its programs. This RA offers a venue by which research ideas proposed by young faculty can be sponsored and promoted within the Microsystems Technology Office (MTO) at DARPA. The Young Faculty Award (YFA) is expected to provide MTO with revolutionary research ideas that are critical to future technology developments.

This solicitation is for single-author grant proposals for concept development and validation in one, or combinations of, the following thrust areas of interest to MTO: 1) electronics, 2) photonics, 3) micro and nano electro mechanical systems (MEMS/NEMS), 4) architectures, and 5) algorithms. Proposers must select one of these thrust areas for their proposal and identify this thrust on the cover page. Proposed research should focus on innovations that enable revolutionary advances in physics, materials, and devices. Speculative and high-risk ideas are strongly encouraged. The proposal should clearly state the problem being addressed, the proposed solution, and critical milestones the YFA research activity will address. Note the problem statement can be broader than the focused effort addressed in the first year of research, but the interrelationship of the two must be clearly articulated. The initial research should focus on a clearly defined problem which can be answered in a 12 to 18-month activity consisting of critical analysis, design, or experimental exploration. MTO expects that successful YFA efforts will be a precursor and proof of a concept solution to a larger problem that is sufficiently important and challenging to warrant a follow-on, full-scale DARPA program embodied in a future Broad Agency Announcement (BAA). Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice. This solicitation is limited to participation by young investigators as defined in the Proposer Eligibility section.

The DARPA/MTO YFA proposal process is structured in the following manner. The competition will be carried out in three rounds. In the first round, applicants will submit a three (3) page abstract with an additional 1-page Penta Chart to be evaluated by MTO. In round two, the authors of approximately 50 selected abstracts will be invited to attend a DARPA/MTO workshop where they will be given the opportunity to share their ideas with MTO Program Managers, to learn about DARPA's mission and business practices, and to learn more about the MTO's technical interests and programs. In the third round, these workshop applicants will be asked to submit a final ten (10) page proposal outlining the program idea, technical challenges, research outline, and brief justification of the funding level. DARPA anticipates funding ten (10) or more of these concept proposals at an average level of \$150,000 for 12 to 18-months. The actual number funded will be

dependent on the quality of the proposed ideas. Since this program supports developing technology for the Department of Defense, it is highly desirable that bidders be US citizens.

Background and Description

DARPA's role in Science and Technology development is defined in the organization's charter – to look for scientific breakthroughs and fundamental opportunities to significantly transform capabilities that will enhance the performance of the DoD (see DARPA's Strategic Plan -- Bridging the Gap at <http://www.darpa.mil/body/pdf/DARPA2007StrategicPlanfinalMarch14.pdf>). DARPA looks for exciting ideas that have not been proven, where a focused effort can overcome a fundamental challenge or obstacle, and point the way towards exciting opportunities to deliver new technology of value to the Department of Defense.

Within DARPA, the mission of the Microsystems Technology Office (MTO) is to exploit breakthroughs in materials, devices, circuits, and algorithms to develop beyond-leading-edge components with revolutionary performance and functionality to enable new platform capability of interest to the Department of Defense. In support of this mission, MTO is pioneering research in five core technology thrust areas: 1) electronics, 2) photonics, 3) micro and nano electro mechanical systems (MEMS/NEMS), 4) architectures, and 5) algorithms. These areas are the foundation for developing integrated Microsystems with revolutionary capabilities, with low power consumption, and small form factors. Ideas leading to significant performance improvements in all of these core areas are of interest. In electronics, this might include faster transistors or transistors with significantly lower power consumption leading to new circuit capabilities. In photonics, lasers with improved wallplug efficiencies leading to higher powers or improved wavelength coverage/tunability are included. Research on MEMS with higher performance, lower form factor and power consumption, and improved reliability is of great interest. Often the most revolutionary capabilities result from exploiting the interfaces of these areas and new materials. One area of current interest includes close integration of electronics and photonics enabling novel architectures. Many MEMS rely on sophisticated combinations of electronics and photonics. Emerging areas of energy generation and bio and chemical sensing often combine concepts from a number of core areas. Finally, the development of adaptive Microsystems with embedded control, processing, and sensing is of high interest. These examples are listed only to illustrate the type of research interests and are not meant to be suggestive of the type of responses expected for the YFA. MTO is particularly interested in concepts beyond the current core areas that will result in future core technologies. Efforts that are an evolutionary improvement on existing programs are of low interest.

All of the ideas proposed under YFA are expected to further MTO's goal of developing important enabling technologies for the DoD. Proposed efforts should have the potential for a significant impact on current technology and have bearing on issues confronting our Defense and National Security. New technologies and approaches to these issues are

particularly encouraged. Additional information on the programs and interests within MTO is available within the DARPA/MTO website: <http://www.darpa.mil/mto>.

Strong proposals to the YFA RA will include the following:

- A new idea.
- A description of the potential applications of the new idea.
- For the most compelling of those applications, a discussion of the present state of the art and the existing limitation to that approach.
- A quantitative discussion of how much improvement in the state of the art is available through the new idea.
- A discussion of the most important technical challenge, or challenges, that must be overcome to demonstrate the capabilities of that idea.
- A plan for attacking that challenge(s).
- A specific intermediate-term achievement that indicates the removal, or progress on the path to removal, of the key challenge (this should be the goal of the proposed effort).

Selection Process Events

Prospective participants are **required** to submit a **3-page proposal abstract and 1-page “Penta Chart”**, according to the guidelines in Section IV below and examples attached to this RA. These proposals will be reviewed and evaluated by committees of MTO Program Managers representing the 5 thrust areas, and up to 50 will be selected for submission of a full proposal and participation in the other events described below.

DARPA will host an **invitees workshop** in support of the YFA program on or about 11/26/07 at a location in the vicinity of Arlington, VA. The purpose of this workshop is to provide information about the MTO in general, and the YFA program in detail, facilitate additional discussion on technical topics of interest to the invited proposers, address questions from invited proposers, and provide a forum for invited proposers to present their capabilities. Additional details on this workshop will be supplied when an invitation is extended.

Attendance at the workshop will be by invitation only, based on a review of the proposal abstracts submitted to the YFA RA. Approximately 50 authors will be invited to attend. Should the facility have room, DARPA reserves the right to invite additional authors. Materials presented at the workshop, along with answers to selected questions asked during the workshop, will be posted on the DARPA website and will be accessible through <http://www.darpa.mil/mto/solicitations/>.

Workshop registration instructions:

Workshop registration information will be supplied along with the workshop invitation. There will be no registration fee for the YFA Workshop.

Citizenship and Permanent Resident Instructions for Workshop participants:

All US Citizens must submit a US Citizenship Verification form to attend this conference. Foreign nationals who are current permanent residents must complete and submit a DARPA Form 60 “Foreign National Visit Request.” These documents will be available on the workshop registration website as well as included in the workshop invitation, and should be faxed to 703-816-5444, Attention Alexis Zeiden, prior to the meeting.

Workshop Point of Contact: Alexis Zeiden, 703-816-5261, alexis.zeiden.ctr@darpa.mil.

Invitees will then submit a 10-page Full Proposal, according to the guidelines in Section IV below. These proposals will be reviewed and evaluated by a committee of MTO Program Managers and 10 or more proposals will be recommended for grant negotiation.

Additional Features during the YFA Program

During this program, YFA performers will be invited to participate in at least one military training exercise, with details to be arranged. These visits will mostly likely require the selected performers to be U.S. Citizens as discuss in the eligibility section. This event is likely to involve a multiple-day invitation to a military base, and invitations for the group to observe and participate in hands-on training with current technologies, systems, and training aids. These events typically include opportunities for discussions with personnel responsible for the training, as well as the trainees who are headed to deployment. The purpose of these events is to provide opportunities for YFA participants to gain first-hand knowledge of and hands-on experience with some current DoD technologies, and to engage with the people responsible for providing and receiving training. Without exception, these experiences are inspirational and informative. Proposers should include a line item for travel in their proposal budget, not to exceed \$5,000, to attend these trips and other DARPA specified meetings.

Each performer will be assigned a current MTO Program Manager, in most case separate from the primary program manager identified in this RA, as project manager and mentor. Performers will be invited to at least one annual Principle Investigator’s Meeting for one of the PM’s programs and provided an opportunity to present their project and overall research vision. The purpose of these events is to provide opportunities for YFA performers to meet and interact with other PIs in an ongoing program, and become more familiar with DARPA management of phased R+D programs. It is also likely that these interactions might lead to collaboration opportunities with organizations active in these ongoing programs on present of future DARPA programs.

Program Scope

All DARPA programs are driven by new ideas and focused on overcoming key challenges associated with application of the new ideas. In the YFA proposals, a new idea should be described along with the most significant challenge to be overcome to enable the realization of the idea. Note the full realization of the complete idea may require further investment (e.g. a larger, multidisciplinary, DARPA program), but the

YFA activity should define the technical nature of the investment and the expected payoff. The goal of this effort is to overcome the key challenge identified in the YFA proposal or to perform sufficient analysis, design, or experimental exploration to clearly show how the critical challenge can be overcome in future work and further define the projected impact of the research idea.

The plan for this effort should be focused on the effort necessary to overcome the key challenge identified in the proposal.

SECTION II: AWARD INFORMATION

Multiple awards are anticipated. The amount of resources made available under this RA will depend on the quality of the proposals received and the availability of funds. DARPA expects to make 10 or more awards of \$150,000.

The Government reserves the right to select for negotiation all, some, one, or none of the proposals received in response to this solicitation, and to make awards without discussions with offerors. The Government also reserves the right to conduct discussions if the Source Selection Authority later determines them to be necessary. The Government reserves the right to fund proposals in phases with options for continued work at the end of one or more of the phases.

Awards under this RA will be made to offerors on the basis of the evaluation criteria listed below (see section labeled “Application Review Information”, Sec. V.), and program balance to provide overall value to the Government.

SECTION III: ELIGIBILITY INFORMATION

A. Eligible Applicants

This RA solicits single author proposals for research and development in the areas of interest to MTO. This participation is limited to non-tenured Assistant Professors with tenure-track positions at U.S. institutions of higher learning. DARPA is particularly interested in supporting outstanding researchers who have previously not been involved in DARPA programs. Proposers should either state that they have not been funded by DARPA since receiving their PhD or briefly list the programs, and level of effort, under which they have been funded in this period. US citizenship or permanent residency is highly preferred and the status of the PI in this regard should be stated on the cover page of the proposal.

Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs) are encouraged to submit proposals. No portion, however, of this announcement will be set aside for these organizations’ participation due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities.

1. Procurement Integrity, Standards of Conduct, Ethical Considerations, and Organizational Conflicts of Interest

Certain post-employment restrictions on former federal officers and employees may exist, including special Government employees (including, but not limited to, Title 18, Section 207, United States Code, the Procurement Integrity Act, 41 U.S.C. 423, and FAR 3.104.) Current federal employees are prohibited from participating in particular matters involving conflicting financial, employment, and representational interests (18 USC 203, 205, and 208.) Prior to the start of proposal evaluations, the Government will assess whether any potential conflict of interest exists in regards to the DARPA Program Manager, as well as those individuals chosen to evaluate proposals received under this RA. Under this RA, the Program Manager is required to review and evaluate all proposals under the MEMS thrust area received under this RA. The Program Manager for this RA is a detailee to DARPA under the Intergovernmental Personnel Act (IPA) from Stanford University, and, as such, is highly likely to have a conflict of interest with respect to proposals utilizing that institution as a performer that are submitted to the MEMS thrust area. Proposers should carefully consider the composition of their performer team, and the thrust of their proposal, before submitting a proposal to this RA.

All Proposers and proposed subcontractors must affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any DARPA technical office(s) through an active grant or subcontract. All affirmations must state which office(s) the Proposer supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include a description of the action the Proposer has taken or proposes to take to avoid, neutralize, or mitigate such conflict. In accordance with FAR 9.503 and without prior approval or a waiver from the DARPA Director, a Contractor cannot simultaneously be a SETA and Performer. Proposals that fail to fully disclose potential conflicts of interests and include an effective mitigation plan, or that do not include a mitigation plan at all, will be returned without technical evaluation.

If a prospective Proposer believes that any conflict of interest exists or may exist (whether organizational or otherwise), the situation should be raised in an email to RA07-44@darpa.mil, before time and effort are expended in preparing a proposal and mitigation plan. If, in the sole opinion of the Government after full consideration of the circumstances, any conflict situation cannot be effectively mitigated, the proposal may be returned without technical evaluation and withdrawn from further consideration for award under this RA.

B. Cost Sharing/Matching

Cost sharing is not required for this particular program; however, cost sharing will be carefully considered where there is an applicable statutory condition relating to the selected funding instrument (e.g. for any Other Transactions under the authority of 10 U.S.C. § 2371). Cost sharing is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort. DARPA understands that academic young investigators may have access to various forms of startup funds, foundation funds, or other funds which may also be directed towards the goals of the proposed effort. Proposers should indicate the source and amounts of those funds whenever there is a likelihood of joint or complementary funding.

C. Other Eligibility Criteria

1. Collaborative Efforts

This solicitation is for single author proposals. After final selection and prior to issuance of award, the authors will be given the opportunity to discuss teaming, should it be required. Should DARPA and a selected author agree that it is necessary to team, potential team members must also be University professors, with preference given to faculty fitting the proposer eligibility guidelines. Specific content, communications, networking, and team formation will be the sole responsibility of the participants.

SECTION IV: APPLICATION AND SUBMISSION INFORMATION

A. Address to Request Application Package

This announcement contains all information required to submit a proposal. No additional forms, kits, or other materials are needed. This notice constitutes the total RA. No additional information is available, nor will a formal Request for Proposal (RFP) or additional solicitation regarding this announcement be issued. Requests for same will be disregarded.

B. Content and Form of Application Submission

1. Abstract and Proposal Information

Proposers must submit a proposal abstract in advance of a full proposal. This procedure is intended to minimize unnecessary effort in proposal preparation and review. **Proposal abstracts must be submitted no later than 4:00 p.m. Eastern Time on 10/25/07.** Abstracts and proposals should be submitted electronically using one of the following two submission methods. Note that neither dual submissions nor paper copies are required.

1. DARPA/MTO will employ an electronic upload process, the Technical Financial Information Management System (T-FIMS) Proposal Submission System, for proposal submissions to this RA. Abstracts and proposals should be in Microsoft Word format or PDF and submitted via a web site interface: <https://www.tfims.darpa.mil/baa>.

Please note that T-FIMS will acknowledge receipt of the submission via e-mail. This e-mail will assign a control number that should be used in all correspondence regarding the proposal abstract.

2. Offerors may elect to use the Grants.gov APPLY (<http://www.grants.gov/>) function. The APPLY function replaces the proposal submission process that other offerors follow. The APPLY function does not affect the proposal content or format. The APPLY function is electronic; offerors do not submit paper proposals in addition to the Grants.gov APPLY electronic submission.

DARPA will respond to proposal abstracts with a recommendation to propose or not propose and the time and date for submission of a full proposal. DARPA will attempt to review proposal abstracts within thirty (30) calendar days after receipt and will allow proposers at least thirty (30) calendar days after review of their proposal abstracts in order to complete and submit their proposals. Proposal abstracts will be reviewed as they are received. Early submissions of proposal abstracts and full proposals are encouraged.

Full proposals are due no later than **4:00 p.m. Eastern Time on 1/10/08** in order to be considered in this solicitation. Proposals and proposal abstracts may not be submitted by fax or e-mail; any so sent will be disregarded.

Proposer Registration: Organizations planning to submit proposals via T-FIMS must register at <http://www.tfims.darpa.mil/baa>. One registration per proposal should be submitted. This means that an organization wishing to submit to multiple, technical topic areas should complete a single registration for each proposal. The proposer makes no commitment to submit by registering. Please note that it is recommended that proposers register on T-FIMS at least a week prior to the submission deadlines to allow sufficient time for completing the registration process and uploading the submission. Please also note that proposers will receive a confirmation e-mail generated from the T-FIMS electronic system as receipt that their proposal has been received. Proposal submissions made through T-FIMS cannot be larger than 50 megabytes per file.

Restrictive notices notwithstanding, proposals may be handled, for administrative purposes only, by a support contractor. This support contractor is prohibited from competition in DARPA technical research and is bound by appropriate nondisclosure requirements.

Proposals not meeting the format described in the RA may not be reviewed.

All administrative correspondence and questions on this solicitation, including requests for information on how to submit a proposal abstract or full proposal to this RA, should be directed to the administrative address listed here: RA07-44@darpa.mil; e-mail is preferred. A “Questions and Answers” PDF document will be posted for RA 07-44 on the DARPA, Microsystems Technology Office solicitations page (<http://www.darpa.mil/mto/solicitations/index.html>). If you would like to have a question answered and posted on this site, please send your question to the following address: RA07-44@darpa.mil or Mary.Jacobs.ctr@darpa.mil. DARPA intends to use electronic mail and fax for correspondence regarding RA 07-44.

Proposal Abstract Format: Proposal abstracts are required in advance of full proposals in order to provide potential offerors with a rapid response to minimize unnecessary effort. Proposal abstracts should have a cover sheet providing the title, name of the proposer, funding requirements, topic area, and complete contact information. The cover sheet should be clearly marked “PROPOSAL ABSTRACT.” The total length of the abstract (excluding the cover sheet) should not exceed three (3) pages of text plus a 1-page Penta Chart. **All pages shall be printable on 8-1/2 by 11 inch paper with type not smaller than 12 point, and margins no less than 0.75”.** The page limitation for proposal abstracts includes all figures, tables, and charts. No formal transmittal letter is required. All proposal abstracts must be written in English. Abstracts should avoid proprietary or classified information or data not critical to the idea being presented. The proposal abstract should be submitted to DARPA/MTO through TFIMS (<https://www.tfims.darpa.mil/baa>).

Proposal abstracts should concisely summarize the following:

- A new idea.
- A description of the potential applications of the new idea.
- For the most compelling of those applications, what is the present state of the art approach, and what are the limits to that approach?
- A quantitative discussion of how much improvement in the state of the art is available through the new idea.
- A discussion of the most important challenge that must be overcome to demonstrate the capabilities of that idea
- A plan for attacking that challenge
- A specific intermediate-term achievement that indicates the removal of the key challenge.

Inclusion of all these elements within 3 pages is understood to be a significant challenge. Authors are encouraged to use figures as appropriate to support descriptions of aspects of their abstracts. “A picture is worth 1000 words”.

The “1-page Penta Chart” is a document that is used within DARPA to efficiently communicate ideas, opportunities, and plans. A set of example penta charts and guidelines will be provided at the RA Website, and all proposers are encouraged to study these examples prior to submission.

Full Proposal Format: All full proposals should have a cover sheet providing the title, name of the proposer, funding requirement, topic area, and complete contact information. The cover sheet should be clearly marked “PROPOSAL.” The total length of the proposal (excluding the cover sheet) should not exceed ten (10) pages plus a 1-page Penta Chart. All pages shall be printed on 8-1/2 by 11 inch paper with type not smaller than 12 point. The page limitation for full proposals includes all figures, tables, and charts. Proposals should be accompanied by a transmittal letter signed by an official who is authorized to commit the offeror. All full proposals must be written in English.

Proposals should include the following; guidelines for page lengths shown in braces { }:

- A new idea {1}.
- A description of the potential applications of the new idea {1}.
- For the most compelling of those applications, what is the present state of the art approach, and what are the limits to that approach? {1}
- A quantitative discussion of how much improvement in the state of the art is available through the new idea {2}
- A discussion of the most important challenge that must be overcome to demonstrate the capabilities of that idea {2}
- A plan for attacking that challenge {2}
- A specific intermediate-term achievement that indicates the removal of the key challenge {1}

A thorough discussion of all these elements within 10 pages is understood to be a significant challenge. Authors are encouraged to use figures as appropriate to support descriptions of aspects of their abstracts. “A picture is worth 1000 words”.

The “1-page Penta Chart” is a document that is used within DARPA to efficiently communicate ideas, opportunities, and plans. A set of example penta charts and guidelines will be provided at the RA Website, and all proposers are encouraged to study these examples prior to submission.

In addition, proposers must provide a budget detailing the expenditure of funds. The pages for the budget and supporting institutional information are not included in the 10-page proposal limit.

C. Submission Dates and Times

1. Proposal Abstract Date

The proposal abstract must be submitted to DARPA/MTO, via T-FIMS <https://www.tfims.darpa.mil/baa>, no later than 4:00 p.m., Eastern Time, 10/25/07. Proposal abstracts received after this time and date may not be reviewed.

2. Full Proposal Date

The full proposal must be submitted to T-FIMS or Grants.gov no later than **4:00 p.m., Eastern Time, 1/10/08**. DARPA will acknowledge receipt of complete submissions via email and assign control numbers that should be used in all further correspondence regarding proposals. Failure to comply with the submission procedures may result in the submission not being evaluated.

SECTION V: APPLICATION REVIEW INFORMATION

A. EVALUATION CRITERIA

Evaluation of proposal abstracts and full proposals will be accomplished through a scientific/technical review of each proposal abstract and full Proposal using the following criteria: (1) overall scientific and technical Merit; (2) potential contribution and relevance to the DARPA Mission (3) proposer's capabilities and/or related experience; (4) realism of proposed schedule. (5) cost schedule. Proposal abstracts and full proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. The following are descriptions of the above listed criteria:

1. Overall Scientific and Technical Merit

The proposed technical approach is feasible, achievable, and complete. The proposal abstract and full proposal identifies major technical risks and planned mitigation efforts are clearly defined and feasible.

2. Potential Contribution and Relevance to the DARPA Mission

The potential contributions of the proposed effort with relevance to the national technology base will be evaluated. Specifically, DARPA's mission is to maintain the technological superiority of the U.S. Military and prevent technological surprise from harming our national security by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their military use. The impact of intellectual property restrictions will also be considered (see also Section VI, B2 "Intellectual Property").

3. Proposer's Capabilities and/or Related Experience

The proposer's prior experience in similar efforts may clearly demonstrate an ability to deliver results that meet the proposed technical performance within the proposed budget and schedule.

4. Realism of Proposed Schedule

The proposer's abilities to aggressively pursue performance metrics in the shortest timeframe and to accurately account for that timeframe will be evaluated.

5. Cost Realism

The objective of this criterion is to establish that the proposed costs are realistic for the technical and management approach offered, as well as to determine the proposer's practical understanding of the effort. This will be principally measured by cost per labor

hour and number of labor hours proposed. The evaluation criterion recognize that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. DARPA discourages such cost strategies. Cost reduction approaches that will be received favorably include innovative management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

After selection of full proposals and before award the contracting officer will negotiate cost/price reasonableness.

DARPA intends to award grants to young, university faculty proposing innovative research that can be expected to lead to revolutionary advances of the state-of-the-art. Award(s) will be made to proposers whose proposals are determined to be the most advantageous to the government, all factors considered, including the potential contributions of the proposed work to the overall research program and the availability of funding for the effort. Award(s) may be made to any proposer(s) whose proposal(s) is determined selectable regardless of its overall rating.

Because participation in the YFA program will involve site visits to DoD facilities, preference will be given to PIs who are US citizens and permanent residents.

Note: proposers are cautioned that evaluation ratings may be lowered and/or proposals rejected if submittal instructions are not followed.

B. Review and Selection Process

It is the policy of DARPA to ensure impartial, equitable, comprehensive proposal evaluations and to select the source (or sources) whose offer meets the government's technical, policy, and programmatic goals. Pursuant to FAR 35.016, the primary basis for selecting proposals for acceptance shall be technical, importance to agency programs, and fund availability. In order to provide the desired evaluation, qualified government personnel will conduct reviews and (if necessary) convene panels of experts in the appropriate areas.

Proposal abstracts and full proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. For evaluation purposes, a proposal abstract or full proposal is described in "proposal information", section IV.B. other supporting or background materials submitted with the proposal will not be considered as part of the proposal.

Restrictive notices notwithstanding, proposal abstracts and full proposals may be handled for administrative purposes by support contractors. These support contractors are prohibited from competition in DARPA technical research and are bound by appropriate non-disclosure requirements.

Subject to the restrictions set forth in FAR 37.203(d), input on technical aspects of the proposal abstracts and full proposals may be solicited by DARPA from non-government consultants /experts who are strictly bound by the appropriate non-disclosure requirements. It is the policy of DARPA to treat all proposal abstracts and full proposals as competitive information and to disclose their contents only for the purpose of evaluation. No proposal abstracts or full proposals will be returned. Upon completion of the source selection process, the original of each proposal abstract and full proposal received will be retained at DARPA and all other copies will be destroyed.

SECTION VI: AWARD ADMINISTRATION INFORMATION

A. Award Notices

As soon as the evaluation of a proposal is complete, the offeror will be notified that 1) the proposal has been selected for funding pending negotiation of grant terms, or 2) the proposal has not been selected. These official notifications will be sent via e-mail or fax to the Technical POC identified on the proposal coversheet.

B. Administrative and National Policy Requirements

1. Security

The Government anticipates that proposals submitted under this RA will be unclassified. In the event that a proposer chooses to submit a classified proposal or submit any documentation that may be classified, the following information is applicable.

Security classification guidance on a DD Form 254 will not be provided at this time since DARPA is soliciting ideas only. After reviewing the incoming proposals, if a determination is made that the award instrument may result in access to classified information, a DD Form 254 will be issued and attached as part of the award. Proposers choosing to submit a classified proposal must first receive permission from the Original Classification Authority to use their information in replying to this RA. Applicable classification guide(s) should be submitted to ensure that the proposal is protected appropriately.

Classified submissions shall be in accordance with the following guidance:

Collateral Classified Information: Use classification and marking guidance provided by previously issued security classification guides, the Information Security Regulation (DoD 5200.1-R), and the National Industrial Security Program Operating Manual (DoD 5220.22-M) when marking and transmitting information previously classified by another original classification authority. Classified information at the Confidential and Secret level may only be mailed via U.S. Postal Service (USPS) Registered Mail or U.S. Postal Service Express Mail. All classified information will be enclosed in opaque inner and outer covers and double wrapped. The inner envelope shall be sealed

and plainly marked with the assigned classification and addresses of both sender and addressee. The inner envelope shall be address to:

Defense Advanced Research Projects Agency
ATTN: (Microsystems Technology Office)
Reference: (RA 07-44)
3701 North Fairfax Drive
Arlington, VA 22203-1714

The outer envelope shall be sealed with no identification as to the classification of its contents and addressed to:

Defense Advanced Research Projects Agency
Security & Intelligence Directorate, Attn: CDR
3701 North Fairfax Drive
Arlington, VA 22203-1714

All Top Secret materials should be hand carried via an authorized, two-person courier team to the DARPA CDR.

Special Access Program (SAP) Information: Contact the DARPA Special Access Program Central Office (SAPCO) 703-526-4052 for further guidance and instructions prior to transmitting SAP information to DARPA. Top Secret SAP, must be transmitted via approved methods for such material. Consult the DoD Overprint to the National Industrial Security Program Operating Manual for further guidance. *Prior to transmitting SAP material*, it is strongly recommended that you coordinate your submission with the DARPA SAPCO.

Sensitive Compartmented Information (SCI) Data: Contact the DARPA Special Security Office (SSO) at 703-812-1994/1984 for the correct SCI courier address and instructions. All SCI should be transmitted through your servicing Special Security Officer (SSO). SCI data must be transmitted through SCI channels only (i.e., approved SCI Facility to SCI facility via secure fax).

Proprietary Data: All proposals containing proprietary data should have the cover page and each page containing proprietary data clearly marked as containing proprietary data. It is the Offeror's responsibility to clearly define to the Government what is considered proprietary data.

Offerors must have existing and in-place prior to execution of an award, approved capabilities (personnel and facilities) to perform research and development at the classification level they propose. It is the policy of DARPA to treat all proposals as competitive information, and to disclose their contents only for the purpose of evaluation. Proposals will not be returned. The original of each proposal received will be retained at DARPA and all other non-required copies destroyed. A certification of

destruction may be requested, provided that the formal request is received at this office within 5 days after unsuccessful notification.

2. Intellectual Property

Grants Proposers

Noncommercial Items (Technical Data and Computer Software)

Proposers responding to this RA requesting a grant to be issued under the FAR/DFARS, shall identify all noncommercial technical data, and noncommercial computer software that it plans to generate, develop, and/or deliver under any proposed award instrument in which the Government will acquire less than unlimited rights, and to assert specific restrictions on those deliverables. Proposers shall follow the format under DFARS 252.227-7017 for this stated purpose. In the event that proposers do not submit the list, the Government will assume that it automatically has “unlimited rights” to all noncommercial technical data and noncommercial computer software generated, developed, and/or delivered under any award instrument, unless it is substantiated that development of the noncommercial technical data and noncommercial computer software occurred with mixed funding. If mixed funding is anticipated in the development of noncommercial technical data, and noncommercial computer software generated, developed, and/or delivered under any award instrument, then proposers should identify the data and software in question, as subject to Government Purpose Rights (GPR). In accordance with DFARS 252.227-7013 Rights in Technical Data - Noncommercial Items, and DFARS 252.227-7014 Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation, the Government will automatically assume that any such GPR restriction is limited to a period of five (5) years in accordance with the applicable DFARS clauses, at which time the Government will acquire “unlimited rights” unless the parties agree otherwise. Proposers are admonished that the Government will use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.”

A sample list for complying with this request is as follows:

NONCOMMERCIAL			
Technical Data Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

Any such list should be provided on pages following the 10 page technical and 1-page penta chart. Pages needed for this information will not be included in the aforementioned page limitations.

Commercial Items (Technical Data and Computer Software)

Proposers responding to this RA requesting a grant to be issued under the FAR/DFARS, shall identify all commercial technical data, and commercial computer software that may be embedded in any noncommercial deliverables contemplated under the research effort, along with any applicable restrictions on the Government’s use of such commercial technical data and/or commercial computer software. In the event that proposers do not submit the list, the Government will assume that there are no restrictions on the Government’s use of such commercial items. The Government may use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.”

A sample list for complying with this request is as follows:

COMMERCIAL			
Technical Data Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

Any such list should be provided on pages following the 10 page technical and 1-page penta chart. Pages needed for this information will not be included in the aforementioned page limitations.

NonProcurement Contract Proposers - Noncommercial and Commercial Items (Technical Data and Computer Software)

Proposers responding to this RA requesting a Grant, Cooperative Agreement, Technology Investment Agreement, or Other Transaction for Prototype shall follow the applicable rules and regulations governing these various award instruments, but in all cases should appropriately identify any potential restrictions on the Government’s use of any Intellectual Property contemplated under those award instruments in question. This includes both Noncommercial Items and Commercial Items. Although not required, proposers may use a format similar to that described in Paragraphs 1.a and 1.b above. The Government may use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.”

All Proposers – Patents

Include documentation proving your ownership of or possession of appropriate licensing rights to all patented inventions (or inventions for which a patent application has been filed) that will be utilized under your proposal for the DARPA program. If a patent application has been filed for an invention that your proposal utilizes, but the application has not yet been made publicly available and contains proprietary information, you may provide only the patent number, inventor name(s), assignee names (if any), filing date, filing date of any related provisional application, and a summary of the patent title, together with either: 1) a representation that you own the invention, or 2) proof of possession of appropriate licensing rights in the invention.

Any such information should be provided on pages following the 10 page technical and 1-page penta chart. Pages needed for this information will not be included in the aforementioned page limitations.

All Proposers-Intellectual Property Representations

Provide a good faith representation that you either own or possess appropriate licensing rights to all other intellectual property that will be utilized under your proposal for the DARPA program. Additionally, offerors shall provide a short summary for each item asserted with less than unlimited rights that describes the nature of the restriction and the intended use of the intellectual property in the conduct of the proposed research.

Any such list should be provided on pages following the 10 page technical and 1-page penta chart. Pages needed for this information will not be included in the aforementioned page limitations.

3. Meeting and travel requirements

Participants are expected to participate in at least one identified training exercise, at least one PI meeting, and at least one progress review during each phase of the program.

4. Human use

Proposals selected for grant award are required to comply with provisions of the Common Rule (32 CFR 219) on the protection of human subjects in research (<http://www.dtic.mil/biosys/downloads/32cfr219.pdf>) and the Department of Defense Directive 3216.2 (<http://www.dtic.mil/whs/directives/corres/html2/d32162x.htm>). All proposals that involve the use of human subjects are required to include documentation of their ability to follow Federal guidelines for the protection of human subjects. This includes, but is not limited to, protocol approval mechanisms, approved Institutional Review Boards, and Federal Wide Assurances. These requirements are based on expected human use issues sometime during the entire length of the proposed effort.

For proposals involving “greater than minimal risk” to human subjects within the first year of the project, performers must provide evidence of protocol submission to a federally approved IRB at the time of final proposal submission to DARPA. For proposals that are forecasted to involve “greater than minimal risk” after the first year, a discussion on how and when the offeror will comply with submission to a federally approved IRB needs to be provided in the submission. More information on applicable federal regulations can be found at the Department of Health and Human Services – Office of Human Research Protections website (<http://www.dhhs.gov/ohrp/>).

Any aspects of a proposal involving human use should be specifically called out as a separate element of the statement of work and cost proposal to allow for independent review and approval of those elements.

Any such information should be provided on pages following the 10 page technical and 1-page penta chart. Pages needed for this information will not be included in the aforementioned page limitations.

5. Animal Use

Any Recipient performing research, experimentation, or testing involving the use of animals shall comply with the rules on animal acquisition, transport, care, handling, and use in : (i) 9 CFR parts 1-4, Department of Agriculture rules that implement the Laboratory Animal Welfare Act of 1966, as amended, (7 U.S.C. 2131-2159); and (ii) the guidelines described in National Institutes of Health Publication No. 86-23, “Guide for the Care and Use of Laboratory Animals.”

Any such information should be provided on pages following the 10 page technical and 1-page penta chart. Pages needed for this information will not be included in the aforementioned page limitations.

6. Publication approval

Papers resulting from unclassified contracted fundamental research are exempt from prepublication controls and this review requirement, pursuant to DoD Instruction 5230.27 dated October 6, 1987. Grants awarded in response to this RA will not require Government pre-publication approval for such research papers.

7. Export Control

Should this project develop beyond fundamental research (basic and applied research ordinarily published and shared broadly within the scientific community) with military or dual-use applications the following apply:

(1) The Contractor shall comply with all U. S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this grant. In the absence of available license exemptions/exceptions, the Contractor shall be responsible for obtaining the appropriate

licenses or other approvals, for obtaining the appropriate licenses or other approvals, if required, for exports of (including deemed exports) hardware, technical data, and software, or for the provision of technical assistance.

(2) The Contractor shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this grant, including instances where the work is to be performed on-site at any Government installation (whether in or outside the United States), where the foreign person will have access to export-controlled technical data or software.

(3) The Contractor shall be responsible for all regulatory record keeping requirements associated with the use of licenses and license exemptions/exceptions.

(4) The Contractor shall be responsible for ensuring that the provisions of this clause apply to its subcontractors.

9. Reporting

The number and types of reports will be specified in the award document, but will include as a minimum quarterly financial status reports. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed on before award. Reports and briefing material will also be required as appropriate to document progress in accomplishing program metrics. A Final Report that summarizes the project and tasks will be required at the conclusion of the performance period for the award, notwithstanding the fact that the research may be continued under a follow-on vehicle.

Central Contractor Registration: Selected proposers not already registered in the Central Contractor Registry (CCR) will be required to register in CCR prior to any award under this RA. Information on CCR registration is available at <http://www.ccr.gov>.

SECTION VII: AGENCY CONTACTS

DARPA will use electronic mail for all technical and administrative correspondence regarding this RA, with the exception of selected/not-selected notifications.

Administrative, technical or contractual questions should be sent via e-mail to RA07-44@darpa.mil or mary.jacobs.ctr@darpa.mil. If e-mail is not available, fax questions to (703) 741-0079, Attention: RA 07-44. All requests must include the name, email address, and phone number of a point of contact.

The technical POC for this effort is:

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