



**National Aeronautics and
Space Administration
Office of Equal Opportunity Programs
Minority University Research and Education Division**

NRA-99-OEOP-03

RESEARCH ANNOUNCEMENT

PRECOLLEGE AWARDS FOR EXCELLENCE IN MATHEMATICS, SCIENCE, ENGINEERING, AND TECHNOLOGY (PACE/MSET)

**Release Date: June 12, 1998
Notice of Intent Due: July 14, 1998
Proposals Due: September 14, 1998
Selection Announcement: December 1998**

INQUIRIES

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Precollege Awards for Excellence in Mathematics, Science, Engineering, and Technology (PACE/MSET)

This NASA Research Announcement (NRA) solicits proposals from US colleges and universities to develop diverse and exemplary education programs for mathematics, science and technology at the precollege level. This proposal should be a collaborative effort between the minority university, nonprofit education organization or school district.

The university and partnering school district/nonprofit education organization should propose an outreach project to enhance the capabilities of targeted students in college preparatory courses in mathematics, science, engineering, and technology (MSET). Outreach projects funded under this program, such as Saturday Academies, Summer Science Camps, In-School Math and Science Academies, and After-School Enrichment Programs, are expected to produce outcomes to include an increase in the number of students enrolled in and successfully completing MSET courses, measurable improvement in students' skills and knowledge in MSET subjects, and an expanded interest in MSET fields by students participating in the program.

Awards will be made based on merit reviews. Each award will consist of an annual grant not to exceed \$100,000 per year for up to three years. Continuation of funding for years two and three is predicated on documented progress reported annually and the availability of funds. Failure to make adequate progress in any one year will result in termination of the grant and continuation funding will not be provided. Further, continuation funding may be reduced if cost reporting indicates a significant level of unexpended funding.

The document includes further details relevant to this program. Your interest and cooperation in participating in NASA's Minority University PACE program are appreciated.

George E. Reese
Associate Administrator for
Equal Opportunity Programs

NASA RESEARCH ANNOUNCEMENT

Table of Contents

Guidelines	Page
I. Introduction	1
II. Program Goals, Objectives and Outcomes	1
III. Award Size and Duration	2
IV. Eligibility	2
V. Project Design and Content	3
VI. Proposal Requirements and Evaluation Criteria	4
VII. Proposal Submission	9
VIII. Proposal Review and Selection	9
IX. Performance	9
Appendices	
Appendix A	
Required Forms	11
A-1 Proposal Cover Page	13
A-2 NASA PACE Budget Summary	15
A-3 Certification of Institution and Principal Investigator	17
Eligibility	
Appendix B	
NASA Supplementary Regulations	19
Appendix C	
Certifications, Disclosures, and Assurances	27

MINORITY UNIVERSITY
Precollege Awards for Excellence in
Mathematics, Science, Engineering, and Technology
(PACE/MSET)

I. INTRODUCTION

NASA's vision is to serve America through space exploration and to improve the quality of life on Earth. In achieving this, NASA involves the academic community and fosters educational excellence by creating learning opportunities to challenge and inspire young minds. These efforts support NASA's response to Executive Order 12821, *Improving Mathematics and Science Education in Support of the National Education Goals*, which mandates Federal agencies to assist in the mathematics, science and technology education of the Nation's students and teachers. Additionally, Executive Orders and Public Laws mandate Federal agencies to establish action plans to increase participation of Historically Black Colleges and Universities, Hispanic Serving Institutions and Tribal Colleges and Universities in Federal education programs.

The ability of the US to maintain leadership in the world economy depends in part on its ability as a Nation to educate and train talented scientists and engineers. Historically, Americans who are disadvantaged, have been significantly underrepresented in MSET professions. Changing demographics indicate that this group will make up nearly 30 percent of the new entrants into the labor force by the end of the century. As an investment in America's future, this target group must be included in the development of the nation's stock of well-trained scientists and engineers. The purpose of PACE is to support educational outreach projects at eligible universities to increase the number of students who successfully pursue MSET study at the undergraduate level and beyond, ultimately contributing to the pool of talented scientists and researchers in MSET fields.

II. PROGRAM GOALS AND OBJECTIVES

A. Goals

Focusing on public elementary, middle and high schools that primarily serve the target group, the goals of PACE are to:

- Increase the enrollment of students in MSET college preparatory courses
- Strengthen students' MSET skills
- Increase student enrollment in college in MSET disciplines
- Encourage students to pursue MSET careers in the future

B. Objectives

To achieve these goals, the objectives of the PACE program are to:

- Increase the number of targeted students successfully completing gateway courses, such as Algebra, Geometry, college preparatory mathematics and science.

- Communicate and collaborate among the mathematics, science, engineering, technology, and education departments within the university and between the university/non-profit organization and the public schools.
- Engage students in participatory activities, such as hands-on learning, research, use of advanced technology, peer support groups, and mentoring relationships with professionals and college students.
- Increase student awareness of MSET in the world, multicultural contributions to MSET fields, and career options through career exploration, counseling, and discussions of higher education options, requirements, and financial assistance.
- Inform parents of students' academic progress and involve them in orientation and awareness activities designed to strengthen family support of MSET education.
- Involve community groups, business, industry, research laboratories, museums, and educational and professional organizations through mentoring, field trips and guest speakers.

C. Outcomes

The expected outcomes include:

1. Precollege students at each grade one through eight shall successfully progress to the next level of mathematics.
2. High school students shall successfully progress through a college preparatory mathematics and science curriculum.
3. Bridge students shall progress from freshman to sophomore level at rate greater than the university's overall retention rate for MSET students.

III. AWARD SIZE AND DURATION

PACE awards will be established under a grant with funding of \$100,000 annually for three years. Continuation of funding for years two and three is predicated on documented progress reported annually and the availability of funds. Failure to make adequate progress in any one year will result in termination of the grant and continuation funding will not be provided. Further, continuation funding may be reduced if cost reporting indicates a significant level of unexpended funding.

IV. ELIGIBILITY

A. Institutions

All proposals must originate from US colleges or universities that meet the following criteria. Proposing institutions **must**:

- 1) Be an accredited minority college or university with enrollment of a single socially and economically disadvantaged and/or disabled group or the combination of underrepresented minority groups that exceeds 50 percent of the total student enrollment as defined in the Higher Education Act, as amended [See 20 USC 1135d-5 and 34 CFR 637.4 (b)]; **and/or**
- 2) Be designated by the Department of Education as a Hispanic-Serving Institution (HSI) under Title III of the Higher Education Act of 1965, as amended [See 20 USC 1059c, Public Law 102-325-July 23, 1992-Section 316]; **and/or**

- 3) Be an institution designated by the Department of Education as a Historically Black College and University under Title III of the Higher Education Act of 1965, as amended (see 34 CFR 608.2.); **and/or**
- 4) Be designated a Tribal College or University as defined by Executive Order 13021, Section 1, as those institutions cited in Section 532 of the Equity in Educational Land-Grant Status Act of 1994, (7 U.S.C. 301 note) and any other institution that qualifies for funding under the Tribally Controlled Community College Assistance Act of 1978, (25 U.S.C. 1801 *et seq.*) and Navajo Community College, authorized in the Navajo Community College Assistance Act of 1978, Public Law 95-471, Title III (25 U.S.C. 840a note).

Only Institutions that meet the above criteria can be the recipient of a NASA PACE grant. Any arrangements and/or agreements to have the administration of the award done by a third party is between the awardee and the third party and does not require NASA's involvement or approval.

School Districts and non-profit educational organizations serving disadvantaged students are encouraged to partner with eligible minority institutions who meet the criteria. The minority institution will be the grantee.

B. Target Population

PACE targets disadvantaged students who are United States citizens at the precollege levels. Individuals are those who have been subjected to racial or ethnic prejudice or cultural bias because of their identity as a member of a group without regard to their individual qualities. Economically disadvantaged individuals are those individuals whose ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same business who are not socially disadvantaged. [See section 8(a) (5) and (6) of the Small Business Act.] Each institution must outline their procedures for determining individuals who are socially and economically disadvantaged.

C. Principal Investigator

The principal investigator must have extensive, demonstrated experience in MSET education of disadvantaged students, be an employee of the institution, and be a US citizen. Principal Investigators must devote at least 25 percent of their time to the project. NASA will not fund more than 50 percent of any staff member's documented annual salary, excluding temporary salary from summer, and/or other forms of employment.

V. PROJECT DESIGN AND CONTENT

Strong emphasis is placed on innovative projects with collaborative strategies and specific outcomes. PACE is designed to produce results that are defined by measurable and quantitative student-based outcomes. Detailed data collection is required in all projects for monitoring and evaluation.

An outreach project must be designed to enrich and supplement the elementary and secondary school curriculum and address the underrepresentation of disadvantaged students in college preparatory mathematics, science and technology courses in public elementary, middle and/or high schools with substantial enrollments of these targeted students. Content must reflect the direction of curriculum standards as established in mathematics by the National Council of

Teachers of Mathematics and in science as currently under development by the National Research Council. The project should be linked to emerging national, state, and district frameworks and curriculum guidelines that are consistent with these standards. Activities proposed should be a result of a careful needs analysis and should encompass NASA, school system, and university/non-profit goals.

Eligible projects for funding under PACE include any combination of outreach efforts, such as, Saturday Academies, Residential and Non-residential Summer Science Camps, In-School Mathematics and Science Academies, and After-School Mathematics and Science Enrichment Programs. The design should provide rigorous academic experiences that integrate NASA resource materials, connections among MSET disciplines, multicultural contributions to MSET fields, hands-on experiences, inquiry learning, problem-solving activities, research, and advanced technology. As appropriate, it should address communication skills development both oral and written as they relate to mathematics and science. The design must provide opportunities for career exploration and counseling and include enrichment activities, such as field trips, guest speakers, interaction and/or mentoring with scientists and engineers, peer support groups, math and science fairs and competitions and mentoring and/or tutoring by college students. The design must involve parents and include activities that strengthen family support of MSET education.

VI. PROPOSAL REQUIREMENTS AND EVALUATION CRITERIA

A. Proposal Length

Proposal requirements should be strictly followed. Proposals are to be typed, double spaced, and must not exceed 33 pages total, including all required certifications, forms, and appendices. Do not attach appendices other than those required by this announcement; extraneous appendices will not be accepted. If the total pages exceed 33, only the first 33 pages will be evaluated.

B. Evaluation Criteria

Proposals will be evaluated based on the following criteria: Technical Soundness , Partnership Plan, Project Relevance and Potential, Performance Competence and Management, Resources and Commitment, Evaluation and Dissemination, and Reasonableness of Costs . Items are listed in order of importance (i.e., Technical Soundness is slightly more important than Partnership Plan)..

C. Required Sections

For each section, the following table lists the section description, maximum page length, the evaluation criteria, and the maximum possible points. Proposals must contain these sections in the following order:

Proposal Requirements	Evaluation Criteria
<p>1. Proposal title page and table of contents Maximum pages: 2 Complete the required proposal title page provided in <u>Appendix A</u> and provide a table of contents.</p>	
<p>2. Executive summary and university/non-profit organization cover letter Maximum pages: 2 Include a brief abstract of the proposed project and a separate cover letter that describes in detail the university/participating partner(s) support and resource commitments to the project.</p>	
<p>3. Three-Year PACE Project Design Maximum pages: 6</p> <p>Describe in detail the project design, scope, and disciplinary focus. Show how its goals and objectives relate to PACE goals and objectives, as well as to the university and participating partners goals and objectives. Outline in detail (per year) the breadth and depth of the project including all components and activities, the levels and disciplines targeted, resources, curriculum, methodology and NASA materials used, and intervention and follow-up strategies.</p> <p>Indicate the roles and responsibilities of parents, mentors, career counselors, and MSET professionals.</p>	<p>Criteria 1 Technical Soundness</p> <ul style="list-style-type: none"> • overall project design • technical soundness and approach • relevance to NASA’s PACE goals and objectives and to the university, non-profit organization and/or school system goals • project scope, disciplinary focus, intervention strategies and follow-up • curriculum, methodology and NASA resources used • quality of proposed activities and the clarity of service offered to the students
<p>4. Partnership Plan Maximum pages: 3</p> <p>Describe the proposed partnership plan. Provide evidence of the relationship between the university and participating partners and show strong linkages and collaboration among participating organizations.</p>	<p>Criteria 2 Partnership Plan</p> <ul style="list-style-type: none"> • evidence of a strong relationship between the university, non-profit organization and/or the targeted school district • proposed collaboration with other educational organization(s) (when feasible) • proposed collaboration between appropriate departments within the university and between the university and the targeted public school(s)

Proposal Requirements	Evaluation Criteria
<p>4. Partnership Plan continued</p> <p>Describe the roles and responsibilities of each partner. Signatures of participating partners should be incorporated into the three pages.</p>	<p>Criteria 2 Partnership Plan continued</p> <ul style="list-style-type: none"> • extent of support from business and industry, research laboratories, community groups, museums and other educational and professional organizations • extent of involvement of mentors, scientists and engineers, career counselors, and parents
<p>5. Growth Potential Maximum pages: 2</p> <p>Describe how the project will address the specific needs of students in the targeted school(s), how these needs were determined, and how the project will increase the number and achievement of targeted students in college preparatory mathematics, science and technology courses.</p> <p>6. Participant recruitment, selection and outcomes Maximum pages: 2</p> <p>State the number of students to be involved in the project. Describe how students will be recruited; give selection criteria and procedures. Describe what baseline data will be collected the outcomes to be achieved.</p>	<p>Criteria 3 Project Relevance and Potential</p> <ul style="list-style-type: none"> • project relevance to student needs as determined by careful needs assessment such as results of pre and post testing • potential of proposed project to contribute to an increase in the enrollment and achievement of disadvantaged students in college preparatory mathematics, science and technology courses in middle and high schools with substantial enrollments of these targeted students • student outcome data • likelihood that the project will serve as a new or improved model to be replicated

Proposal Requirements	Evaluation Criteria
<p>7. Management Plan Maximum pages: 2</p> <p>Provide a management plan. Identify key personnel and state the percentage of time they will devote to the planning, implementation and evaluation of the project. Provide an organizational chart of all personnel. Include the roles and responsibilities of all personnel.</p> <p>8. Biographical Information Maximum pages: 2 Provide biographic information for the principal investigator. List all publications to the project). Show the leadership experience and the management expertise of the principal investigator. Include qualifications and experience in K-12 MSET education of targeted students.</p>	<p>Criteria 4 Performance Competence and Management</p> <ul style="list-style-type: none"> • capabilities and qualifications of the principle investigator and other key personnel in mathematics, science, engineering and technology education of disadvantaged students • time commitment to the project • management experience and past accomplishments • feasibility of accomplishing the tasks with the given resources • overall project management
<p>9. Resources and Commitment Maximum pages: 3</p> <p>Outline the university and participating partners' long-term commitment of resources that support the project, such as facilities, staffing, transportation, computers, and experimental equipment. Show the commitment of resources consistent with the three-year budget request. Describe the strengths and quality of the departments of education, mathematics, science, engineering and technology and how they will contribute to and support the project.</p>	<p>Criteria 5 Resources and Commitment</p> <ul style="list-style-type: none"> • available resources from the university, collaborating educational organizations and others • commitment of resources, facilities, transportation, staffing, computers and equipment that support the project • quality of the university's education, mathematics, science, engineering and technology departments and their commitment to support the project

Proposal Requirements	Evaluation Criteria
<p>10. Evaluation and Dissemination Maximum pages: 3</p> <p>Evaluations are essential components of this proposal. Include a methodologically sound and realistic evaluation plan that focuses on measurable, student-based outcomes. Clearly and concisely state goals, measurable objectives, critical evaluation questions, required tracking data, the personnel needed to perform the evaluation tasks, the processes that will be used to collect and analyze the information and a time line for these activities. Identify how mid-course corrections will be made. Include an annual dissemination plan identifying the purpose, audience(s), content, and strategies for dissemination to the education community. and how the impact of the dissemination will be assessed. Provide annual evaluation reports.</p>	<p>Criteria 6 Evaluation and Dissemination</p> <ul style="list-style-type: none"> • feasibility of evaluation plan • cost effectiveness of plan • reasonableness and measurability of project objectives • quality of evaluation criteria and data and dissemination plan
<p>11. Summary by Year and Cost Element Maximum pages: 4</p> <p>Provide a budget for each year of the three-year project (provided in <u>Appendix B</u>) Include details and explanatory notes for each budget line item. Identify cost-sharing, including in-kind support, by budget line item. State salaries and include percent of the salary for the position, prorated and time covered by the proposal. NASA will not fund more than 50 percent of any personnel's annual documented salary.</p>	<p>Criteria 7 Reasonableness of Costs</p> <ul style="list-style-type: none"> • appropriateness of the budget, including the realism and reasonableness of proposed cost and the relationship of the proposed cost to available funds • cost effectiveness of the project • percent of budget devoted to direct services
<p>12. Certifications Submit the following certification:</p> <p>1. Certification of Institution Eligibility and Principal Investigator (<u>Appendix A-3</u>)</p>	

VII. PROPOSAL SUBMISSION

Eligible institutions may submit only one proposal in response to this program announcement. The original and 6 copies of the proposal package must be received at NASA Headquarters **no later than 4:30 p.m. Eastern Standard Time, September 14, 1998**. Proposals sent through the U.S. Postal Service by first class, registered or certified mail should be addressed as:

Ms. Mary Anne Stoutsenberger
Minority University Program Specialist
Code EU
NASA Headquarters
Washington, DC 20546-0001

Proposals submitted via commercial delivery or courier service should be addressed as:

Ms. Mary Anne Stoutsenberger
Code EU
Attention: Receiving and Inspection (Rear of Building)
NASA Headquarters
300 E Street SW
Washington DC 20024-3210

VIII. PROPOSAL REVIEW AND SELECTION

Proposals will be evaluated on the basis of a merit review which may include ad hoc mail reviews, panel reviews by recognized academic and scientific experts and internal NASA personnel, as appropriate. External reviewers will be broadly representative of the various types of eligible organizations.

IX. PERFORMANCE

A second-year assessment will be performed by NASA and will be based on the extent to which the goals stated in this announcement and in the original grant proposal have been achieved.

APPENDIX A

Required Forms

A-1: Proposal Cover Page

A-2: Budget Request Summary

**A-3: Certification of Institution and
Principal Investigator Eligibility**

PACE 1999 Proposal Cover Page

This Box for NASA Use Only	
_____ Proposal Number _____	_____ Date _____
_____ Award Number _____	_____ Received _____
_____ Period of Award _____	

Name of Submitting Institution:	
Proposal Title:	
<p style="text-align: center;"><u>Certification of Compliance with Applicable Executive Orders and U.S. Code</u></p> <p>By submitting the proposal identified in this <i>Cover Sheet/Proposal Summary</i> in response to NRA 99-OEOP-3, the Authorizing Official of the proposing institution (or the individual proposer if there is no proposing institution) as identified below:</p> <ul style="list-style-type: none"> • certifies that the statements made in this proposal are true and complete to the best of his/her knowledge; • agrees to accept the obligations to comply with NASA award terms and conditions if an award is made as a result of this proposal; and • confirms compliance with all provisions, rules, and stipulations set forth in the three Certifications contained in this NRA [namely, (I) <i>Certification Regarding Debarment, Suspension, and Other Responsibility Matters Primary Cover Transactions</i>, (ii) <i>Certification Regarding Lobbying</i>, and (iii) <i>Certification of Compliance with the NASA Regulations Pursuant to Nondiscrimination in Federally Assisted Programs</i>]. <p>Willful provision of false information in this proposal and/or its supporting documents, or in reports required under an ensuing award, is a criminal offense (U.S. Code, Title 18, Section 1001).</p>	
_____	_____
Principal Investigator - Name	Authorized Institutional Official - Name
_____	_____
Title	Title
_____	_____
Department	Department
_____	_____
Mailing Address	Mailing Address
_____	_____
Telephone Number	Telephone Number
_____	_____
Fax Number	Fax Number
_____	_____
E-mail Address	E-mail Address
_____	_____
Principal Investigator - Signature	Institutional Official - Signature
_____	_____
Date	Date

Institution Name: _____
Proposal Title: _____

PACE Budget Request Summary

From _____ to _____

	RECIPIENT'S COST	NASA USE ONLY	
	A	B	C
1. Direct Labor (salaries, wages, and fringe benefits)	_____	_____	_____
2. Other Direct Costs	_____	_____	_____
a. Subcontracts	_____	_____	_____
b. Consultants	_____	_____	_____
c. Equipment	_____	_____	_____
d. Supplies	_____	_____	_____
e. Travel	_____	_____	_____
f. Other	_____	_____	_____
3. Indirect Costs	_____	_____	_____
4. Other Applicable Costs	_____	_____	_____
5. SUBTOTAL - Estimated Costs	_____	_____	_____
6. Less Proposed Cost Sharing (if any)	_____	_____	_____
7. Carryover Funds (if any)			
a. Anticipated Amount _____			
b. Amount used to reduce budget	_____	_____	_____
8. TOTAL ESTIMATED COST	_____	_____	XXXXXXXXXXXXXXXXXX
APPROVED BUDGET	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	_____
	XX	X	

Instructions

1. Provide a complete budget summary sheet for year one and separate estimates for each subsequent year.
2. Recipient's estimated costs should be entered in Column A. Columns B and C are for NASA use only. Column C represents the approved grant budget.
3. Provide as attachments detailed computations of estimates in each cost category with narratives required to fully explain proposed costs.

SPECIFIC COSTS

1. Direct Labor (salaries, wages, fringe benefits): Attachments should list number and titles of personnel, amount of time to be devoted to the grant, and rates of pay.
2. Other Direct Costs:
 - a. Subcontracts: Attachments should describe the work to be subcontracted, estimated amount, recipient (if known), and the reason for subcontracting .
 - b. Consultants: Identify consultants to be used, why they are necessary, the time they will spend on the project, and rates of pay (not to exceed the equivalent of the daily rate for Level IV of the Executive Schedule, exclusive of expense and indirect costs).
 - c. Equipment: List separately. Explain the need for items costing more than \$5,000. Describe basis for estimated cost. General purpose equipment is not allowable as a direct cost unless specifically approved by the grant officer. Any equipment purchase requested to be made as a direct charge under this grant must include the equipment description, how it will be used in the conduct of the basic research proposed and why it cannot be purchased with indirect funds.
 - d. Supplies: Provide general categories of needed supplies, the method of acquisition, estimated cost.
 - e. Travel: Describe the purpose of the proposed travel in relation to the grant and provide the basis of estimate, including information on destination and number of travelers where known.
 - f. Other: Enter the total of direct costs not covered by 2a through 2e. Attach an itemized list explaining the need for each item and the basis for the estimate. Enter the student stipends (number of students x amount of stipend for each).
3. Indirect Costs: Identify indirect cost rate(s) and base(s) as approved by the cognizant Federal agency, including the effective period of the rate. Provide the name, address, and telephone number of the Federal agency and official having cognizance. If unapproved rates are used, explain why, and include the computational basis for the indirect expense pool and corresponding allocation base for each rate.
4. Other Applicable Costs: Enter total of other applicable costs with an itemized list explaining the need for each item and basis for the estimate.
5. Subtotal-Estimated Costs: Enter the sum of items 1 through 4.
6. Less Proposed Cost Sharing (if any): Enter any amount proposed. If cost sharing is based on specific cost items, identify each item and amount in an attachment.
7. Carryover Funds (if any): Enter the dollar amount of any funds that are expected to be available for carryover from the prior budget period. Identify how the funds will be used if they are not used to reduce the budget. NASA officials will decide whether to use all or part of the anticipated carryover to reduce the budget. Not applicable to 2nd-year and subsequent-year budgets submitted f the award of a multiple year grant.
8. Total Estimated Costs: Enter the total after subtracting items 6 and 7b from item 5.

**PACE 1999
Certification of Institution and Principal Investigator Eligibility**

I. Institutional Eligibility Certification

1. Institution Name _____

2. Proposal Title _____

3. Check the Department of Education FY 1998 Certifications Held by the Institution.

____ Minority Institution (socially and economically disadvantaged and/or disabled group(s) exceed 50% of the total student enrollment)

____ Designated Hispanic-Serving Institute

____ Designated Historically Black College or University

____ Designated Tribal College or University

Note: Institutional eligibility will be verified by data on enrollments.

II. Principal Investigator Eligibility Certification

1. Last Name _____ First Name _____ MI _____

2. Verification of Employment:
Employed by (institution): _____

School/Department (specify): _____

3. Position Title: _____

4. Type of Appointment (select one): a. Tenured _____ b. Non-Tenured _____

If (b) is selected, complete the information below.

1. Tenured-track: Yes _____ No _____

2. Contract Position: Yes _____ No _____

If yes, single year contract? Yes _____ No _____

Multi-year contract? Yes _____ No _____

If multi-year contract, how many? _____

5. US citizen Yes ___ No ___

6. Principal investigator will devote at least 25% of his/her time to the project.

Signature _____

Date: _____

Authorized institutional official

**INSTRUCTIONS FOR RESPONDING TO
NASA RESEARCH ANNOUNCEMENTS**

(JANUARY 1997)

(a) General.

(1) Proposals received in response to a NASA Research Announcement (NRA) will be used only for evaluation purposes. NASA does not allow a proposal, the contents of which are not available without restriction from another source, or any unique ideas submitted in response to an NRA to be used as the basis of a solicitation or in negotiation with other organizations, nor is a pre-award synopsis published for individual proposals.

(2) A solicited proposal that results in a NASA award becomes part of the record of that transaction and may be available to the public on specific request; however, information or material that NASA and the awardee mutually agree to be of a privileged nature will be held in confidence to the extent permitted by law, including the Freedom of Information Act.

(3) NRAs contain programmatic information and certain requirements which apply only to proposals prepared in response to that particular announcement. These instructions contain the general proposal preparation information which applies to responses to all NRAs.

(4) A contract, grant, cooperative agreement, or other agreement may be used to accomplish an effort funded in response to an NRA. NASA will determine the appropriate instrument. Contracts resulting from NRAs are subject to the Federal Acquisition Regulation and the NASA FAR. Supplement. Any resultant grants or cooperative agreements will be awarded and administered in accordance with the NASA Grant and Cooperative Agreement Handbook (NPG 5800.1).

(5) NASA does not have mandatory forms or formats for responses to NRAs; however, it is requested that proposals conform to the guidelines in these instructions. NASA may accept proposals without discussion; hence, proposals should initially be as complete as possible and be submitted on the proposers' most favorable terms.

(6) To be considered for award, a submission must, at a minimum, present a specific project within the areas delineated by the NRA; contain sufficient technical and cost information to permit a meaningful evaluation; be signed by an official authorized to legally bind the submitting organization; not merely offer

to perform standard services or to just provide computer facilities or services; and not significantly duplicate a more specific current or pending NASA solicitation.

(b) NRA-Specific Items. Several proposal submission items appear in the NRA itself: the unique NRA identifier; when to submit proposals; where to send proposals; number of copies required; and sources for more information. Items included in these instructions may be supplemented by the NRA.

(c) The following information is needed to permit consideration in an objective manner. NRAs will generally specify topics for which additional information or greater detail is desirable. Each proposal copy shall contain all submitted material, including a copy of the transmittal letter if it contains substantive information.

(1) Transmittal Letter or Prefatory Material.

(i) The legal name and address of the organization and specific division or campus identification if part of a larger organization;

(ii) A brief, scientifically valid project title intelligible to a scientifically literate reader and suitable for use in the public press;

(iii) Type of organization: e.g., profit, nonprofit, educational, small business, minority, women-owned, etc.;

(iv) Name and telephone number of the principal investigator and business personnel who may be contacted during evaluation or negotiation;

(v) Identification of other organizations that are currently evaluating a proposal for the same efforts;

(vi) Identification of the NRA, by number and title, to which the proposal is responding;

(vii) Dollar amount requested, desired starting date, and duration of project;

(viii) Date of submission; and

(ix) Signature of a responsible official or authorized representative of the organization, or any other person authorized to legally bind the organization (unless the signature appears on the proposal itself).

(2) Restriction on Use and Disclosure of Proposal Information. Information contained in proposals is used for evaluation purposes only. Offerors or quoters should, in order to maximize protection of trade secrets or other information that is confidential or privileged, place the following notice on the title page of the proposal and specify the information subject to the notice by inserting an appropriate identification in the notice. In any event, information contained in proposals will be protected to the extent permitted by law, but NASA assumes no liability for use and disclosure of information not made subject to the notice.

Notice

Restriction on Use and Disclosure of Proposal Information

The information (data) contained in [insert page numbers or other identification] of this proposal constitutes a trade secret and/or information that is commercial or financial and confidential or privileged. It is furnished to the Government in confidence with the understanding that it will not, without permission of the offeror, be used or disclosed other than for evaluation purposes; provided, however, that in the event a contract (or other agreement) is awarded on the basis of this proposal the Government shall have the right to use and disclose this information (data) to the extent provided in the contract (or other agreement). This restriction does not limit the Government's right to use or disclose this information (data) if obtained from another source without restriction.

(3) Abstract. Include a concise (200-300 word if not otherwise specified in the NRA) abstract describing the objective and the method of approach.

(4) Project Description.

(i) The main body of the proposal shall be a detailed statement of the work to be undertaken and should include objectives and expected significance; relation to the present state of knowledge; and relation to previous work done on the project and to related work in progress elsewhere. The statement should outline the plan of work, including the broad design of experiments to be undertaken and a description of experimental methods and procedures. The project description should address the evaluation factors in these instructions and any specific factors in the NRA. Any substantial collaboration with individuals not referred to in the budget or use of consultants should be described. Subcontracting significant portions of a research project is discouraged.

(ii) When it is expected that the effort will require more than one year, the proposal should cover the complete project to the extent that it can be reasonably anticipated. Principal emphasis should be on the first year of

work, and the description should distinguish clearly between the first year's work and work planned for subsequent years.

(5) Management Approach. For large or complex efforts involving interactions among numerous individuals or other organizations, plans for distribution of responsibilities and arrangements for ensuring a coordinated effort should be described.

(6) Personnel. The principal investigator is responsible for supervision of the work and participates in the conduct of the research regardless of whether or not compensated under the award. A short biographical sketch of the principal investigator, a list of principal publications and any exceptional qualifications should be included. Omit social security number and other personal items which do not merit consideration in evaluation of the proposal. Give similar biographical information on other senior professional personnel who will be directly associated with the project. Give the names and titles of any other scientists and technical personnel associated substantially with the project in an advisory capacity. Universities should list the approximate number of students or other assistants, together with information as to their level of academic attainment. Any special industry-university cooperative arrangements should be described.

(7) Facilities and Equipment.

(i) Describe available facilities and major items of equipment especially adapted or suited to the proposed project, and any additional major equipment that will be required. Identify any Government-owned facilities, industrial plant equipment, or special tooling that are proposed for use. Include evidence of its availability and the cognizant Government points of contact.

(ii) Before requesting a major item of capital equipment, the proposer should determine if sharing or loan of equipment already within the organization is a feasible alternative. Where such arrangements cannot be made, the proposal should so state. The need for items that typically can be used for research and non-research purposes should be explained.

(8) Proposed Costs.

(i) Proposals should contain cost and technical parts in one volume: do not use separate "confidential" salary pages. As applicable, include separate cost estimates for salaries and wages; fringe benefits; equipment; expendable materials and supplies; services; domestic and foreign travel; ADP expenses; publication or page charges; consultants; subcontracts; other miscellaneous identifiable direct costs; and indirect costs. List salaries and wages in appropriate organizational categories (e.g., principal investigator,

other scientific and engineering professionals, graduate students, research assistants, and technicians and other non-professional personnel). Estimate all staffing data in terms of staff-months or fractions of full-time.

(ii) Explanatory notes should accompany the cost proposal to provide identification and estimated cost of major capital equipment items to be acquired; purpose and estimated number and lengths of trips planned; basis for indirect cost computation (including date of most recent negotiation and cognizant agency); and clarification of other items in the cost proposal that are not self-evident. List estimated expenses as yearly requirements by major work phases.

(iii) Allowable costs are governed by FAR Part 31 and the NASA FAR Supplement Part 1831 (and OMB Circulars A-21 for educational institutions and A-122 for nonprofit organizations).

(9) **Security.** Proposals should not contain security classified material. If the research requires access to or may generate security classified information, the submitter will be required to comply with Government security regulations.

(10) **Current Support.** For other current projects being conducted by the principal investigator, provide title of project, sponsoring agency, and ending date.

(11) **Special Matters.**

(i) Include any required statements of environmental impact of the research, human subject or animal care provisions, conflict of interest, or on such other topics as may be required by the nature of the effort and current statutes, executive orders, or other current Government-wide guidelines.

(ii) Proposers should include a brief description of the organization, its facilities, and previous work experience in the field of the proposal. Identify the cognizant Government audit agency, inspection agency, and administrative contracting officer, when applicable.

(d) **Renewal Proposals**

(1) Renewal proposals for existing awards will be considered in the same manner as proposals for new endeavors. A renewal proposal should not repeat all of the information that was in the original proposal. The renewal proposal should refer to its predecessor, update the parts that are

no longer current, and indicate what elements of the research are expected to be covered during the period for which support is desired. A description of any significant findings since the most recent progress report should be included. The renewal proposal should treat, in reasonable detail, the plans for the next period, contain a cost estimate, and otherwise adhere to these instructions.

(2) NASA may renew an effort either through amendment of an existing contract or by a new award.

(e) **Length.** Unless otherwise specified in the NRA, effort should be made to keep proposals as brief as possible, concentrating on substantive material. Few proposals need exceed 15-20 pages. Necessary detailed information, such as reprints, should be included as attachments. A complete set of attachments is necessary for each copy of the proposal. As proposals are not returned, avoid use of "one-of-a-kind" attachments.

(f) Joint Proposals.

(1) Where multiple organizations are involved, the proposal may be submitted by only one of them. It should clearly describe the role to be played by the other organizations and indicate the legal and managerial arrangements contemplated. In other instances, simultaneous submission of related proposals from each organization might be appropriate, in which case parallel awards would be made.

(2) Where a project of a cooperative nature with NASA is contemplated, describe the contributions expected from any participating NASA investigator and agency facilities or equipment which may be required. The proposal must be confined only to that which the proposing organization can commit itself. "Joint" proposals which specify the internal arrangements NASA will actually make are not acceptable as a means of establishing an agency commitment.

(g) **Late Proposals.** A proposal or modification received after the date or dates specified in an NRA may be considered if doing so is in the best interests of the Government.

(h) **Withdrawal.** Proposals may be withdrawn by the proposer at any time before award. Offerors are requested to notify NASA if the proposal is funded by another organization or of other changed circumstances which dictate termination of evaluation.

(i) Evaluation Factors

(1) Unless otherwise specified in the NRA, the principal elements (of approximately equal weight) considered in evaluating a proposal are its relevance to NASA's objectives, intrinsic merit, and cost.

(2) Evaluation of a proposal's relevance to NASA's objectives includes the consideration of the potential contribution of the effort to NASA's mission.

(3) Evaluation of its intrinsic merit includes the consideration of the following factors of equal importance:

(i) Overall scientific or technical merit of the proposal or unique and innovative methods, approaches, or concepts demonstrated by the proposal.

(ii) Offeror's capabilities, related experience, facilities, techniques, or unique combinations of these which are integral factors for achieving the proposal objectives.

(iii) The qualifications, capabilities, and experience of the proposed principal investigator, team leader, or key personnel critical in achieving the proposal objectives.

(iv) Overall standing among similar proposals and/or evaluation against the state-of-the-art.

(4) Evaluation of the cost of a proposed effort may include the realism and reasonableness of the proposed cost and available funds.

(j) Evaluation Techniques. Selection decisions will be made following peer and/or scientific review of the proposals. Several evaluation techniques are regularly used within NASA. In all cases proposals are subject to scientific review by discipline specialists in the area of the proposal. Some proposals are reviewed entirely in-house, others are evaluated by a combination of in-house and selected external reviewers, while yet others are subject to the full external peer review technique (with due regard for conflict-of-interest and protection of proposal information), such as by mail or through assembled panels. The final decisions are made by a NASA selecting official. A proposal which is scientifically and programmatically meritorious, but not selected for award during its initial review, may be included in subsequent reviews unless the proposer requests otherwise.

(k) Selection for Award.

(1) When a proposal is not selected for award, the proposer will be notified. NASA will explain generally why the proposal was not selected. Proposers desiring additional information may contact the selecting official who will arrange a debriefing.

(2) When a proposal is selected for award, negotiation and award will be handled by the procurement office in the funding installation. The proposal is used as the basis for negotiation. The contracting officer may request certain business data and may forward a model award instrument and other information pertinent to negotiation.

(l) **Cancellation of NRA.** NASA reserves the right to make no awards under this NRA and to cancel this NRA. NASA assumes no liability for canceling the NRA or for anyone's failure to receive actual notice of cancellation.

CERTIFICATIONS, DISCLOSURES, AND ASSURANCES PURSUANT TO LOBBYING, DEBARMENT & SUSPENSION, NONDISCRIMINATION, AND DRUG-FREE WORKPLACE

1. LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 14 CFR Part 1271, as defined at 14 CFR Subparts 1271.110 and 1260.117, with each submission that initiates Agency consideration of such applicant for award of a Federal contract, grant, or cooperative agreement exceeding \$100,000, the applicant must **certify** that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit a Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

2. GOVERNMENTWIDE DEBARMENT AND SUSPENSION

As required by Executive Order 12549, and implemented at 14 CFR 1260.510, for prospective participants in primary covered transactions, as defined at 14 CFR Subparts 1265.510 and 1260.117 —

(1) The prospective primary participant **certifies** to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

3. NONDISCRIMINATION IN FEDERALLY ASSISTED PROGRAMS

The institution, corporation, firm, or other organization on whose behalf this assurance is signed, hereinafter called "Applicant," HEREBY AGREES THAT it will comply with Title VI of the Civil Rights Act of 1964 (P.L. 88-352), Title IX of the Education Amendments of 1972 (20 U.S.C. 1680 et seq.), Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and the Age Discrimination Act of 1975 (42 U.S.C. 16101 et seq.), and all requirements imposed by or pursuant to the Regulation of the National Aeronautics and Space Administration (14 CFR Part 1250)(hereinafter called "NASA") issued pursuant to these laws, to the end that in accordance with these laws and regulations, no person in the United States shall, on the basis of race, color, national origin, sex, handicapped condition, or age be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Applicant receives Federal financial assistance from NASA; and HEREBY GIVES ASSURANCE THAT it will immediately take any measure necessary to effectuate this agreement.

If any real property or structure thereon is provided or improved with the aid of Federal financial assistance extended to the Applicant by NASA, this assurance shall obligate the Applicant, or in the case of any transfer of such property, and transferee, for the period during which the real property or structure is used for a purpose for which the Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits. If any personal property is so provided, this assurance shall obligate the Applicant for the period during which it retains ownership or possession of the property. In all other cases, this assurance shall obligate the Applicant for the period during which the Federal financial assistance is extended to it by NASA.

THIS ASSURANCE is given in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property, discounts or other Federal financial assistance extended after the date hereof to the Applicant by NASA, including installment payments after such date on account of applications for Federal financial assistance which were approved before such date. The applicant recognizes and agrees that such Federal financial assistance will be extended in reliance on the representations and agreements made in this assurance, and that the United States shall have the right to seek judicial enforcement of this assurance. This assurance is binding on the Applicant, its successors, transferees, and assignees, and the person or persons whose signatures appear below are authorized to sign on behalf of the Applicant.

4. DRUG-FREE WORKPLACE

The applicant agrees that it will or will continue to provide a drug-free workplace as required by the Drug-Free Workplace Act of 1988, P.L. 100-690, as amended.