



GRANT-IN-AID (GIA) RESEARCH PROGRAM

GIA APPLICATION AND INFORMATION DOCUMENT

THE NEW JERSEY SENIOR ACADEMY OF SCIENCE

AND

THE NEW JERSEY JUNIOR ACADEMY OF SCIENCE

ACADEMIC YEAR 2013-2014

FOR NJ SCIENCE & MATH STUDENTS IN GRADES 9-12

Please find the enclosed application form and information for the New Jersey Academy of Science (NJAS) Grant-In-Aid (GIA) program. Only these forms should be used for submission of proposals. Please duplicate this material and bring it to the attention of school students (grades 9-12) throughout New Jersey who may be interested in scientific or mathematic research, or any teachers who may have interested students. We encourage you to participate in this program to obtain funding and recognition for your research efforts.

STUDENT INFO & INSTRUCTIONS FOR NJAS GIA 2013-14

Through the cooperation of the New Jersey Academy of Science (NJAS), the American Association for the Advancement of Science (AAAS), and industrial and academic scientists, grants are awarded to New Jersey students in grades 9-12 who plan to complete a science (any discipline) or mathematics research project during the 2013-2014 school year. Awards, up to \$150.00 each, are granted on a competitive basis to an individual student OR to a team of students.

Any New Jersey student in grades 9-12 may apply for a grant. Upon notification of the award, students may choose to accept the grant or not. Grant recipients will receive their award money following a required oral research presentation (presentation must be the student researchers, not the research sponsor) at the **annual NJAS meeting in the spring (check www.njas.org for meeting updates closer to the event date)**. The contact for the GIA program is Dr. Eric Iannacone, Assistant Professor at Raritan Valley Community College. He is the current president of NJAS, and reachable via email eiannaco@raritanval.edu or phone 908-526-1200 (ext. 8327). If the work is done by a student team, then one member of the team presents orally at the meeting. If a student cannot present because of religious reasons, then that student must have a partner in the GIA proposal that can present at the annual meeting. ALL students, including those who are not GIA winners, are encouraged to register and present at the NJAS annual meeting. The top award winners at the state NJAS annual meeting are eligible to present (at their own expense) at the American Association for the Advancement of Science Meeting (AAAS).

Each completed GIA application MUST include the following documents:

- **Hard Copy of Research Sponsor Recommendation Form**
 - The research sponsor is the high school teacher or academic/industry scientist who agrees to supervise the student's research project work.
- **Electronic Copy of Typed Research Proposal**
 - Submit the proposal electronically, with each student's proposal given a separate name [studentapplicantfirstname_lastname]. DO NOT submit a hard copy of the proposal. DO NOT send the file as a pdf format. Email proposals as attachments to eiannaco@raritanval.edu **by Dec 6, 2013.**
- **Hard Copy of GIA Application/NJAS Membership Form with *attached fee of \$25 per submission*** (make check or money order payable to NJAS) to satisfy terms of our endowment.
 - If more than one student is on a proposal, then each student beyond the first name pays the reduced price of \$15; each student must do their own GIA Application/NJAS Membership form. More than 50% of the fee pays for the NJAS student membership (for the calendar year 2012). Student membership is required for presentation at the annual NJAS meeting. Student members receive the NJAS publication *The NJAS Newsletter*, listing GIA winners and abstracts of all annual NJAS meeting presenters.
 - **Completed applications must be RECEIVED by Friday Dec. 6, 2013.**
Mail to: Eric Iannacone, Science and Engineering
Raritan Valley Community College
118 Lamington Road
Branchburg, NJ 08876

NJAS GRANT-IN-AID PROGRAM ACADEMIC YEAR 2013-14

Evaluation of GIA Applications

Research proposals will be evaluated by outside persons with experience in the field of study indicated on the application. Applications will be assigned a number; therefore, the reviewers will not know the name of the student or the school from which the application was received. A copy of the criteria to be used in evaluating all applications is enclosed to assist applicants in the preparation of their proposals. Award decisions will be made and emails sent to the research sponsors by the end of January 2014.

Instructions for GIA Proposal Preparation

1. Student applicant and research sponsor must determine which discipline the proposed project best fits and indicate on the student GIA application form three disciplines, ranked first, second and third choice. Select from these disciplines:

Biochemistry	Molecular/Cell Biology	Botany
Microbiology	Mathematics	Physics
Chemistry	Neuro/Physiology/Medicine	Genetics
Engineering	Marine Biology	
Zoology/Animal Behavior	Geology/Meteorology	
Psychology/Human Behavior	Computational Science/Math	
Environmental Science/Ecology		

2. Proposals must be typed, double-spaced, with one inch margins. Be sure to check grammar and spelling. A reference list and in-text citation in the body of the document is required.
3. Proposals should be short and concise, **no longer than 4 pages double-spaced** (this page limit is NOT including Title Page, Literature Cited or Budget). Proposals exceeding the page limit will be penalized. The Title Page should have: project title, student's name, and school. Student and school names are only to be on the title page; do not put this information on any other page of the proposal.

Evaluation Criteria for NJAS Grants-In-Aid Applicant Proposals

The items and questions posed below are what the reviewers of each student GIA proposal will use in order to judge and rank the research proposed. The proposal should be clearly written and presented in a neat manner with correct spelling and punctuation.

Title Page

The title should be a descriptive but precise statement of what you intend to investigate.

Title Page should have: project title, student's name, and school.

Body of the document includes introduction, hypothesis, and materials/methods and together is NOT to exceed 4 pages double-spaced.

Introduction

Proposals should concern intended original research. Ask a question such as "Why does....?" Or "What causes?" or "Why are there....?" Does the introduction give evidence that the student has researched the topic to be investigated? Does the introduction provide a logical flow of thought for the formation of a hypothesis? Does the student acknowledge and use appropriate reference citations in the introduction?

Hypothesis

Proposed projects need to have a hypothesis and the appropriately designed experiments to test that hypothesis. Is the hypothesis clearly stated and relevant to the problem described?

Materials and Methods

- A. **Experimental procedure**: Has the student described a workable procedure that is likely to generate data appropriate to the hypothesis and problem?
- B. **Experimental variables and controls**: Has the student successfully identified the variables that need to be considered in the project? Are the control procedures adequate for the variables indicated?
- C. **Data collection**: Are the sampling techniques and amount of data to be collected appropriate for the hypothesis and problem? Has the student considered an appropriate means of data analysis?
- D. **Safety consideration**: Has the student identified potential hazards in this type of research and in handling the materials to be used? Has the student indicated that adequate safety procedures will be followed?

Each proposal requires a budget and a literature cited page (not included in the 4 page, double-spaced limit for the body of the document).

Budget:

Is the budget reasonable for the experiment? Remember, the student will only receive up to \$150.00 reimbursement for expenses incurred during the experiment(s). Indicate if items were/are to be obtained from other sources of funding. If instrumentation or materials will be used that are not at the student's high school, then state where they are located (for example, if you will purchase something, name the vendor; if you are working in the lab or another scientists, name that person and their institutional affiliation).

Literature Cited

Use standard scientific style of documentation to format the reference citations, like the CBE/Council of Biology Editors, so the terminal reference list matches the in-text citations used throughout the body of the proposals. For more specifics, visit:

http://writing.colostate.edu/guides/researchsources/documentation/cbe_citation/index.cfm

GRANT-IN-AID APPLICATION 2013-14 & NJAS MEMBERSHIP FORM 2014

Student Name: _____

First Middle Initial Last

Home Address: _____

Street City State Zip

Home Phone: _____

Area Code Number

Email address: _____

Project Title: _____

If this project is by a team, rather than a single applicant, list name(s) of other team members: _____

If team project, each student member must do their own version of this form!

Scientific Discipline of the GIA project (give three in order of priority; select from list in "Instructions for GIA Proposal Preparation"):

(1) _____ (2) _____ (3) _____

Total dollar amount request in GIA proposal's budget \$ _____

Grade level for 2013-2014: 9 10 11 12 Gender: ___ male ___ female

The following information is confidential and used strictly for statistical purposes.

Please indicate your ethnicity: _____

_____ High School Name

_____ High School Street Address

_____ High School City State Zip

High school's location: ___ Urban ___ Suburban ___ Small Town or Rural

Name of Research Sponsor & Affiliation (high school, university or company): _____

_____ (check here) I understand that if I am awarded and accept a Grant-in-Aid for my research project, I am obligated to register for the NJAS meeting, pay the meeting registration fee, submit a research abstract, and present an oral presentation of my results at the annual NJAS meeting in the spring (check www.njas.org for meeting updates).

_____ (check here) **I have attached to this form a check payable to NJAS for \$25 to cover the fee for this GIA application (or \$15 if I am a team member on a group project) that includes my student NJAS membership for 2014.**

Student Signature: _____ Date: _____

