
Application
Summer 2004

Science Research Training Program

a New York Academy of Sciences Education Program



Exploring science as a career

Science Research Training Program
Education Department
New York Academy of Sciences
2 East 63rd Street
New York, New York 10021

Tel: 212.838.0230 ext. 503
Fax: 212.838.6719
E-mail: srtp@nyas.org

Application Deadline: February 13, 2004

APPLICATION REQUIREMENTS

ALL of the following items are required to apply to the 2004 SRTP:

- A current academic transcript;
- Two letters of recommendation from science or math teachers (see enclosed recommendation forms);
- Responses to brief questions and essay (see application);
- Immunization record or copy of school health certificate.

ELIGIBILITY REQUIREMENTS

To be eligible for admission to the SRTP, a student must:

- Be enrolled in 10th or 11th grade at the time application is submitted;
- Turn 16 before the end of the program (8/20/04);
- Demonstrate academic achievement and commitment;
- Possess excellent written and oral communications skills;
- Be able to work independently and exercise mature judgment;
- Have completed or be enrolled in two years of laboratory based science courses.

APPLICATION DEADLINE

February 13, 2004

All application materials must be post-marked on or before February 13. Teacher recommendations and academic transcripts may be submitted separately, provided they are also postmarked on or before February 13. **Faxed applications or recommendations will not be accepted.**

Program Overview

The **Science Research Training Program** (SRTP) is an eight-week summer science research internship and academic enrichment program for motivated, science-oriented students who have completed their sophomore or junior year of high school. The SRTP is designed to reinforce students' interest in science, to introduce participants to real-world scientific inquiry, and to raise awareness of careers in science.

In 2003, 77 students were placed in internships at 34 academic, medical and governmental research sites. Science researchers and professionals at local institutions provided their expertise and guidance to the SRTP interns who assisted in a wide range of ongoing research topics.

How the SRTP Works

Students who wish to apply must submit written applications to the New York Academy of Sciences by **February 13, 2004**. Each application is read by the admissions committee, which invites selected students to appear for an interview. Interviews will take place during the months of March and April. **Acceptance into the program is based on both the written application and the personal interview. Final admissions decisions will be announced in early May.**

Once accepted to the program, SRTP participants will be assigned to an internship based on their interests, skills, and geographic location. Students will then meet with the prospective scientist-mentor to ensure compatibility.

On June 25, 2004, all participants must attend a mandatory orientation session, which will provide an overview of the SRTP and an introduction to basic research protocols. At this time, interns will have an opportunity to meet and interact with fellow program participants.

Between June 25 and August 20, students will:

- Work four days (25-30 hours/week) at their assigned research sites, under the supervision of the mentors and professional research staff. Each student will become part of a research team that is involved in an ongoing research project or investigation.
- Attend weekly enrichment sessions at the New York Academy of Sciences. These activities include lectures, workshops, career discussions and staff-facilitated small-group meetings.
- Participate in the SRTP Research Symposium. Students will give an oral presentation about the work performed during their internship. Peers, family, mentors, and friends are invited to attend.
- Write a scientific paper on the project with which they are involved, guided by scientist-mentors and SRTP staff. Project summaries are printed in the Journal of Student Research.

Tuition

Tuition for the 2004 Science Research Training Program is \$775. A number of payment plans are available, as are full and partial scholarships. Students requesting aid are strongly encouraged to apply.

To apply for a need-based scholarship, please complete the SRTP Financial Information Statement, and submit it with the application materials. In some cases, a school or school district is able to sponsor a student's participation in the SRTP. To determine whether this option is available to you, please contact your science department, principal, or school district.

Program Sponsors

The Science Research Training Program is sponsored by:
-The Hebrew Technical Institute
-Irving Weinstein Foundation
-Individual and Corporate Members of the New York Academy of Sciences

Admissions decisions are made without regard to race, color, gender, ethnicity, national origin, religion, creed, or disability.

SRTP FAQ SHEET: ANSWERS TO FREQUENTLY ASKED QUESTIONS

Following are answers to commonly asked questions about the New York Academy of Sciences **Science Research Training Program (SRTP)**.

- Can I fax my application to you?

No. The Academy will not accept any faxed application materials.

- Can my teacher recommendations or my transcript be submitted separately from my application?

Yes. Just make sure everything we receive has your name clearly labeled and is **postmarked by February 13, 2004**.

- What are the costs associated with this program?

Tuition for the 2004 program is \$775. Full and partial tuition scholarships are available to those students who demonstrate financial need. If you would like to apply for a scholarship, you and your parent/guardian must submit an SRTP Financial Information Form along with your application. In some cases, your school or school district may set aside funds for student participation in enrichment programs such as the SRTP; ask your science teacher or science department chair if such funds are available. *You will also be responsible for the cost of transportation to and from your site, and for bringing or purchasing lunch each day.*

- What is the admissions process?

A committee, made up of SRTP staff, reads each application to determine which applicants will be invited for a personal interview. Interviews typically last twenty minutes and provide SRTP staff with an opportunity to ask questions based upon the written application. Final admissions decisions are made on the basis of the written application and the interview record. Interviews will take place in March and early April. Students will be notified of admission status in early May by mail only.

- If I am admitted to the SRTP, how will you determine my internship placement?

Staff will use information you provided about your scientific interests based on your application and interview to identify an internship that best fits your criteria. Geographic location (where you can travel to for an internship) is also an

important factor. Internships are available at academic (colleges and universities), medical and government corporate sites in New York City (all five boroughs), Westchester, Rockland, and Nassau Counties, and some parts of New Jersey.

- Do I have to participate in the entire eight weeks of the program (June 25-August 20)?

Yes. If you are admitted into the SRTP, you will be expected to commit yourself for the entire summer, just as you would if you decided to go to summer school or had a full-time job. Research sites expect SRTP interns to be productive members of their research teams for the entire eight-week period. This will enable you to have the fullest experience possible and will justify the amount of time that the scientists and other staff you will be working with will spend to teach you what you'll need to know.

- Can I request a specific area of research?

Yes. On the application and in your interview you will be asked for information about your areas of interest. SRTP staff will do their best to assign you to an internship that falls within these general areas, and *may* be able to meet your specific interest, although this cannot be guaranteed. Internship site requests are also not guaranteed.

- What is the weekly time commitment?

Approximately 25-30 hours, not including travel time. Generally, you will be expected to work four full days at your site (Mon-Thurs, usually 9 a.m. to 5 p.m., with an hour for lunch) and to spend one-half day per week (Fridays) at the Academy, where you will participate in enrichment activities.

- Can you also have a job?

Sure, as long as you work out your internship hours with your mentor. You must remember that your SRTP internship must be your first priority.

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- **Do I have to attend the weekly enrichment sessions at the Academy?**

Yes. The SRTP's enrichment component is mandatory. This component consists of workshops, field trips, and small group discussions and activities that complement your experiences in the lab. Weekly activities give you a chance to interact with other students in the program and to learn about research in areas outside of your specific interests. Weekly activities are also linked from week to week. Missing one weekly session could leave you at a disadvantage for following sessions.

- **Will I get my own independent research project?**

Probably not. The goal of the SRTP is to introduce students to the work of a professional research scientist through placement as an intern in a research environment. While you may be doing independent work - maybe even a "project" by the end of the summer, you should not enter the program expecting to do "independent" research right away. Careful scientific research takes time, and you should be aware that eight weeks is a very short time period.

- **Can I do an Intel project or any other science fair project based on my internship?**

Maybe. The SRTP is not designed to generate science fair projects for a variety of reasons. For example, you will probably be involved with a project generated by the senior scientist at your site. Your results, therefore, will not meet the competition requirement that a project must consist of original work conceived of and designed by the applicant. We also cannot guarantee that the materials/subjects you will be working with will meet competition guidelines (e.g. Intel projects may not involve vertebrate animals of any kind). One of the goals of the program is to equip you with the skills to think as a scientist. These skills might help you develop a project for competitions. Many students who have participated in the SRTP have forged strong relationships with mentors and have been able to submit projects for competition that were based on the work they did as an SRTP intern. SRTP staff will not intervene on your behalf

in order to make the project you are involved with more "science fair-friendly."

- **Can I keep working at the research site to which I am assigned after the program ends?**

It depends on the relationship you build with your mentor and supervising scientists during the eight-week SRTP internship period. While the site is under no obligation to host you after August 20, if you form solid relationships with the people you work with, you increase your chances of being able to continue working at the site.

- **What is the Student Research Symposium?**

All students will have the opportunity to present their summer projects at a "scientific conference" at the end of the summer. Like scientists, students will prepare their presentations either in poster or lecture format, and have five to ten minutes to talk about their work. At the Symposium, students are expected to present their work to peers, family, mentors, and other invited guests. The Symposium is a good opportunity to learn how to formally present scientific work.

- **Do I get graded at the end of the summer?**

No. The SRTP is an internship program that benefits you as a learning experience. You will learn from one-on-one interaction with your mentor and members of your lab, as well as through peer review and comments from the SRTP summer staff. Final papers and presentations are evaluated by your peers and specially invited scientists and guests.

- **Can I get community service credits for my internship?**

Maybe. Some schools require students to complete community service as part of their curriculum. Many students opt to use this internship as their service. Generally students log over 200 hours of work over the course of 8 weeks. If you would like to use this as your community service credit, be sure to check with your guidance counselor first.

More questions?

For more information about the Science Research Training Program, or to receive additional applications, please contact the Academy's education department at 212.838.0230, ext. 503, or send e-mail to <srtp@nyas.org>.

Science Research Training Program 2004 Application

Application Deadline: February 13, 2004

Return to: Education Department, New York Academy of Sciences, 2 East 63rd St., New York, New York 10021

Please type or print (neatly) in black ink

Student Information

First Name: _____ M.I. _____ Last Name: _____

Address: _____ Apt. _____

City: _____ State: _____ Zip Code: _____

Telephone: _____ E-mail : _____

Social Security Number: _____ Sex: M F

Birth Date (must be 16 by 8/20/04): _____ Year of Expected HS Graduation: _____

Mother/Guardian _____ Daytime Phone: _____

Father/Guardian _____ Daytime Phone: _____

Ethnicity (Optional): African-American/Black Asian Caucasian Latino/Hispanic Native American Other

School Information

School Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

School Telephone: _____ Borough/County of School: _____

Principal (full name): _____ Science AP or Chair (full name): _____

Guidance Counselor (full name): _____

Teachers from whom you have requested recommendations:

Name: _____ Subject: _____

Name: _____ Subject: _____

Indicate which of the following courses you have taken:

Course	Semester/Year	Hours/Week	Lab skills/Computer applications/ Programming languages used
Biology			
Chemistry			
Physics			
Computers			
Science Research			

Other science courses (please describe): _____

Additional Information

1. Rank the following areas of research 1 through 7 according to your preference for internship placement (1=highest preference):

_____ Chemistry/Biochemistry

_____ Molecular biology/Cell biology/Genetics

_____ Clinical Medicine

_____ Microbiology/Immunology

_____ Psychology/Neuroscience

_____ Environmental Science

_____ Physics/Engineering/Computer science

2. Are you willing and able to travel outside of your borough or county? Yes No
If yes, what means of transportation will be used?

Brief Questions

Please answer the following questions on a separate piece of paper. Type or print neatly. Limit your responses to four or five sentences per question.

1. What do you hope to learn from your experience in the Science Research Training Program?
 2. How do you spend your free time? Please list and describe your hobbies and extracurricular activities. The admissions committee is especially interested in learning about those activities that demonstrate your interest in scientific research and/or your ability to learn independently, fulfill responsibilities, and work well with others.
 3. Please list all full or part time jobs or internships you have had. Include volunteer or unpaid work. Please include your position, place of employment/internship, dates of service, number of hours per week, and a summary of your responsibilities. If you have a resume, you may use it to answer this question.
 4. Discuss a recent book or article that you have read (**other than for a school assignment**) that you found interesting.
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Essay Question

*Answer **one** of the following questions on a separate sheet of paper. Your statement should be approximately 300 words.*

- (1) In science, one solution often leads to new questions. Describe a problem that scientists have attempted to address and a solution that they have developed. What new questions or concerns does this solution bring to the forefront? As a scientist, how would you address or approach these new questions or concerns?
 - (2) Describe a 20th or 21st century scientific achievement that may have seemed insignificant at its inception but that had exciting applications in the real world. How did this achievement evolve from idea to reality? In your opinion, which is more important: the knowledge gained from research or its real-world application?
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Parent/Student Commitment

The following must be completed by both the applicant and his/her parent or guardian.

We, the undersigned, certify that the information on this form is true. We understand that if the student whose name appears on this application is granted admission to the SRTP, he/she will agree to abide by all program rules and fulfill all requirements. We also agree to fulfill all financial obligations associated with participation in the SRTP. The student understands that if accepted, he/she will be placed at an internship at the discretion of SRTP staff. Internship placement is based on the student's interests as indicated in this application and during the admissions process; requests for internships in specific subject areas or at specific sites cannot be guaranteed.

Signature of Student: _____

Date: _____

Signature of Parent/Guardian: _____

Date: _____

**Science Research Training Program
Confidential Teacher Recommendation Form**

Name of Student: _____

Name of Teacher (full name): _____

Describe the context in which you know the applicant, including the length of time:

Please rate the applicant by placing check marks in the appropriate box for each category. Comments are also helpful.

	Excellent	Satisfactory	Poor	Comments
Academic Achievement				
Academic Potential				
Maturity				
Responsibility				
Curiosity				
Motivation				
Interest in Scientific Research				
Ability to Work with Others				
Ability to Work Independently				
Frustration Tolerance				
Willingness to Take Direction				
Willingness to Ask for Help				
Verbal Communication				
Written Communication				

Please include a brief description of the applicant, including strengths, weaknesses, and any other relevant information, **as well as a explanation of why this student would benefit from participation in the SRTP.** Use a separate sheet of paper if necessary.

Teacher signature: _____ Date: _____

*This form may be submitted with the student's application (in a sealed, signed envelope), or mailed directly to: Education Department, New York Academy of Sciences, 2 East 63rd St., New York, New York 10021 **by February 13, 2004.** Faxed recommendations will not be accepted.*

Science Research Training Program Confidential Teacher Recommendation Form

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	Excellent	Satisfactory	Poor	Comments
Academic Achievement				
Academic Potential				
Maturity				
Responsibility				
Curiosity				
Motivation				
Interest in Scientific Research				
Ability to Work with Others				
Ability to Work Independently				
Frustration Tolerance				
Willingness to Take Direction				
Willingness to Ask for Help				
Verbal Communication				
Written Communication				

Please include a brief description of the applicant, including strengths, weaknesses, and any other relevant information, **as well as a explanation of why this student would benefit from participation in the SRTP.** Use a separate sheet of paper if necessary.

Teacher signature: _____ Date: _____

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