



# 2009

## Student Science Enrichment Program

Supporting Creative Science Education Activities for **Primary**  
and **Secondary** School Students in North Carolina

**Application Deadline: April 10, 2008**

BURROUGHS  
WELLCOME  
FUND 

## Program

The Student Science Enrichment Program (SSEP) awards have been expanded to nonprofit organizations serving North Carolina primary and secondary school students. These awards provide up to \$60,000 per year for three years with up to 18 awards made annually.

Since the program's inception in 1996, Burroughs Wellcome Fund (BWF) has awarded nearly \$18 million to support 128 awards at 64 organizations across North Carolina. The program has reached 27,000 students. In 2006, 54 percent of student participants reported that they view science as a career option after completing a science enrichment program. Many participants stated that they would refer a program to their friends.

SSEP awards support career-oriented and practical programs intended to provide creative science enrichment activities for students in K-12 education who have shown exceptional skills and interest in science and mathematics, as well as those perceived to have high potential. These programs must enable students to participate in hands-on scientific activities and pursue inquiry-based avenues of exploration—an educational approach that BWF believes to be an effective way to increase students' understanding and appreciation of the scientific process. To increase academic achievement, programs must provide a well-defined structure that aligns with the school-day curriculum, well-trained staff, and student follow up.

SSEP awards are not intended to support curriculum development. As this program focuses primarily on students, only minimum levels of teacher training that involve student participation will be considered.

BWF convenes award recipients annually and offers technical assistance for program evaluation. The evaluation process has found that successful Student Science Enrichment Programs have the following attributes:

- curriculum that is appropriate for targeted students
- "minds-on" as well as "hands-on" inquiry-based science and mathematics activities
- involvement of scientists and science teachers
- opportunities for students to discuss and present their work to others
- large applicant pools to secure solid numbers of interested students
- on-going relationship with students

**Note: Application materials must be submitted electronically to BWF no later than 4 p.m., Thursday, April 10, 2008.** The awards will be announced November 2008. Projects receiving funding may begin program marketing after January 31, 2009.

## Goals

In line with the mission of the Burroughs Wellcome Fund, projects that are funded under the SSEP must seek to attain three goals:

- improving students' competence in science and mathematics
- nurturing student enthusiasm for science and mathematics
- interesting students in pursuing careers in research or other science-related areas

The activities designed to lead to these goals must align with the North Carolina Standard Course of Study for science and mathematics pertinent to the grade levels of the student participants ([www.dpi.state.nc.us/curriculum](http://www.dpi.state.nc.us/curriculum)). Applicants offering summer camps, summer academies, or other summer activities, must provide participating students with a year-round learning activity. These activities may range from web portals to after school clubs and Saturday academies.

## Guidelines

Successful projects generally include the following examples of how to achieve the three goals mentioned above:

- helping students learn the basic process skills in scientific inquiry—observing, comparing, measuring (using apparatus), communicating, analyzing, generating, and evaluating
- providing students with opportunities that will increase their insight into and appreciation of the investigative process
- supplying students with science-related career information and introducing career prospects
- connecting science and mathematics to students' daily lives
- providing an opportunity to use technology in project activities
- enabling students to interact with scientists
- providing students with opportunities to explain their knowledge of science and mathematics to others
- linking students, or providing guidance on how they may link, with other ongoing science and mathematics programs
- involving parents in program activities

## Eligibility

The program is open to nonprofit organizations in North Carolina. Eligible organizations include public and private schools, colleges and universities, community groups, museums, zoos, scientific groups, and others that can provide experiential activities for K-12 school students.

BWF encourages partnerships (i.e., between individual schools or school systems and scientific groups, universities, local education associations, or community groups). For-profit companies may participate in collaboration with nonprofit organizations that assume the lead role for a SSEP grant. Applicants should enlist participation of representatives of partner organizations in developing project goals and activities. The proposal must clearly demonstrate the role of each partner.

SSEP activities must enable students to “do” science and mathematics in creative and engaging ways that involve hands-on activities and inquiry-based exploration. Activities should occur outside of the usual school environment, such as after school, on weekends, or during vacation periods. SSEP activities may be conducted all year, during the school year, or during the summer provided there is a year-long educational component.

### Recruitment of Students

Applicants should use a diverse set of criteria and include a plan for targeting specific groups of students, including traditional methods, such as test scores, and nontraditional methods proposed by the applying organization to identify students for participation. Special efforts must be made to reach out to students from traditionally underrepresented groups in the fields of science, mathematics, and technology, including girls, minorities, persons with disabilities, and persons from economically disadvantaged backgrounds.

### Evaluation and Capacity Building

Applicants must evaluate their projects. The evaluation plan should outline efforts that will be used to assess projected outcomes of student enrichment activities and include innovative plans to increase participation of underrepresented groups in science and mathematics. Include standardized evaluation information that describes who will conduct program evaluation, what evaluation will cost, how evaluation activities will be funded, and what role partners will have in the evaluation process. Past SSEP award recipients should give student outcome data from previous award activities and be explicit in describing how lessons learned have been integrated into continuing or expanding the program design.

In addition, BWF employs an external evaluator to assess the quality and effectiveness of SSEP awards. Student surveys and instructions for program evaluations will be provided. The evaluator will also provide technical assistance in evaluation to individual projects. In compiling their annual evaluation report, the evaluators will then draw upon the standardized data collected by all projects, as well as the internal evaluation reports prepared by project staff. Occasional site visits will be made to individual projects as needed.

For suggestions on evaluation data, visit the Science Education section on **[www.bwffund.org](http://www.bwffund.org)**.

BWF conducts workshops across the state to develop writing skills of potential SSEP applicants. For the 2008 SSEP award series, of the total 36 eligible SSEP applications received, 47 percent were workshop participants; 14 percent were from targeted areas of North Carolina in need of resources; and 25 percent were from minority universities or schools in small towns. Of the 20 institutions that received SSEP awards for 2008, 30 percent were workshop participants.

## Selection

The advisory committee (listed on p. 6) will review all eligible applications and make recommendations for awards to the BWF’s Board of Directors based on evidence provided that addresses the following:

- whether the proposed activity meets SSEP’s guidelines and is innovative and engaging
- ability of the organization to conduct and sustain high quality science and mathematics enrichment activities
- qualifications and expertise in the areas of science and mathematics of the organization’s director and staff
- appropriateness of the budget to science and mathematics programmatic activities
- availability of additional resources, including partnerships, in-kind services, monetary support, and other resources
- effective and innovative plans for evaluation of science and mathematics program activities
- manner in which students are identified and selected, particularly recruiting related to underrepresented groups in science and mathematics fields
- whether after school activities align with classroom instruction

Organizations that previously received a SSEP award and are applying for another award **must** submit a sustainability plan with their application to demonstrate successful outcomes from the earlier award, to highlight significant achievements, and to identify other means of financial support or institutionalization of their program.

BWF also considers whether the proposed plan will help link participating students with other science-related activities in their schools and communities, and whether there are plans to continue the program after the BWF’s support ends. Special efforts will be made to support programs that reach disadvantaged students in low wealth areas of the state.

## Application Instructions

### General Information

BWF requires **all** applications to be submitted electronically. **Applications not submitted electronically will not be reviewed.** The electronic application is submitted through proposalCENTRAL, a web-based grant application system developed and hosted by Altum. BWF encourages applicants to start early. Applications consist of on-line data entry, as well as uploading documents. If you experience problems completing your application electronically, proposalCENTRAL staff is willing to help. Applicants should not be discouraged from applying for SSEP due to the electronic process.

**In order for an application to be considered complete the following must be submitted by 4:00 p.m. Eastern Time, April 10, 2008:**

1. **A completed electronic application submitted via proposalCENTRAL (including all letters from project partners).**
2. **One hard copy of the Signature Page form with original signatures.**
3. **Documentation indicating nonprofit status.**

### Using proposalCENTRAL

You may access proposalCENTRAL through the BWF website [www.bwffund.org](http://www.bwffund.org). Please review the *SSEP Guide to Using proposalCENTRAL* for detailed instructions on using the website. Once on proposalCENTRAL, you will be required to register and will be assigned a unique user ID and password. You may also be required to register your organization. The entire application **MUST** be completed on proposalCENTRAL. Candidates are **NOT** required to complete the online application in one sitting. The application may be accessed and changed multiple times as needed prior to the application deadline. However, once the deadline has passed, the application cannot be changed.

### Application Sections

In order for an application to be submitted, each section of the application must be completed. **Unless otherwise noted, all documents requested via proposalCENTRAL must be uploaded as Adobe Portable Document Format (PDF) files.**

### Sections Requiring Data Entry on proposalCENTRAL:

**Title Page** Provide the title of your project (not to exceed 120 characters), the total amount of funding requested over the entire three-year period of the grant, and the start and end date of the proposed project.

**Applicant/Program Director Information** Provide contact information for the program director. Much of this information may have been provided when you registered.

**Applying Organization and Contacts** The Applying Organization **MUST** be a nonprofit organization in North Carolina (public/private schools may also apply). In this section, you will be required to provide contact information for the organization's Authorized Signing Official (the person who will sign the signature page that is sent to BWF).

**Project Summary** Provide a description of your project, including the goals of the project (not to exceed 2,000 characters). Do not include special characters in the summary. In this section, applicants will also be asked to provide demographics on the project, such as the student focus.

### Sections Requiring Upload of Attachments:

In the section titled "Project Plan and Other Attachments," applicants must upload the requested documents to proposalCENTRAL as PDF files. For detailed information on how to convert documents to PDF files, refer to the *SSEP Guide to Using proposalCENTRAL*. If you need assistance converting files to PDF, please contact proposalCENTRAL customer service.

Each attachment must be typed (single-sided and single-spaced, using 12-point font size) with one inch or larger margins on all sides. Do not include a cover letter or supplemental materials not specifically requested. Applications that contain more than the specified number of pages in attachments or that are not properly organized will be rejected out of fairness to candidates who adhere to the guidelines.

#### 1. Project Plan (consists of six components)

In one document, include the components noted below in the listed order. Number each page of this section, starting with the executive summary as page one.

#### **Executive summary** (no more than one page)

Summarize the overall objectives of the project and its expected outcomes.

**Project narrative** (no more than five pages) Describe the project and its goals. In cases of partnerships, the project narrative should describe in detail the personnel, facilities, equipment, and other resources that will be provided by each partner.

The narrative should answer the following questions:

- What science and mathematics activities will students be engaged in?
- What knowledge and skills will students be expected to learn about science, mathematics, and the investigative process?
- What instructional materials and resources will be used, including how technology will be integrated into program activities (i.e. work books, experiment kits, and the Internet)?
- Which of the various guidelines will be represented prominently in the activity?

## Completing the Application

Applications must be completed electronically via proposalCENTRAL and include the sections below. An original, signed hard copy Signature Page form (last section below) must be printed and sent directly to BWF **for receipt by 4:00 p.m. Eastern Time, April 10, 2008. Faxed documents will not be accepted.**

### Sections Requiring Data Entry

- ☐ Title Page
- ☐ Applicant Information
- ☐ Applying Organization and Contacts
- ☐ Project Summary

### Project Plan and Other Attachments to be Uploaded

- ☐ Project Plan [including executive summary (one page), project narrative (five pages), evaluation plan (one page), staff capacity (one page), facilities (one page), and replication and dissemination (one page)]
- ☐ Curriculum vitae of the program director and two project staff (no more than three CVs; no more than two pages per CV)
- ☐ Budget
- ☐ Letters from Project Partners (no more than three)

### To be Mailed to BWF

- ☐ Signature Page (printed from proposalCENTRAL)
- ☐ Proof of organization's nonprofit status

**For in-depth application instructions visit: [www.bwffund.org](http://www.bwffund.org)**

- How will the various activities contribute to the three SSEP goals and to other goals (if any) that are specific to the project?
- How do the activities align with the North Carolina Science Standard Course of Study for the grade levels of the participants?
- What are the time line and implementation plan?
- What is the process used to identify and recruit students?
- What are the career-guidance activities to be provided?
- What follow-up method will be used to track students?
- What are the academic-year activities offered by summer programs?

**Staff capacity** (no more than one page) Describe the type and level of interaction between the project staff and the students, focusing in particular on the appropriateness of the number of staff compared with the number of students, types of activities provided, and experience with students' age group. Estimate the total number of hours of direct contact between the staff and students.

**Facilities** (no more than one page) Describe the major facilities to be used, including significant equipment, supplies, and resources that will be available to students.

**Evaluation** (no more than one page) Present a plan for evaluating the program's accomplishment of objectives. Describe how the project will be evaluated for impact on students' competence in science, their enthusiasm for science, and their interest in science careers. Include who will do the

evaluation and how it will be supported. Describe the particular methods to be used, sources of information (e.g., students, teachers, parents), test instruments, schedule of data collection activities, and how interim data will be used in a formative way to guide mid-course corrections. For suggestions on evaluation data, visit the BWF evaluation page.

**Replication and dissemination** (no more than one page) Describe whether and how the project can be replicated by other organizations. Describe any plans to disseminate the project's methods and materials to users in other settings. Describe any plans to sustain your work beyond BWF funding. Applicants re-applying for a previously funded program must demonstrate strategies for sustaining the program beyond BWF-funding.

**2. Curricula vitae** (no more than three CVs; no more than two pages per CV)

Upload one PDF file containing a two-page CV for up to three individuals responsible for the project. On each CV, be sure to include the name, contact information (including address, phone, and email), education and training, experience in science education, and the scientific background for the individual. CVs should be uploaded as a single PDF file.

**3. Budget** (template provided)

Download the budget template from proposalCENTRAL under the "Download Templates and Instructions" section. Complete the template and save a copy on your computer system. Then upload the completed version of the template to proposalCENTRAL. PDF and MS Excel versions of the templates are available.



Itemize how the grant will be used by year. Most of the grant must be spent on activities that directly benefit students (for example, student stipends, transportation, supplies, equipment, and evaluation). To demonstrate effective cost sharing among partners, complete the "Other Funding Sources" section of the template. Include support requested from both the sponsoring organization and other sources. In the "Budget Justification" section of the template address the appropriateness of funding requested for staff compared with the level of student participation, and provide the rationale for any request for salary support for current full-time employees. No more than one-third of the budget can be used for administrative salaries and fringe benefits for program instructors or coordinators. No indirect costs may be charged against the grant. The grant cannot be used for capital improvements. Please check the accuracy of all figures.

#### **4. Letters from project partners** (optional—no more than three letters)

In cases of partnerships, letters of agreement must be provided from up to three outside groups or individuals who will participate. The letters must be specific about funds, personnel, facilities, equipment, and other resources to be provided. General nondescriptive support letters will not be viewed favorably. BWF strongly encourages applicants to upload letters containing the partnering organization's letterhead. Letters **MUST** be submitted with the application by the application deadline.

### **Sections Requiring Hard Copy Submission**

#### **Signature Page and Documentation of Nonprofit Status:**

Applicants **MUST** print the Signature Page form from proposalCENTRAL, obtain the signature of the Authorized Signing Official from the Applying Organization, and send the original, hard copy of the Signature Page for receipt at BWF by the April 10, 2008, deadline. The Signature Page may be printed following the completion of the Title Page, Applicant/Program Director Information, and the Applying Organization and Contacts sections on proposalCENTRAL.

Along with the Signature Page the applicant **MUST** send documentation of the organization's nonprofit status, such as an IRS letter documenting its tax exempt 501 (c)(3) status.

**Faxed documents will not be accepted.** Send one copy, with original signatures, of the Signature Page form **AND** the documentation of nonprofit status for delivery by April 10, 2008, at 4:00 p.m. to:

#### **For delivery by express courier service (recommended)**

Burroughs Wellcome Fund  
Student Science Education Program  
21 T.W. Alexander Drive  
Research Triangle Park, NC 27709  
919-991-5100

#### **For delivery by U.S. Postal Service**

Burroughs Wellcome Fund  
Student Science Education Program  
P.O. Box 13901  
Research Triangle Park, NC 27709-3901

### **Assistance with Applications**

Applicants are encouraged to read the descriptive program information, the *SSEP Guide to Using proposalCENTRAL*, and FAQs, which can be found on the BWF website [www.bwffund.org](http://www.bwffund.org). Once you begin your application, instructions for attachments, along with any required templates, can be found on proposalCENTRAL. If there are remaining questions, contact:

Melanie Scott, Senior Program Associate  
[mscott@bwffund.org](mailto:mscott@bwffund.org)  
919-991-5107

For help with the electronic application process, contact:  
proposalCENTRAL Help Desk  
[pcsupport@altum.com](mailto:pcsupport@altum.com)  
800-875-2562 x 227

### **Terms**

Organizations receiving awards are responsible for disbursing the funds and for maintaining adequate supporting records and receipts of expenditures. All grantees are required to participate in the evaluation efforts specified by BWF.

Grantees must provide BWF with an annual progress report and financial report. Both reports must be submitted on forms provided by BWF. Continued funding will depend on the favorable review of these reports by BWF and its program advisory committee.

Any unused funds held by organizations when awards expire or are terminated must be returned to BWF, unless the BWF has granted prior permission to retain the funds.

Grantees may receive a no-cost extension of up to 24 months; requests explaining why an extension is needed must be submitted in writing at least four months prior to the end of the award. Recipients may reapply for awards at the end of their award duration.

There is a restriction of two awards per individual program, but not per institution.

## Recent Award Recipients

For a full listing of award recipients, visit the BWF website at [www.bwfund.org](http://www.bwfund.org)

### 2008

#### **Appalachian State University**

Merging Math and Science in Intentional Natural Gains

#### **Appalachian State University**

Student Experience-based Education Academy

#### **Bladen County Schools**

Excite Sci Summer Science Epic

#### **Campbell University**

High School Science Seminars

#### **Cherokee Middle School**

CSI:Cherokee Science Investigation

#### **Contemporary Science Center**

Field Studies Program

#### **Duke University**

Leadership Academy for Students in Science and Technology

#### **Duke University**

RoboCupJunior: Exhibitions of problem solving, teamwork, and creativity

#### **East Carolina University**

Teaching and Enrichment in Science Summer Camp

#### **Lenoir-Rhyne College**

North Carolina Stream Investigation Project

#### **Meredith College**

STEM Experience for Middle School Students

#### **Montreat College**

Learning and Investigation in Backcountry Ecosystems

#### **North Carolina A&T State University**

Science and Technology Enrichment Program

#### **North Carolina A&T State University**

Students Hot On The Sciences

#### **North Carolina Society for Hispanic Professionals**

Good Stewards of Our Environment

#### **Orange County Schools**

iWalk on the Eno

#### **Sampson Early College High School**

Inspiring Science

#### **Schiele Museum of Natural History and Planetarium**

Environmental Science Partnership

#### **University of North Carolina-Asheville**

Bug Camp: A Summer Experience in Science Investigation

#### **University of North Carolina-Wilmington**

Camp Bones

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#### **Margaret M. Young, Ph.D.**

Assistant Professor  
Department of Biology  
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## Burroughs Wellcome Fund

The Burroughs Wellcome Fund is an independent private foundation dedicated to advancing the medical sciences by supporting research and other scientific and educational activities. Within this broad mission, BWF seeks to accomplish two primary goals—to help scientists early in their careers develop as independent investigators, and to advance fields in the basic medical sciences that are undervalued or in need of particular encouragement.

With its endowment of more than \$800 million, BWF makes approximately \$35 million in grants annually in the United States and Canada. BWF's financial support is channeled primarily through competitive peer-reviewed award programs, which encompass six major categories—biomedical sciences, infectious diseases, interfaces in science, population sciences, translational

research, and science education. BWF makes grants primarily to degree-granting institutions on behalf of individual researchers, who must be nominated by their institutions. To complement these competitive award programs, BWF also makes grants to nonprofit organizations conducting activities intended to improve the general environment for science.

BWF is governed by a Board of Directors composed of distinguished scientists and business leaders. BWF was founded in 1955 as the corporate foundation of the pharmaceutical firm Burroughs Wellcome Co. In 1993, a generous gift from BWF's sister philanthropy in the United Kingdom, the Wellcome Trust, enabled the Fund to become fully independent from the company. BWF has no affiliation with any corporation.

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