

# BURROUGHS WELLCOME FUND

## Career Award for Science and Mathematics Teachers

*Supporting the Careers of North Carolina Teachers Who Make Significant Contributions to Enhancing Student Knowledge in Science or Mathematics*

**Application Deadline: September 15, 2009**

### Program Background

The Burroughs Wellcome Fund recognizes that improving science and mathematics education in North Carolina will require systemic reform of K-12 instruction. An essential component of improving students' abilities to understand science and mathematics subjects is to produce and reward a cadre of well-prepared teachers who have both content knowledge and the pedagogical skills to serve as change agents for the state and make a difference in the lives of their students by awakening their passion for these subjects. The largest hurdle in accomplishing this goal has been a disproportionately severe shortage of teachers in science and mathematics (even beyond North Carolina's ongoing teacher shortage). Just 12 percent of the University of North Carolina system's 4,003 newly-prepared teachers last year were certified in science and mathematics.

The Career Award for Science and Mathematics Teachers is a five-year award available to outstanding science or mathematics teachers in the North Carolina public primary and secondary schools. The purpose of this award is to recognize teachers who have demonstrated solid knowledge of science or mathematics content and have outstanding performance records in educating children. This five-year award presents opportunities for professional development and collaboration with other master science or mathematics teachers who will help to ensure their success as teachers and their satisfaction with the field of teaching. Special consideration will be given to teachers working in hard to staff, economically deprived classrooms in North Carolina. The award also offers schools and school districts the opportunity to fully develop teachers as leaders in the field.

### Program

Career Awards for Science and Mathematics Teachers provide \$175,000 over a period of five years (\$35,000 per year) to eligible teachers in the North Carolina public school system. BWF will support five awards with annual installments as allocated below.

#### Teacher Salary

- \$10,000 stipend will be provided to supplement the teacher's annual salary or for fringe benefits, such as retirement or insurance.
- \$5,000 will be contributed annually to an annuity or savings account to be given to the teacher at the conclusion of the five-year award.
- The State Board of Education will provide extra salary support to ensure that award recipients will receive a 12-month contract.

#### School or School District

- \$10,000 may be used to purchase needed equipment and supplies for that teacher's classroom or laboratory or be shared with the teacher's school or school district.

#### Professional Development

- \$10,000 may be used at the discretion of the teacher for professional development activities, travel and registration to meetings or conferences, hiring substitutes, networking with colleagues, and capacity building opportunities at the school or school district.

The application must include a budget outlining how these funds will be expended and must include the principal's signature to support the proposed allocation of funds. Career Award grants will be payable to the recipient's school.

Recipients are expected to comply with all personal tax obligations.

For teachers at the middle school and high school levels, each Career Award recipient is required to commit to teaching science or mathematics courses (at least 70 percent of time) for the duration of the five-year term. For teachers at the elementary school level, each award recipient is required to serve as a “go to” teacher in science or mathematics for the duration of the five-year award at their school. The award is flexible in allowing teachers to reach beyond their school into the school district to build bridges, stimulate collective learning, and develop strategies to build their own capacity as a teacher, as well as the capacity of their school, district, or region.

## Guidelines

Nominations for Career Awards for Science and Mathematics Teachers must have the support and commitment of superintendents, principals, and teachers in North Carolina’s public schools. Special consideration will be given to teachers in underperforming or needy North Carolina public schools. In the statement of nomination, the principal must demonstrate that the necessary environment for successful science or mathematics teaching exists at the school and that there are opportunities for the teacher to be mentored and to mentor other teachers. For high school and middle school teachers, this statement should guarantee that the teacher will spend at least 70 percent of his/her time teaching science or mathematics. For elementary school teachers, this statement should guarantee that the teacher will spend at least 30 percent of his/her time teaching science or mathematics and at least 20 percent working with other teachers.

The proposal should include a plan from the superintendent and principal for the teacher’s career development. The plan should include strategies on how the teacher’s skills and content knowledge will be utilized to increase student performance in science or mathematics; how the school tracks this performance data to help the teacher with instruction; and how individualized student goals can be achieved. In addition, the plan must demonstrate how the teacher will be mentored at the school and by whom; demonstrate the district and the school’s commitment to developing the teacher’s skills; and outline how these skills will be utilized to benefit his/her school and district, including such things as how the teacher will mentor and train other teachers or develop modules or other science or mathematics curriculum materials. The North Carolina State Board of Education will provide additional salary support to enable each award recipient to receive a 12-month schedule. The plan should explain the benefits to the teacher and to the school for this commitment by the state.

The proposal should include a training plan to show how the teacher’s knowledge in science or mathematics will be expanded. Professional development for teachers must align with

the North Carolina standards for the science or mathematics curriculum, be content-based training that explores key topics in significant depth, and be relevant to the teacher’s individual growth. Funds for advanced course work are permitted by the Career Award. Any equipment purchased by the award recipient can be transferred to another North Carolina public school if the teacher relocates. In addition to the professional development offered by school districts and the Department of Public Instruction, the following list contains a sampling of recommended organizations offering professional development opportunities for teachers in science and mathematics:

- North Carolina Math Science Education Network  
<http://www.unc.edu/depts/msen/>
- North Carolina Science, Mathematics, and Technology Education Center  
<http://www.ncsmt.org/prog.laser.html>
- North Carolina Science Teachers Association  
<http://www.ncsta.org/resources/pd.html>
- North Carolina Council of Teachers of Mathematics  
<https://secure.ncctm.org/index.cfm>
- National Science Teachers Association  
<http://learningcenter.nsta.org/>
- North Carolina Center for the Advancement of Teaching  
<http://www.nccat.org/index.html>
- All Kinds of Minds  
[www.allkindsofminds.org](http://www.allkindsofminds.org)

The proposal should describe how the teacher will reflect on the development of his/her demonstrated pedagogical skills. This could include an electronic journaling, blogging, or note booking system, and should be done on a weekly basis to track development of best practices over time. The North Carolina Science, Mathematics, and Technology Education Center website at [www.ncsmt.org](http://www.ncsmt.org) will serve as the host for this information. Interested teachers will be encouraged to submit articles for posting, create multimedia productions, or publish their work in key education journals to improve the quality and advance the field of teaching.

## Program Activities

Career Awards for Science and Mathematics Teachers will provide an opportunity for teachers to become a member of a cohort of distinguished master science and mathematics teachers in North Carolina. They will work with new and experienced teachers to collaborate and share successful teaching strategies and science knowledge, and with scientists to move research from the laboratory to the classroom. The following are additional benefits of the award:

1. Award recipients will be convened annually. Regional quarterly meetings organized and led by master science teachers, will be held to focus on science content knowledge and/or pedagogical issues.
2. Award recipients may attend conferences or take courses at colleges and universities in the United States.
3. Awardees may select an international learning experience to improve their professionalism and training in the field of teaching.
4. Awardees may travel to observe and work in classrooms with master teachers.
3. Candidate's significant contributions to enhancing students' knowledge of science or mathematics by:
  - a. Teaching in an exemplary and innovative fashion
  - b. Developing projects that engage students in hands-on, problem-based activities with new approaches to questioning and problem solving
  - c. Making contributions to curricula
  - d. Demonstrating leadership and outreach in precollege science or mathematics education in his/her school, district, or community
  - e. Having a proactive impact on student achievement and the lives of students

## Candidate Eligibility Guidelines

- Candidates in middle school and high school must hold licensure to teach science or mathematics in North Carolina and have at least five years of teaching experience with at least 70 percent of their time devoted to teaching science or mathematics courses.
- Candidates in elementary schools, who can be science or mathematics specialists, must have at least five years of teaching experience with at least 30 percent of their time teaching science or mathematics.
- Candidates must have superior knowledge of science or mathematics, excellent teaching skills, demonstrated leadership, and a commitment to continue teaching in the North Carolina Public School System.
- Candidates must be currently licensed North Carolina public school science or mathematics teachers who teach in grades K-12.
- Candidates must be citizens of the United States.

## Selection

An advisory committee for the Career Award for Science and Mathematics Teachers will review all applications, interview candidates along with his/her principal and superintendent, and make recommendations for awards to the BWF Board of Directors. Finalists selected for interview will be asked to submit additional evidence, such as a power point presentation, CD, or DVD, demonstrating innovations in their approaches to teaching. The candidate's principal and superintendent will also be interviewed to help determine what career opportunities are available for the teacher. BWF does not provide critiques of unsuccessful applications.

### Selection will be based primarily on:

1. Candidate's qualifications and potential to conduct high quality science or mathematics teaching
2. Candidate's abilities to demonstrate how his/her students are proficient in science or mathematics learning

4. Candidates' knowledge of subject content and effectiveness of communication skills.
5. Candidate's abilities in the classroom to demonstrate learner-centered, knowledge-centered, assessment-centered, and community-centered learning styles.

The teaching environment and the commitment of the school and school district leadership to ensure the success of the teacher will be judged during the interview with the teacher's principal or superintendent. Special consideration will be given to teachers working in hard to staff, economically deprived classrooms in North Carolina.

## Application Process

The application should contain the following sections:

### Teacher Resume (two-page limit)

### Training Plan (six-page limit)

Proposals should present a training plan to show how the awarded funds will be used for this purpose. Professional development for applicants must align with the North Carolina standards for the science and mathematics curriculum, be content-based programs that explore key topics in significant depth, and be relevant to the teacher's individual growth.

The training plan should be endorsed by the principal and superintendent. Training Plan should include an impact statement on the candidate's teaching philosophy and how the candidate has and will continue to:

- take a proactive approach to student achievement and the lives of students
- continue development of content knowledge and the pedagogical skills
- develop a learner-centered, knowledge-centered, assessment-centered, and community-centered classroom
- make contributions to the curricula
- demonstrate leadership and outreach in his/her school, district, or community

### Sample Lesson Plan (five-page limit)

The lesson plan should demonstrate exemplary and innovative teaching skills and engaging hands-on activities with new approaches to questioning and problem solving, as outlined in the selection criteria. A sample of student work should be included and demonstrate the achievement of a student with a diverse set of academic achievement levels in science or mathematics that have benefited from the described lesson plan. Special consideration will be given to the progression of student knowledge, growth, and performance.

### Principal Sponsor Letter of Nomination (two-page limit)

In the nomination letter, the principal must describe how he/she supports successful science or mathematics teaching at the school; describe how the candidate's teaching methodology, such as the level of depth and rigor in the classroom, has impacted student performance; and explain the potential of the candidate to enhance a successful science or mathematics program at the school. For high school and middle school principals, the letter should explain what science or mathematics courses are taught by the teacher. For elementary school principals, this letter should explain how the teacher or curriculum specialist will spend time training other teachers.

### Superintendent Sponsor Letter of Nomination

(two-page limit)

In the nomination letter, the superintendent must describe the school district's vision for science or mathematics instruction; describe what level of support will be given to the school and to the teacher; and describe any science or mathematics education reform efforts taking place within the district. This letter should demonstrate the district's commitment to developing the teacher's skills and outline how these skills will be utilized to benefit his/her school district.

### Budget

The budget should clearly demonstrate what professional development the teacher will seek during year one of the award. Plans for subsequent years may vary and can be reported during annual progress reports. A listing of equipment and supplies along with a notation of their value should also be included. The Career Award grant does not cover indirect costs.

Detailed instructions on how to submit the sections are available at [www.bwffund.org](http://www.bwffund.org).

## Assistance with Applications

For questions regarding eligibility, policies, term and conditions, or the application process, please contact:

**Carr Thompson, Senior Program  
and Communications Officer**  
[cthompson@bwffund.org](mailto:cthompson@bwffund.org)  
919/991-5103

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

### Application Sections

- Teacher Resume
- Training Plan (six-page limit)
- Sample Lesson Plan (five-page limit)
- Principal Sponsor Letter of Nomination
- Superintendent Sponsor Letter of Nomination
- Budget

For detailed application instructions visit  
[www.bwffund.org](http://www.bwffund.org).

## Terms

Organizations receiving awards are responsible for disbursing the funds and for maintaining adequate supporting records and receipts of expenditures. All Career Award recipients are required to participate in 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.

## Program Advisory Committee

### Hon. Larry Bell

North Carolina General Assembly  
House of Representatives

### Barnett Berry, Ph.D.

President  
Center for Teaching Quality

### Gladys Graves (chair)

Past Director  
North Carolina Teaching Fellows Program

### Angela Quick

Deputy Chief Academic Officer  
State Board of Education

### Pat Shane, Ph.D.

Associate Director  
University of North Carolina-Chapel Hill  
Center for Mathematics and Science Education

### Dave Smith

Director  
Center for Inquiry Based Learning

## Sponsorship

BWF advocates for partnering with other organizations interested in advancing the field of teaching, particularly in science and mathematics. Co-sponsors of Career Awards for Science and Mathematics Teachers will be given appropriate recognition, the option of helping to plan activities for teacher award recipients, the opportunity to convene teacher award recipients, principals, and superintendents, and the venue(s) to network with all sponsors to ensure the success of teacher award recipients.

## 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.

[Read more about Burroughs Wellcome Fund](#)

[BWF Board of Directors](#)