



# Biotechnology Workshops for Educators

SPONSORED BY THE NORTH CAROLINA BIOTECHNOLOGY CENTER



## Registration Information:

The workshop will be taught on the campus of Fayetteville State University June 22 – 26, 2009. For the **\$50 registration fee**, North Carolina Educators will receive:

- Workshop tuition
- Room (double-occupancy)\*
- Board (two meals per day)
- \$50 per day stipend\*\* upon completion of workshop

\*Participants *may* elect to lodge in single rooms, but will be responsible for the *total* cost of their room.

\*\*Stipends will be mailed within *three weeks* of the final day of the workshop.

The **\$50 registration fee** is refundable **ONLY in the event of cancellation** during the initial registration period (four weeks prior to the beginning of each workshop). Registration fees will **NOT** be refunded for the following groups:

- Applicants who cancel after **May 25, 2009**
- Participants who complete the workshop
- Registrants who cancel **AFTER** the initial registration period has passed
- Registrants who fail to attend the workshop

Early registration is recommended to ensure the best chance of being accepted into the workshop. Public school teachers: Your school district may pay the registration fee. Be sure to get prior approval for participation.

## For more information or to begin the registration process, visit:

[http://www.ncbiotech.org/services\\_and\\_programs/workforce\\_development/summer\\_biotechnology\\_workshops\\_registration.html](http://www.ncbiotech.org/services_and_programs/workforce_development/summer_biotechnology_workshops_registration.html)

Participants will learn basic scientific concepts and techniques in biotechnology, as well as how to teach these effectively. They will also learn how to integrate biotechnology into the high school Biology curriculum according to the NC Standard Course of Study.

Participants will be exposed to an array of topics related to both fundamental science and application of DNA-related aspects of biotechnology, including the following:

- DNA structure and replication
- Introduction to gene expression and regulation
- Protein structure and its relation to function
- Restriction enzymes and their role in recombinant DNA technology
- Mechanisms of antibiotic resistance
- Transformation of *Escherichia coli*
- Restriction analysis of DNA
- Molecular biology of gene cloning
- Commercial applications and career opportunities in biotechnology
- Gene cloning vs. organismal cloning
- PCR theory and practice

Additionally, teachers will have hands-on training in the following practical applications:

- Growing, storing, and disposing of *Escherichia coli* in the lab
- Laboratory biosafety issues
- Sterile technique
- Preparing, handling, staining, and analyzing agarose gels
- Classroom preparation for wet labs
- Using a thermal cycler

The Introductory workshop is based on the text *Molecular Biology and Biotechnology*, Third Edition, Helen Kreuzer and Adrienne Massey (2008), provided to participants.



## For more information contact:

Dr. Kimberly Smith Burton, [ksmith@uncfsu.edu](mailto:ksmith@uncfsu.edu), (910) 672-1316  
Jesse Baker, [jlbaker01@uncfsu.edu](mailto:jlbaker01@uncfsu.edu), (910) 672-1676

Math and Science Education Center • Fayetteville State University  
1200 Murchison Road, SBE 328  
Fayetteville, NC 28301  
(910) 672-1669 (office)