

# NEWS RELEASE

Media Contacts: Dr. JoAnn Burkholder, 919/515-3421 or  
joann\_burkholder@ncsu.edu  
Dr. Steven Spiker, 919/515-5760 or steven\_spiker@ncsu.edu  
Mick Kulikowski, News Services, 919/515-3470 or  
mick\_kulikowski@ncsu.edu

Oct. 28, 2004

## Two Distinguished NC State Professors Named AAAS Fellows

### FOR IMMEDIATE RELEASE

Two North Carolina State University scientists have been elected Fellows of the American Association for the Advancement of Science (AAAS).

Dr. JoAnn M. Burkholder, professor of botany and director of the Center for Applied Aquatic Ecology, and Dr. Steven Spiker, professor of genetics, are faculty members in NC State's College of Agriculture and Life Sciences, and are among 308 scientists to be honored by AAAS.

AAAS is the world's largest general scientific society, and the publisher of the journal *Science*. Each year, the AAAS Council elects members whose "efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished." Fellows are nominated by their peers and undergo an extensive review process.

Burkholder was recognized for her distinguished contributions to the field of phycology, the study or science of algae.

Burkholder has published groundbreaking work on harmful algae such as *Pfiesteria*, describing its toxic impacts on fish and mammals. Most recently, Burkholder and colleagues published a paper in *Proceedings of the National Academy of Sciences, U.S.A.* asserting that sections of North Carolina's coast quickly bounced back from damaging hurricanes in 1996 and 1999, suggesting that the hurricanes had a scouring, cleansing effect on the Pamlico Sound and Neuse River estuary.



Dr. JoAnn Burkholder



Dr. Steven Spiker

- more -

Spiker was selected for his contributions to molecular studies on the structure of the plant nucleus, plant chromatin, and chromosomal proteins and on the role of chromatin structure in gene expression.

In recent years, Spiker has concentrated on how a protein structure, called the nuclear matrix, serves as a framework to organize chromosomes in the nucleus of plants. He and colleagues have shown that DNA sequences called MARs bind to the nuclear matrix and can be put to great use for biotechnology. When MARs are included with genes used to genetically modify plants, the activity of the genes can be increased several fold. This has the potential to be useful in efforts to make plants that are resistant to pests, resistant to stresses such as drought, or that can serve as biological factories to make specialized medicines. These studies have been carried out in a number of plant systems including peas, wheat, maize, tobacco and the model plant *Arabidopsis*.

Burkholder and Spiker will be recognized at the AAAS annual meeting in Washington, D.C., in February 2005.

- kulikowski -