

## **BPS STATEMENT OPPOSING THE TEACHING OF ALTERNATIVES TO EVOLUTION IN K-12 SCIENCE CLASSROOMS**

Adopted by the Biophysical Society Executive Board on November 5, 2005

The Biophysical Society is deeply troubled by attempts in the United States to suppress the teaching of evolution in K-12 public schools, or to temper the teaching with disclaimers, or to present evolution as only one of several alternative theories about the origin of human life on earth.

As biophysicists, we are engaged in studying the structure and function of living organisms at a molecular level. Such studies have demonstrated that all life forms on earth obey the laws of chemistry and physics, and that these life forms are built from molecules that show common origins. The hypothesis that binds all these studies, built upon an immense body of evidence accumulated from geology, paleontology, biochemistry and molecular biology, is the theory of evolution. The main mechanism for evolutionary change is genetic variation. Scientists have demonstrated how at the molecular level, imperfections in DNA replication and damage to DNA caused by sunlight and radiation can contribute to genetic variability. One need only look at the progression of influenza to see evolution in action today.

In contrast to the scientific picture of evolution that has emerged from field observations and laboratories, there are some today who argue that alternative views, such as Biblical Creationism or Intelligent Design, should be taught instead of evolution, or alongside evolution in K-12 science classrooms. What distinguishes scientific theories from these theological beliefs is the scientific method, which is driven by observations and deductions, leads to testable predictions, and involves the formulation of hypotheses that can be refuted. This process results in a body of facts that have been repeatedly confirmed by experiments, which in turn result in a theory. Scientific theories are therefore not “guesses,” but fact-supported, self-consistent, reliable accounts of the world. The alternative theological explanations for origins are not based on the scientific method, and are, therefore, not in the realm of science. They are in the realm of faith.

The Biophysical Society is strongly opposed to any effort to blur the distinction between science and theology by teaching or presenting non-scientific beliefs in science classrooms. Accepting the evidence that evolution has and continues to take place does not preclude one from believing in theologies, but those beliefs have no place in a science curriculum. Attempts to suppress or compromise the teaching of evolutionary *science* in the United States are misguided actions that will deprive our youth of a clear understanding of the scientific process, and of the scientific skills that they need to compete in a global economy: one that is increasingly driven by science and technology. Moreover, current efforts to disguise theology as science do a severe disservice to the scientific profession and to the people of the United States.

*The Biophysical Society, founded in 1956, is a professional, scientific society established to encourage development and dissemination of knowledge in biophysics. The Society promotes growth in this expanding field through its annual meeting, monthly journal, and committee and outreach activities. Its nearly 8,000 members are located throughout the U.S. and the world, where they teach and conduct research in colleges, universities, laboratories, government agencies, and industry.*