

# New tool for biology students teaches biosecurity awareness by example

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Since the anthrax letter attacks in 2001, concern has grown over legitimate scientific work that could be misused to threaten public health and national security. This is particularly important since the U.S. has dramatically increased its biodefense research budget since 2001. To increase awareness of the pitfalls of research that could potentially be used for malevolent purposes the Federation of American Scientists launched an internet based tool to illustrate the experience of scientists who have dealt with "dual use" scientific research.

"Scientists don't generally think about terrorists using their work to attack the nation, but as technology and the pace of research advances it will become easier for those with nefarious intent to co-opt legitimate science," said Michael Stebbins, FAS Director of Biology Policy. "Raising awareness of this ugly truth is essential for the security of the nation."

This online learning tool illustrates the implications of dual use biology research through case studies of three different researchers who have done dual use research and provides a historical background on bioterrorism, bioweapons and the current laws, regulations and treaties that apply to biodefense research. Biology graduate students and post-docs, technicians, and their principal investigators will be able to access the modules, as will undergraduate biology students and even advanced high school biology students.

The goal is to fill a gap in the current education curricula. The United

States has invested heavily in biodefense research, but neglected to train scientists to recognize the full implications of their work. Molecular biological research has made extraordinary advances. Unfortunately these technological milestones have increased the risk that research could be used by those with malicious intent.

It is important that biologists increase their awareness of biosecurity issues and learn to assess their research in terms of modern security concerns. The case studies presented in the modules clearly define the issues associated with "dual use" research and security in the research lab.

"They are being provided free to anyone who wishes to educate themselves about the implications of dual use research and the Federation of American Scientists will distribute dual use education materials from any other group through our Biosecurity Resource page. Raising awareness of the implications of "dual use" research is an important first step in engaging the academic research community in biosecurity," said Stebbins.

Scientists must lead the effort to manage dual use research as they are best qualified to identify opportunities for misuse. The research community has a moral obligation to prevent the misapplication of their technologies or findings. The risk of not becoming engaged may be governmental actions that impose blanket restrictions and cumbersome rules for scientists that have little impact on real security and could slow legitimate research. In the future, FAS will develop more modules and dramatically expand the education materials available to train scientists to be aware of the consequences of "dual use" research.

Source: Federation of American Scientists

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