Bradford Disarmament Research Centre (BDRC), part of the Department of Peace Studies at the University of Bradford, United Kingdom, has developed a project web site (www.dual-usebioethics.net) to promote an increased awareness of dual-use issues among life scientists. The term “dual-use” refers to the misuse of benign scientific research for destructive or hostile purposes. The project team behind the web site also includes research experts from Australian National University in Canberra; Landau Network Centro Volta in Italy; National Defense Medical College in Japan; and in the UK, the University of Bath, University of Exeter, University of Manchester, and University of Newcastle. The web site is structured to incorporate information from the following four key stages of our ongoing strategy to promote dual-use education.

The first stage investigated the current state of life science degree courses in the higher education sector to identify existing obstacles to the introduction of dual-use education. Regions already surveyed include Europe, Japan, Israel, and the Asia-Pacific region, with expansion to Latin America and Africa in the near future.

The second stage was to develop an easily accessible education resource on dual-use biosecurity issues. We developed an Educational Resource Module (EMR) to meet this need that offers entry-level, but comprehensive, content covering the history and national implementation of the Biological Weapons Convention (BWC), dual-use issues in contemporary life sciences, and issues around the responsible conduct of research. As no “one-size-fits-all” approach to the education of scientists is feasible, the EMR is freely available online and the content can be tailored to fit this module resource into local educational contexts. It is currently available in English, Japanese, and Russian and will shortly be available in Urdu, French, Romanian, and other languages. To facilitate the development of best practice so that biosecurity education can be assimilated and implemented in different academic contexts in different regions, we have tested the EMR at local universities in Italy, Japan, Portugal, Spain, Sweden, the Netherlands, and the UK, with positive results.

The third stage was to launch an expert-level “Train-the-Trainer” program that supports educators in their own educational development and provides dual-use training for their students and other practicing scientists. This UK Masters-accredited course (20 UK M-level credits) is delivered as a 12-week online program, starting in September 2010. Critical components of the program are the 21 real-life dual-use scenarios drawn from a range of life science contexts. As part of the sustainability aspect of the module, students must demonstrate how they will incorporate the use of the entry-level EMR into their teaching and the continuing professional development of their students and colleagues.

The fourth stage of our strategy evidenced the international implementation of education around dual-use biosecurity issues at the university level. The BDRC held a meeting in Bradford, UK, in July 2010 on Dual-Use Education for Life Scientists: Mapping the Current Global Landscape and Developments, sponsored jointly by the UK’s Economic and Social Research Council and the Japan Society for the Promotion of Science. Thirty-five biosecurity experts, educators, and researchers from a range of institutions and government bodies from around the world, including The American Association for the Advancement of Science, the U.S. National Academies of Science, and delegates from the BWC, presented evidence from research and experiences in 20 countries.

Currently, BDRC is developing a further quantitative study, complemented by a qualitative investigation, to assess the impact of dual-use education and the expansion of international networking not only among academic institutions but also with industry, prior to engagement with the coming Seventh Review Conference of the BWC in December 2011.