

BIOSECURITY ASSESSMENT OF CRISPR IN CHINA

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ABSTRACT:

This project will produce a net assessment of the security threats posed by the development and use of CRISPR in China. Current security assessments of CRISPR are based on projections about what the technology could achieve in theory, not on an evidence-based analysis of what researchers can actually achieve. This gap is particularly glaring as it relates to China, where CRISPR research is rapidly advancing. To fill this gap, we propose a 24-month empirical study that will investigate CRISPR's use in China at the micro (laboratory) and macro (national) levels. The research will involve a thorough review of the scientific literature in English and Chinese, as well as interviews with about 50 Chinese scientists, technicians, DIY Bio amateurs, and relevant government officials, and when possible observations of CRISPR work in Chinese laboratories. Using this unique approach we will: (1) identify, through open source research, the Chinese laboratories and projects using gene editing technologies; (2) identify how Chinese scientists are acquiring, developing, and diffusing CRISPR skills; (3) evaluate Chinese government funding and support of CRISPR; (4) assess the biosecurity implications of CRISPR in China; and (5) offer short- and long-term recommendations to help inform U.S. defense, nonproliferation, and arms control deliberations and policymaking on CRISPR in China.

This project will provide the general public (including Chinese citizens) with a better understanding of this dual-use technology and its potential for good and for harm. Armed with this knowledge, informed citizens will be able to contribute to the debate on the security implications of emerging technologies, which thus far has primarily involved the elite scientific and security communities, and focused around ethical and regulatory issues. We expect that a better understanding of the threat posed by this new technology by the public will bring a greater diversity of views in the discussions that will better inform policymakers and the use of U.S. taxpayer funds.

Research in Progress describes ongoing PASCC research. For more information please contact INSS@usafa.edu.