2021 Next Generation for Biosecurity Competition
Submission Outline

Format

Title page should include team member names, organizational affiliations, and home countries. Submissions should be in 12-point Times New Roman font, single spaced. Headings may be bolded and/or italicized in 12-point font. Sections should have a single blank line of separation as demonstrated in this document.

Prompt: What life science research should *not* be conducted, if any? Should red lines in life science research be drawn? If so, by whom?

Executive Summary (200-300 words)

Provide a stand-alone summary of your team's research approach, discussion, and recommendations on life science research that should ***not*** be conducted, if any, and the high-level considerations for these boundaries. The information in this section can be creatively formatted with graphics if desired.

Background (500-700 words)

The Background section should invoke the Global Health Security Index and Global Health Security Agenda (GHSA) Joint External Evaluation findings as well as other publicly available data sources to identify potential gaps in biosafety, biosecurity, and/ or dual-use research regulation and oversight using quantitative and qualitative analyses. For the purposes of this competition, biosecurity and biosafety are defined by the target and indicators outlined within the Joint External Evaluation Tool of the World Health Organization[1] and the GHSA Action Package on biosecurity and biosafety (APP3). In general, the term "biosecurity" refers to measures that are taken to protect and control access to—and prevent theft and diversion of—dangerous biological materials and toxins, as well as oversight for dual-use research. The term "biosafety" refers to measures that are taken to protect people from exposure to dangerous biological materials and toxins. For this competition, "dual-use research" can be understood as benevolent life science research that could be misapplied for malevolent purposes[2]. This section should provide any additional background information relevant to the discussion to follow on defining "responsible conduct of life science research" by identifying predominant norms around responsible conduct of life science research citing outside sources to support key arguments. For example, consider referencing the 2004 National Academy of Sciences report highlighting the seven experiments of concern and the 2010 World Health Organization report on responsible life sciences research for global health security.

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[1] "A whole-of-government national biosafety and biosecurity system is in place, ensuring that especially dangerous pathogens are identified, held, secured and monitored in a minimal number of facilities according to best practices; biological risk management training and educational outreach are conducted to promote a shared culture of responsibility, reduce dual use risks, mitigate biological proliferation and deliberate use threats, and ensure safe transfer of biological agents; and country-specific biosafety and biosecurity legislation, laboratory licensing, and pathogen control measures are in place as appropriate." (Joint External Evaluation Tool and Process Overview. Geneva: World Health Organization; 2016. License: CC BY-NC-SA 3.0 IGO.)

[2] "Knowledge and technologies generated by legitimate life sciences research that may be appropriated for illegitimate intentions and applications." (Responsible Life Sciences Research for Global Health Security: A Guidance Document. Geneva: World Health Organization; 2010. License: CC BY-NC-SA 3.0 IGO.)

Discussion (1,000-1,400 words total)

The Discussion section should pull from the Background section and build arguments for what is "responsible conduct of life science research." Norms identified in the life sciences should be explored through historical examples of life science research that were seen as out-of-step with the identified predominant norms. Looking forward, this section should recognize the threat posed by emerging biological risks and the rapid pace of biotechnology advances. Lastly, this section should explore variations among countries and regions regarding norms, regulations, laws, and policies surrounding life science research.

Conclusions (200-300 words)

Present the key points and summary of your analysis. Address potential questions unanswered by the exploration of red lines in life science research, and propose potential future work or analyses related to safe, secure, and responsible conduct of life sciences research to propel the conversation forward based on your conclusions.

References

Please submit all references in MLA format. As needed, use the Owl Perdue MLA Style Guide for citation assistance.

Appendix

Discussion:

- Abbreviations used in the submission text may be explained here.
- If analysis was performed using a program (ex. R studio, SAS, STATA, SPSS, etc.), please include annotated code and relevant output.
- If additional coding of primary/secondary sources was performed, please include a codebook here.

Relevant Published Figures:

- If figures from papers are cited in the submission, please include the full figure and appropriate citation here.

Other Supplements:

- Include curriculum vitae for each team member at the conclusion of the Appendix.