RE: U.S. Export Control laws - Fundamental Research Exclusion

This document provides the definitions of fundamental research under the EAR and ITAR, and recommended steps to ensure compliance with U.S. export control laws.

Fundamental Research

- Export Administration Regulations (EAR) - § 734.8: "*Fundamental research means research in science, engineering, or mathematics, the results of which ordinarily are published and shared broadly within the research community, and for which the researchers have not accepted restrictions for proprietary or national security reasons*."

  Note: *"There are instances in the conduct of research where a researcher, institution or company may decide to restrict or protect the release or publication of "technology" or software" contained in research results. Once a decision is made to maintain such "technology" or "software" as restricted or proprietary, the "technology" or "software," if within the scope of § 734.3(a), becomes subject to the EAR."*

  (See also questions/answers on pages 4-9 of Revisions to Definitions in the Export Administration Regulations: Frequently Asked Questions (FAQs) Effective September 1, 2016) (An incomplete list of FAQs from the link are copied/pasted in the attached Appendix)

- International Traffic in Arms Regulations (ITAR) - § 120.11(a)(8): "*Fundamental research is defined to mean basic and applied research in science and engineering where the resulting information is ordinarily published and shared broadly within the scientific community, as distinguished from research the results of which are restricted for proprietary reasons or specific U.S. Government access and dissemination controls. University research will not be considered fundamental research if:*

  (i) The University or its researchers accept other restrictions on publication of scientific and technical information resulting from the project or activity, or

  (ii) The research is funded by the U.S. Government and specific access and dissemination controls protecting information resulting from the research are applicable."

- NOTE: Under both the EAR and ITAR the fundamental research exclusion from U.S. export control laws only applies to information. Physical objects, including items like viruses, bacteria and equipment are subject to U.S. export control laws, even if created or utilized during a fundamental research project, and may require an export license prior to export out of the U.S., including "deemed exports" to foreign persons physically located in the U.S.

Recommended Steps to Ensure Compliance with U.S. Export Control Laws

- In the event any activities (including any portions of a project) may not qualify as fundamental research, or if there is any expectation to receive export controlled information, please contact the University's Export Control Officer in an effort to ensure compliance with applicable U.S. export control laws. Such compliance steps may include the need to implement a technology control plan approved by the University's Committee on Science and Security (Chaired by Rick Waugh).

Appendix

Selected fundamental research FAQs copied/pasted from the U.S. Department of Commerce's
Revisions to Definitions in the Export Administration Regulations:
Frequently Asked Questions (FAQs) Effective September 1, 2016
(please consult the link above for the full list of questions/answers)

Q.1: What is considered fundamental research under the EAR?
A: The role of the EAR is not to regulate fundamental research as such; it is to regulate the transfer of technology and software. Technology or software that arises during or results from fundamental research is generally not subject to the EAR (see § 734.8 for specific criteria). (Please note: Section 734.8 does not apply to physical objects such as pathogens or equipment.) Fundamental research is described in the EAR as "research in science, engineering, or mathematics, the results of which ordinarily are published and shared broadly within the research community, and for which the researchers have not accepted restrictions for proprietary or national security reasons." The techniques used during the research are normally publicly available or are part of the published information.

- Example: There is a joint U.K./U.S. university-based research project on vector identification for Marburg virus with no restrictions on publication of the results of the research or of any technology released to the researchers. The research would be considered fundamental and the information resulting from this research, such as the results and methods, are not subject to the EAR. There would be no "deemed export" required for foreign nationals working at the U.S. university and no export license required for discussing research methods and outcomes between the two universities. An export license would be required for the export of the Marburg virus samples to the U.K. university.

Q.2: What types of research are NOT considered fundamental research under the EAR?
A: Research is not considered fundamental research when the laboratory, company, university or researcher restricts the publication of the outcome of the research or restricts the publication of the methods used during the research. The following are examples of research that is not considered fundamental and information that becomes subject to the EAR:

- Proprietary research.
- Any research methods or outcomes of government-funded research that have been specifically restricted from publication. Only the information that is thus restricted would become subject to the EAR; the remainder of the research methods and outcomes that have not been subject to restriction would be considered information resulting from fundamental research.
- Any research methods or outcomes of government-funded research that have been communicated in violation of any condition that may exist in the funding instrument that requires prepublication security review of the research communication.
- Research methods or outcomes that an investigator voluntarily decides should not be communicated widely because of security concerns and therefore self-redacts from publication. Only the information that is redacted would become subject to the EAR; the remainder of the research methods and outcomes that have not been subject to self-redaction would be considered information resulting from fundamental research.

- Example: Government-funded researchers studying *Bacillus anthracis* accept national security prepublication review of their research. If the group complies with the review requirement and does not communicate this research without the required reviews, their research remains fundamental research. However, any of the information resulting from this research that is restricted from publication becomes subject to the EAR. Research methods and outcomes from the same project that are not subject to restriction would remain information resulting from fundamental research and not subject to the EAR.

Decisions to restrict publication, regardless of the source of the decision, would mean that the technology not intended to be published is technology subject to the EAR. This decision is not retroactive, so it would not impose a license requirement for exports of the information that have already taken place, but may impose a license requirement for future exports of the information and future deemed export licenses as necessary.

Q.4: Does BIS presume that research conducted by scientists, engineers, or students at an accredited institution of higher education located in the United States will be considered fundamental research?

A: Yes, but, as with all rebuttable presumptions, it is rebutted if the research is not within the scope of technology and software that arises during, or results from, fundamental research as described in § 734.8.

Q.5: My research sponsor will review the results of my research before I publish. Does this review affect whether my results are subject to the EAR?

A: It depends on the nature of the prepublication review. (See 734.8(b).) Prepublication review by a sponsor of university research to ensure that the publication would not compromise patent rights or would not inadvertently divulge proprietary information that the sponsor has furnished to the researchers does not change the status of the research as fundamental research. If the result of the review is to restrict publication, the EAR applies to that information for which publication is restricted. For example, university-based research is not considered "fundamental research" if the university or its researchers accept, at the request of an industrial sponsor, other restrictions on publication of scientific and technical information resulting from the project or activity. Scientific and technical information resulting from the research will nonetheless qualify as fundamental research once all such restrictions have expired or have been removed.

Q.6: Is information given to researchers by a sponsor subject to the EAR?

A: The initial transfer of information from an industry sponsor to university researchers is subject to the EAR where the parties have agreed that the sponsor may withhold from publication some or all of the information so provided.

Q.8: My research is not subject to government-imposed access and dissemination or other specific national security controls. Do I need a license for a foreign graduate student to work in my laboratory?

A: Not if the research on which the foreign student is working is "fundamental research" under § 734.8 and any information released to the researchers is also intended to be published.

Q.10: My university will host a prominent scientist from the PRC who is an expert on research in engineered ceramics and composite materials. Do I require a license before telling our visitor about my latest, as yet unpublished, research results in those fields?
A: Probably not, provided the research results meet the criteria of "fundamental research" in § 734.8. Specifically, if you performed your research at the university, you intend to publish it, and you were subject to no contract controls on release of the research, your research would be "fundamental research." Information arising during or resulting from such research is not subject to the EAR (§ 734.3(b)(3)). You should probably assume, however, that your visitor will be debriefed later about anything of potential military value he learns from you.

Q.11: I would like to correspond and share research results, which deal with technology that requires a license to all destinations except Canada, with an Iranian expert in my field. Do I need a license to do so?
A: Not as long as it is information that arose during or resulted from "fundamental research" as described in § 734.8. If that is not the case – meaning the information is subject to the EAR – then that would be a deemed export and most likely would require a license from BIS prior to releasing the technology to the Iranian national.

Q.11.1: Suppose the research in question were funded by a corporate sponsor and I had agreed to prepublication review of any paper arising from the research?
A: Whether your research would be "fundamental" for purposes of the EAR would depend on the nature and purpose of the prepublication review. If the review is intended solely to ensure that your publications will neither compromise patent rights nor inadvertently divulge proprietary information that the sponsor has furnished to you, the research could still qualify as "fundamental." But if the sponsor will consider as part of its prepublication review whether it wants to hold your new research results as trade secrets or otherwise proprietary information (even if your voluntary cooperation would be needed for it to do so), your research would no longer qualify as "fundamental." For purposes of the EAR, it is whether the research results are ordinarily published and shared broadly that primarily determines whether the research counts as "fundamental" and so is not subject to the EAR.