Export Control Basics for Research Administrators
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Alaisha Hellman, Export Control Officer, University of California, Berkeley
Jessica Trask, Export Control Analyst, University of California, Davis
What you will learn from this presentation:

• What are export controls?
• Why are they important?
• What activities are export controlled?
• What can Universities do to protect themselves?
• When to escalate a situation?
What is Export Control?
What is an Export?

A shipment of items to outside the U.S.

- “Shipment” includes transmission, training, services, and technical assistance
- “Items” includes commodities, munitions, data, information and software source code
- “Outside the U.S.” includes foreign nations, companies not incorporated in the U.S., and foreign persons
- “Deemed Export” includes a transfer of information to foreign nationals in the U.S.
What Are “Deemed Exports”?

Deemed Exports are exports of technology or technical data to Foreign Nationals here in the U.S. when the transfer would require a license to transfer such items to that country.

- Lab tours that expose export controlled technology
- Participation in research or meetings discussing export controlled technology
Technology and Technical Data

• Rather, broadly speaking, the terms “technology” and “technical data” mean specific information necessary for the development, production, or use of a commodity, and usually takes the form of blueprints, drawings, photographs, plans, diagrams, models, formulae, tables, engineering specifications, and documentation.

• You may need a license prior to sharing export-controlled technology or technical data (deemed export).
What type of items (not exhaustive) are Export Controlled?

- Biological agents
- Fiber optic cables or filaments
- Gas monitoring devices
- Gravimeters
- High-frequency radios
- Infrared cameras/detectors
- Lasers
- Military/naval equipment
- Navigation or avionics items
- Nuclear/radioactive items
- Night vision equipment
- Optical lenses
- Oscilloscopes
- Photonics instruments
- Radar equipment
- Semiconductors
- Ruggedized electronics
- Sensors or scanners
- Space-related items
- Spectrometers
- Unmanned aerial vehicles
Why Do We Have Export Regulations?

Export laws exist to advance and protect three main concerns:

- National Security
- Economic Espionage
- Political Sanctions
National Security

Chengdu J-10 (China) and a U.S. F-16
Economic espionage
Political sanctions

In the news:
• Sanctions against purchasing of Iranian oil, halting of tankers

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Why the government takes it seriously…

Smuggled radio frequency modules from Minnesota later turned up in 16 unexploded roadside bombs in Iraq targeting U.S. forces.
Who Monitors Export Control Regulations?
Agencies that Regulate Exports

- **U.S. Department of State**
  - DDTC: Directorate of Defense Trade Controls
  - ITAR: International Traffic in Arms Regulations

- **U.S. Department of Commerce**
  - BIS: Bureau of Industry and Security
  - EAR: Export Administration Regulations

- **U.S. Department of the Treasury**
  - OFAC: Office of Foreign Assets Control
  - CBP: Customs and Border Protection
The International Traffic in Arms Regulations (ITAR) provides the following sanctions:

Criminal Sanctions for each violation

- University: A fine of up to $1,000,000
- Individual: A fine of up to $1,000,000 or up to ten years in prison, or both

Civil Sanctions for each violation

- University: A fine of up to $500,000
- Individual: A fine of up to $500,000
The Export Administration Regulations (EAR) provides the following sanctions:

Criminal Sanctions for Each Violation
Willful Violations:
• University: A fine up to $1,000,000 or 5x the value.
• Individual: A fine up to $250,000 or up to 10 yrs. in prison, or both

Knowing Violations:
• University: A fine up to $50,000 or 5x the value.
• Individual: A fine up to the greater of $50,000 or 5x the value or up to 5 yrs. in prison, or both.

Civil (Administrative) Sanctions
• A fine of up to $12,000, except for violations involving items controlled for national security reasons which is up to $120,000.
The Office of Foreign Assets Control (OFAC) provides the following sanctions:

**Criminal Sanctions for each violation**
- University: A fine of up to $1,000,000
- Individual: A fine of up to $1,000,000 or up to 20 years in prison, or both

**Civil Sanctions for each violation**
- University: A fine of up to $55,000
- Individual: A fine of up to $55,000
How does export control effect research?
Research Activities Can Be Exports

- Exporting Technology Abroad
- Physical shipments of tangible items outside the U.S.
- Hand-carrying items during international travel
- Emailing technical data to recipients in foreign countries
- Allowing foreign entities access to download technical data or software
What Else Can Count as an Export?

- Traveling internationally with computing devices that contain sensitive information
- Allowing visiting foreign nationals to inspect U.S. export controlled equipment or facilities
- Demonstrations or presentations on foreign soil or to foreign persons in the U.S. of export controlled technology or technical data
- Emailing technical data or software to someone in or from a foreign country
Export Controls can limit when/how/if a Researcher can:

- Publish or present research findings
- Hire foreign nationals on research projects
- Acquire items for conducting research
- Use of materials, software and/or data
- Travel internationally with research data, materials, or results
- Conduct research overseas
International Collaborations

The U.S. government restricts collaborating with or shipping to specific individuals or organizations. Working with individuals, organizations, or entities which appear on any one of the U.S. government entity lists may be prohibited, require an export license, or require further review.

Researchers should not enter into subcontracts, exchange information, provide services, or otherwise participate, directly or indirectly, in any activities with any entity or person found on these lists without an export control review.
Foreign Collaborators and Entity Lists

Entity List: Entities that are denied export privileges by the Commerce Department

- Countries with restricted parties on the EAR Entity List: China, Canada, Germany, Iran, India, Israel, Pakistan, Russia, Egypt, Malaysia, Hong Kong, Kuwait, Lebanon, Singapore, South Korea, Syria, United Arab Emirates, United Kingdom, etc.

- Comprehensively sanctioned countries: Crimea, Cuba, Iran, North Korea, Syria

- Targeted Sanctioned countries: Iraq
A Reason to Screen

• The University of Massachusetts at Lowell (UML) failed to screen an international entity, Pakistan’s Space and Upper Atmosphere Research Commission (SUPARCO), prior to a collaboration analyzing electron density in Karachi and Islamabad.

• UML was unaware that the U.S. government had placed SUPARCO on the Department of Commerce’s Entity List, which establishes additional export requirements. UML exported atmospheric testing equipment, not typically controlled by export regulations, to SUPARCO.

• A license is required on nearly all shipments to an entity listed under the Department of Commerce’s list. The U.S. government assessed UML a $100,000 civil penalty which would be waived after two years if there were no other violations.
Where could an entity list violation occur?

- Foreign collaborators
- Awards or agreements with foreign entities
- Visitors, visiting scholars, or visiting graduate students
- International shipments
- Paying foreign persons or entities (for purchases, travel, reimbursement, etc.) from one of the lists
- When a university or corporation is placed on an entity list, even EAR99 equipment and technical information requires licensing and may be presumptively denied in certain cases (Huawei)
Sanctioned and Embargoed Countries Impact on Activities

- OFAC Embargoed Countries: North Korea, Iran, Syria, Crimea, and Cuba
- Each country has different sanctions and exceptions. For instance, Iran sanctions prohibit any export or import of any “good or service” to or from Iran. The Government has said that merely attending a conference in Iran is the “export” of a “service” that requires a license.
- Identify export licensing requirement up front to avoid delays and complications – licensing can take 7 weeks to a year to obtain, if granted at all.
- May impact participation by foreign nationals, faculty, staff and visitors.
Consequences for Researchers Are Real

Dr. Thomas Campbell Butler
Infectious disease professor at Texas Tech University
• Convicted on 3 counts of improper shipping of plague samples to collaborators in Tanzania
• Served 2 year sentence in Federal prison

Dr. John Reece Roth
Professor of engineering at University of Tennessee
• Hired GSRs from China and Iran on USAF contract
• Shared classified data from contract on a trip to China
• Served 4 year sentence in Federal prison
How do Universities prevent violations from occurring?
Information Protected by Safe Harbor

Export Control Requirements for Foreign National Participation in University Activities:

- **Educational Information**
- **Public Domain**
  - Readily available data or information that is commonly taught at universities, available at public libraries, or published for sale.
  - Includes “open source” software
- **Fundamental Research**
  - Basic and applied research in science and engineering conducted at U.S. universities, the results of which ordinarily are published and shared broadly within the scientific community.
Educational Information

Educational instruction in science, math, and engineering taught in courses listed in catalogues and associated with teaching laboratories of academic institutions in the U.S. can be excluded.

- **EAR:** Release of information by instruction in catalog courses and associated teaching laboratories of academic institutions is not subject to EAR.
- **ITAR:** Information concerning general scientific, mathematical, or engineering principles commonly taught in schools, colleges and universities is not controlled by ITAR.
Public Domain or Publically Available

The Export Administration Regulations (EAR) and the International Traffic in Arms Regulations (ITAR) do not control “technology” or “software” defined as “publicly available” or in the “public domain.”
What qualifies as being in the Public Domain?

Information is “published” (and therefore not subject to export controls) when it becomes generally accessible to the interested public in any form, including:

- Publication in periodicals, books, print, electronic, or other media available for general distribution (including websites that provide free uncontrolled access) or to a community of persons interested in the subject matter, such as those in a scientific or engineering discipline, either free or at a price that does not exceed the cost of reproduction and distribution;
- Available at libraries open to the public or at university libraries;
- Patents and published patent applications available at any patent office.
What Is the Fundamental Research Exemption/Exclusion “FRE”?  

Exemption from export controls applies to “technology” and “software” resulting from fundamental research:

- When conducting fundamental research
- At a university in the U.S.
- With the intent to publish the results
- And you have accepted no publication/dissemination restrictions (other than a reasonable review period to identify and redact proprietary information, or to protect intellectual property prior to publication).
Review: What Is not Export Controlled?

- Public Domain Information
- Publicly Available Information (e.g. open-source software)
- Educational Information (information commonly taught in colleges or universities)
- Fundamental Research
Is this covered under FRE or do I need a license?
What research related activities are not covered by the FRE?

Even if the basic project is determined to be fundamental research, the following aspects would still be subject to export control regulations:

- Research work outside the U.S.
- Shipping of tangible items
- Encryption software/source code
- Export controlled proprietary information
- Development or “Use” of equipment
- Foreign National access to controlled technologies, equipment, or technical data
Other University activities not covered by FRE

• Clinical activities, such as patient care, would not qualify as “research” in “science” or “engineering”

• Non-research service agreements

• Also, if you have accepted a research award with...
  • Publication restrictions (other than a brief review for proprietary information)
  • Participation or access restrictions
License Exceptions

There are some limited exceptions for certain types of technology which would normally require a license.

Some commonly used ones are:

• Tools of the trade (testing/measurement/inspection devices)
• Temporary exports (never leaves your control, for less than one year)
• Strategic Trade Authorization (certain technologies to certain countries with whom the US has appropriate treaties)
Areas of Concern in Research Agreements
Publication Restrictions and the FRE

• Researchers should not enter into secrecy agreements or otherwise agree to withhold the results of a project conducted with University facilities, students or staff.

• Researchers should not accept proprietary information that is marked as “Export Controlled.”

• Researchers should not agree to any NDAs or CDAs where the University assumes the burden of restricting access or securing export licenses.
Citizenship Restrictions and the FRE

- Researchers should not provide citizenship, nationality, or visa status information for project staff to others or include such information in proposals.
- Researchers should not agree to background checks or other arrangements where the external sponsor screens, clears, or otherwise approves project staff.
- Researchers should not attend meetings where foreign nationals are prohibited from attending.
- Researchers should not sign a Militarily Critical Technical Data Agreement (DD2345) as a condition of attending a conference or receiving materials.
Non-Disclosure Agreements

• Watch for Non-Disclosure Agreements (NDAs), also called Confidentiality Agreements (CDAs)
• Agreements that manage proprietary information
• Can be institutional or individual and can appear at any time during the life of a project
• May cover export controlled information
• Use of export controlled information as background information
• Segregation of export controlled information from fundamental research work
What clauses could compromise FRE?

• Requirements for prepublication
• Right to withhold permission for publication
• Restrictions on prepublication dissemination of information to non-U.S. citizens or other categories of persons
• Restrictions on participation of non-U.S. citizens or other categories of persons in the research
• Export Control Restrictions, Security Language, or CUI
Problematic Export Control Clauses (not exhaustive)

- Export Control
  DFAR 252.204-7008, DFAR 252.225-7048

- Foreign National Restrictions
  AFMC 5352.227-9000, ARL 52.004-4400, FAR 52.204-2

- Publication Restrictions
  ARL 52.005-4401, DFAR 252.204-7000, DFAR 252.227-7025, FAR 52.227-14, FAR 52.227-17

- Security, Access, and Dissemination Control
  DEAR 952.204-2, DFAR 252.204-7012, DFAR 252.239-710, FAR 52.204-21, FAR 52.239-1, NIST 800-171
Research at a University that does Restricted Research
My University accepts restricted research, how do I know if a project is controlled?

- Does the research involve source code for encrypted software (excludes publicly available software distributed at no cost)?
- Does the research involve information or software that could be used in the development of weapons (nuclear, biological, chemical) or their delivery systems?
- Does the research involve equipment, software, services, or technology that is on the United States Munitions List (USML) under the ITAR?
- Does the research involve equipment, software, services, or technology that is on the Commerce Control List (CCL) under the EAR?
- Does the research involve technical information concerning equipment, software, or technology on the USML or the CCL?
- Does the research provide data, services, or involve transactions with an OFAC embargoed country?
Is this project controlled?

Identify if the research proposal or solicitation:

• Restricts researcher participation based on citizenship?
• Require participation in U.S. citizen only research meetings?
• Grants the sponsor a right of prepublication review for matters other than the inclusion proprietary sponsor information?
• Provide that any part of the sponsoring, granting, or establishing documents not be disclosed?
• Involve a controlled technology or 3rd party proprietary information?
• Contains security language or restrictive markings?
What will your Export Control Office want to know about a research project?

• Is the information clearly identified in the project as controlled and what is the type of control?
• Can the information be appropriately protected? Are there any international collaborators or physical exports?
• Can proprietary/controlled information be removed from research results, so that results may be freely published?
What do I do after I have identified that the project is controlled?

- Contact your Export Control Officer (ECO) asap and ask your ECO about the process. Do they review proposals and RFPs prior to submission or only when awarded? Is higher-up approval required before accepting any restricted research award?
- Timing is important. Consider that the ECO may need time to apply for and receive a license or implement a control plan before the project may begin.
- Research that requires compliance with export control regulations should be identified at the time of a proposal and finalized at the time the award is received and negotiated.
- Negotiate terms acceptable to the University in coordination with the University’s ECO. Can the award be made FRE?
- When research involves restricted, proprietary, or classified information, work with the Researcher and ECO on identifying award restrictions, where a license or control plan might be required.
What else should I look for in the proposed research?
Outgoing Shipments of Tangible Items to Foreign Collaborators

Things to consider when shipping:

• Classification of items
  • Commodity Control List (CCL)
  • Export Control Classification Number (ECCN)
  • US Munitions List (USML)

• Country control lists
• License exceptions
• Exemptions and exclusions
• License application
• Timing of authorizations
Receiving Items (Incoming) from Foreign Collaborators or 3rd Parties

- Material
- Software
- Data

Photos courtesy of Pixabay.com
Considerations for Foreign Travel

• License Requirements for destination
• Traveling with:
  • Laptops
  • Scientific equipment
  • Data
  • Materials
• Identifying risk factors
  • Foreign Collaborators – who are they and should you/can you collaborate with them?
Laptops and University Equipment

Traveling with a Laptop or Other Tool of the Trade

• Travelers are responsible for knowing how export controls apply when taking equipment, devices, software or technical data outside the U.S. In most situations, licensing is not required to take University owned items abroad under the TMP “tool of trade” license exception (15 CFR 740.9 (TMP

Traveling with Non-University Equipment

• License Exception for Baggage (15 CFR 740.14 (BAG)) allows travelers to carry personally-owned items, including laptops, PDAs, and cell phones as personal baggage. The items and software must be for their personal use.
Where to double check for possible export control issues?

- Travel to a foreign country
- Foreign Collaborators on grants that could have military application or dual use
- NDAs or CDAs with Industry Collaborators
- Clauses with Citizenship or Publication Restrictions
- Items or Technologies that could be controlled
When to contact your ECO?

• Travel outside of the U.S. on university business with university equipment
• Travel to an embargoed country
• Hosting persons from a sanctioned or embargoed country
• Collaborating with a researcher or institution outside the U.S. (especially when it involves sanctioned country or sensitive information)
• Shipping Internationally
• Research that involves the military, space-related information, UAVs, encryption, or any controlled information
• An agreement marked as “Export Controlled”
• You believe a violation may have occurred
Questions?

Alaisha Hellman, Export Control Officer, University of California, Berkeley
amhellman@berkeley.edu

Jessica Trask, Export Control Analyst, University of California, Davis
jatrask@ucdavis.edu