Export Controls:
What are they?
Why do we care?

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http://research.wustl.edu/ComplianceAreas/ExportControls
What is an Export?

“Release” of

- Commodities (tangible items e.g. equipment)
- Technology
- Software
- Source code
- Technical data or information
- Defense articles
- Defense services

.........to a foreign country or to a foreign person in the U.S.

A transfer of technology or technical data to a foreign national within the U.S. is "deemed" to be an export to the home country of the foreign national.
What is an Export?

“Release” can occur through

- Shipping of items
- Visual inspection by a foreign national (as in a tour)
- Face to face or telephone discussions
- Email/Fax
- Computer data disclosure
- Training
“U.S. Person” is defined as:

- Lawful Permanent Residents
  - U.S. Citizens
  - Legal Immigrant with a “Green Card”
- Protected Individuals
  - granted asylum or refugee status

“Foreign National” means everyone else, including foreign governments or entities not incorporated to do business in the U.S.
University Examples

• Actual Exports
  – Shipping items to a foreign collaborator.
  – Temporary export of equipment to a foreign country to conduct field work.
  – PI transfers to a foreign country and samples are transferred to the new institution.
  – PI travels to a foreign country and takes controlled items or information with them (e.g. on a laptop).

Depending on the technology and country involved, any of these activities may require a license.
University Examples

• Deemed Exports
  – A foreign graduate student or postdoc participates in research and is given access to technology controlled for their home country.
  – A foreign visitor has access to controlled equipment or technical data while visiting a university lab or field site.
  – A visitor with connections to a foreign military receives training in a controlled technology while visiting a university.

Depending on the technology and country involved, any of these activities may require a license.
What are “Export Controls”?  

U.S. laws that regulate the release of strategically important technology, services and information to foreign countries and foreign nationals.

Goals of Export Control Laws Include:

• Prevention of terrorism
• Prevention of development and proliferation of nuclear, chemical and biological weapons
• Compliance with trade agreements and embargoes
• Prevent export of technologies that assist the military potential of adversaries
Who Administers Export Controls?

Department of State
International Traffic in Arms Regulations (ITAR) Directorate of Defense Trade Controls

Department of Commerce
Export Administration Regulations (EAR) Bureau of Industry and Security

Department of the Treasury
Office of Foreign Assets Control (OFAC)

Military, Space, Satellite
22 CFR 120-130

Dual-Use Technologies (civilian or military)
15 CFR 730-773

U.S. Sanctions and Embargoed Regimes.
Lists of “Specially Designated Nationals (SDNs)” 31 CFR 500-598
Country Policies and Embargoes
Who Administers Export Controls?

Additional Agencies

• Department of Energy
• U.S. Nuclear Regulatory Commission
• Department of Homeland Security
But I’m just doing my research....what could go wrong?

- Criminal and civil penalties
- Loss of export privileges and/or federal funding
- Reputation damage
- Interruptions in research or other activities (when the FBI comes calling....)
<table>
<thead>
<tr>
<th>Date</th>
<th>Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>May 3, 2013</td>
<td>University Charged with Export Violations</td>
<td>The <em>University of Massachusetts at Lowell</em> was charged by the Bureau of Industry and Security (“BIS”) for violating export control laws in connection with the export of an atmospheric testing device and related equipment... to a party on the BIS Entity List.</td>
</tr>
<tr>
<td>April 08, 2012</td>
<td>American Universities Infected by Foreign Spies Detected by FBI</td>
<td><strong>Why the Professor Went to Prison</strong></td>
</tr>
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<td>....Roth, an emeritus professor of electrical engineering, taught and researched at Tennessee for nearly 30 years. A former scientist at NASA, he holds 11 patents and has testified before Congress on nuclear fusion.....</td>
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U.S. accuses China of cyber spying on American companies

BY JIM FINKLE, JOSEPH MENN AND ARUNA VISWANATHA

Mon May 19, 2014 6:04pm EDT

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A map of China is seen through a magnifying glass on a computer screen showing binary digits in Singapore in this January 2, 2014 photo illustration.

CREDIT: REUTERS/EDGAR SU
## Penalties for Violations

### Criminal Sanctions

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<th>EAR</th>
<th>ITAR</th>
<th>OFAC</th>
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<tbody>
<tr>
<td>UNIVERSITY</td>
<td>Up to $1 million</td>
<td>Up to $1 million</td>
<td>Up to $1 million</td>
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<tr>
<td>INDIVIDUAL (PI)</td>
<td>Up to $250,000 and/or up to 10 years in prison</td>
<td>Up to $1 million and/or up to 10 years in prison</td>
<td>Up to $100,000 per violation and/or up to 10 years in prison</td>
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### Civil Sanctions

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<tr>
<td>UNIVERSITY</td>
<td>Up to $12,000 per violation</td>
<td>Up to $500,000 per violation</td>
<td>Up to $55,000 per violation</td>
</tr>
<tr>
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What Types of Things are Controlled?

**Commerce Control List** – Dual Use Item Categories (EAR)

- Category 0  [Nuclear Materials, Facilities and Equipment](#)
- Category 1  [Materials, Chemicals, Microorganisms, and Toxins](#)
- Category 2  [Materials Processing](#)
- Category 3  [Electronics Design, Development, and Production](#)
- Category 4  [Computers](#)
- Category 6  [Sensors and Lasers](#)
- Category 7  [Navigation and Avionics](#)
- Category 8  [Marine](#)
- Category 9  [Propulsion Systems, Space Vehicles, and Related Equipment](#)

Items in these categories have **Export Control Classification Numbers (ECCNs)**.
What Types of Things are Controlled?

**U.S. Munitions List** (ITAR)

- Firearms, Close Assault Weapons, and Combat Shotguns
- **Materials, Chemicals, Microorganisms, and Toxins**
- Ammunition/Ordnance
- Launch Vehicles, Guided Missiles, Ballistic Missiles, Rockets, Torpedoes, Bombs, and Mines
- Explosives and Energetic Materials, Propellants, Incendiary Agents, and Their Constituents
- Vessels of War and Special Naval Equipment
- Tanks and Military Vehicles
- **Aircraft and Associated Equipment**
- Military Training Equipment
- Protective Personnel Equipment
- Military Electronics
- Fire Control, Range Finder, Optical, Guidance, and Control Equipment
- Auxiliary Military Equipment
- **Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment**
- Spacecraft Systems and Associated Equipment
- Nuclear Weapons, Design, and Testing Related Items
- Classified Articles, Technical Data, and Defense Services Not Otherwise Enumerated
- Directed Energy Weapons
- Submersible Vessels, Oceanographic, and Associated Equipment
Exemptions from Export Controls*

- Fundamental Research
- Public Domain
- Educational Institution activities

*No exclusions available for encryption software.
Excluded from Export Control
Fundamental Research

- Information resulting from basic and applied research in science and engineering
- and intended to be published and shared broadly within the scientific community
- and distinguished from proprietary research and industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons.

NSDD-189
When is the Fundamental Research Exclusion NOT Available?

• Export of tangible items.
• Outside of the U.S.
• *Publication restrictions*, except for brief review for proprietary or patent information.
• *Access/participation restrictions*
• Encryption software or source code.
• Information/technology received by WU from sponsor is export controlled.
Exempted from Export Control

Information in the Public Domain

- Information generally accessible to the interested public in any form including:
  - Libraries (public or university)
  - Periodicals, books, print, other media
  - Patents and patent applications
  - Conferences, meetings, seminars, trade shows, or exhibits open to the public or technically qualified public.
  - Websites accessible to the public
Exempted from Export Control

Educational Information

Information released by instruction in catalog courses and associated teaching laboratories of academic institutions.
Important Definitions
Development, Production, or “Use”

“Use” (for equipment):
operation, installation, maintenance, repair, testing, overhaul, and refurbishing

Examples –
• laminar flow hoods
• triggered spark gaps
Dual Use Example

Triggered Spark Gaps

Controlled Under the EAR –

• Used in a medical device (lithotripter) to break up kidney stones.
• Can also be used to detonate nuclear weapons.
• Controlled for India, China, Iran, Pakistan, many others
Restricted Party Screening

Visa applicants, foreign visitors, recipients of international shipments (both the individuals and their institutions) should be screened against the government specially designated nationals (SDN) lists.

Examples of Restricted Universities and Institutes in China *not exhaustive*

- Beijing University of Aeronautics and Astronautics (BUAA)
- Beijing Institute of Technology
- Beijing Institute of Structure and Environmental Engineering (BISE)
- China Academy of Launch Vehicle Technology (CALT)
- Chinese Academy of Engineering Physics (CAEP)
- Harbin Institute of Technology
- Harbin Engineering University
- Nanjing University of Aeronautics and Astronautics
- Nanjing University of Science & Technology
- Northwestern Polytechnical University (NPU)
- Sichuan University
- Southwest Research Institute of Electronics Technology
- University of Electronic Science and Technology of China (UESTC)
Export Control Roles and Responsibilities

How the University helps

• Provide training to faculty and staff
• Restricted Party Screening (Export Control, OISS, OTM, EH&S)
• Assist faculty and staff with technology classification, license determinations, and Technology Control Plans.
• Certify H1B Visas
• Apply for necessary licenses
Export Control Roles and Responsibilities

Individual
Ultimate responsibility for compliance rests with the individual.

• Be aware of what technologies in your area are high risk, and who has access to them.
• *To preserve the fundamental research exclusion, do not accept publication or access/participation restrictions* if possible, and do not make “side” deals.
• Don’t assume that because a Visa was granted there are no export issues.
• Contact the Export Control Manager well in advance of possible issues (for example, *before* sending an invitation letter to a foreign visitor), or when there are red flags.
RED FLAGS FOR RESEARCHERS

Call Export Control before...

• Taking on a defense related project where foreign nationals may have access.

• Including foreign nationals on a project which has
  – Publication restrictions
  – Access/participation restrictions
  – Involves receipt of proprietary information from sponsor
    • Especially if foreign national staff/students/scholars will be participating in the “development, production or use” of equipment/technology.

• Shipping to a foreign country

• Taking equipment outside of the U.S. for field work

• Traveling to or taking visitors from Iran, Syria, Sudan, North Korea, Cuba. [China]
Note About Foreign Travel

Some countries routinely take laptops upon entry, copy the contents, install spyware, and return them to the traveler.

Technical data on laptops may be subject to export controls (it is NOT protected under fundamental research).

International travelers are advised to take only what is absolutely necessary. Use of “scrubbed” or “clean” laptops is recommended if possible.
Contact
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747-1378
langton@wustl.edu
Questions?