

Chemical Security Education in U.S. Universities

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International Biological and Chemical Threat Reduction: Core Capabilities



Human Capacity Development



Risk Management

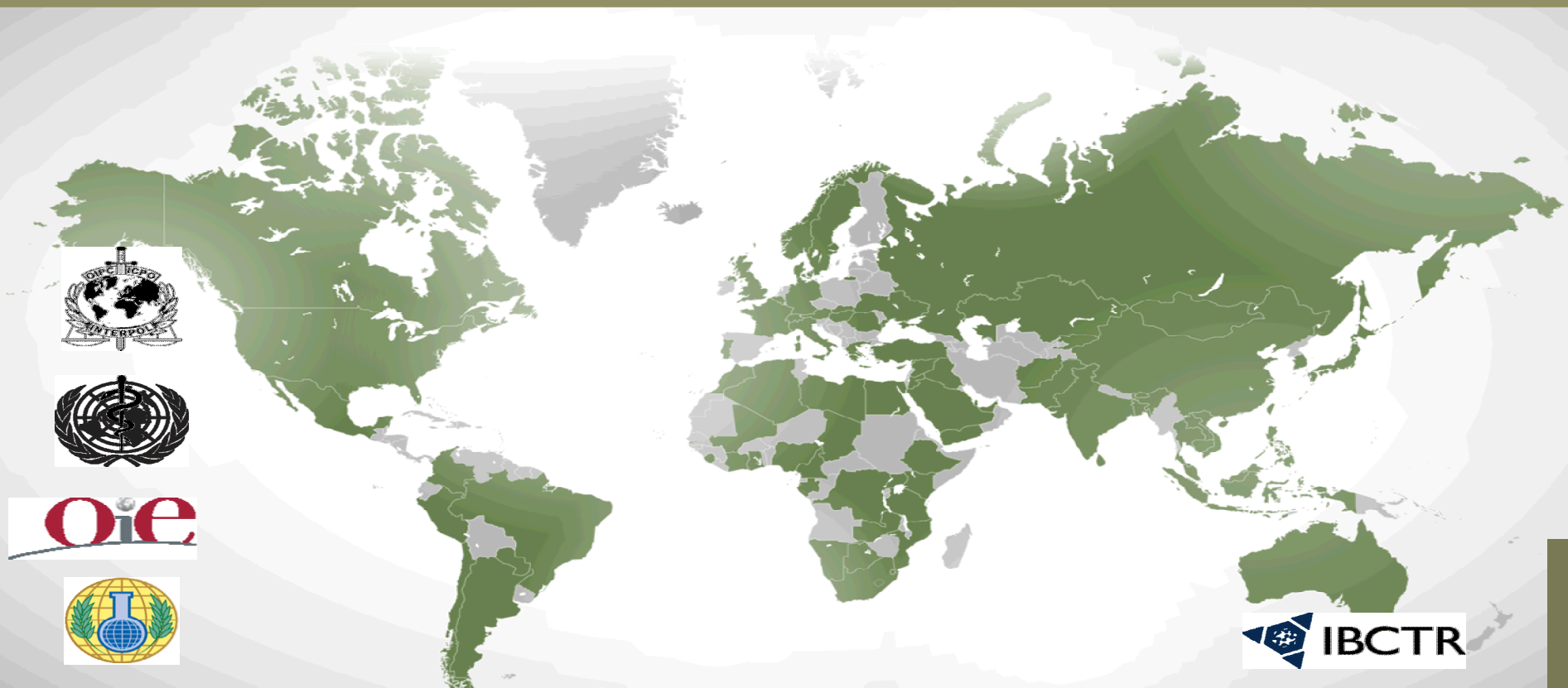


Analysis



Health Security

IBCTR's Global Experience in Risk Management

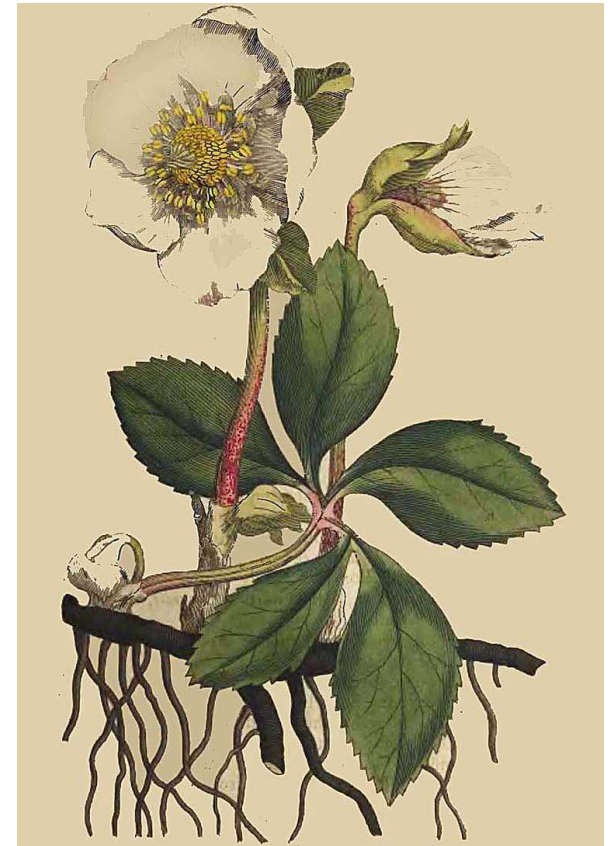


Chemical Weapons—An Ancient Problem



1000 B.C.—China:
Arsenical Smoke

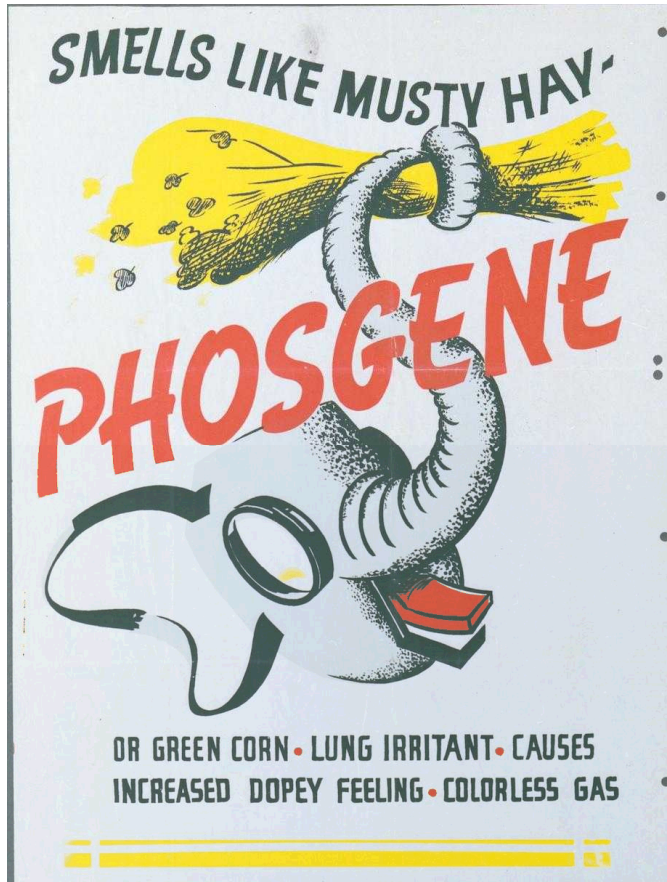
photo from: <http://www.globalhealingcenter.com/about>



600 B.C.—Greece: Helleborus

Photo from <http://www.gutenberg.net>

Chemical Weapons—Dual-Use Chemicals



**WWI— Europe: Chlorine,
Phosgene, Mustard**



**1937-present— Germany, Iraq, Japan,
Hollywood: Organophosphates**

Photo from:
http://www.slate.com/content/dam/slate/blogs/the_vault/2013/5/24/PhosgeneFinal.jpg.CROP.article920-large.jpg

Theatrical release June 7, 1996. Screen capture. Copyright © 1996 Hollywood Pictures Company, Don Simpson Productions, Inc. and Jerry Bruckheimer, Inc. Credit: © 1996 Hollywood Pictures / Courtesy: Pyxurz.

Chemical Weapons—Still A Threat Today



Kim Jong-Un, February
13, 2017



Syrian Chemical Weapons, 2013

Photo from: <http://www.abc.net.au/news/2017-02-15/kim-jong-un-half-brother-kim-jong-nam-dies-in-malaysia/8270840>

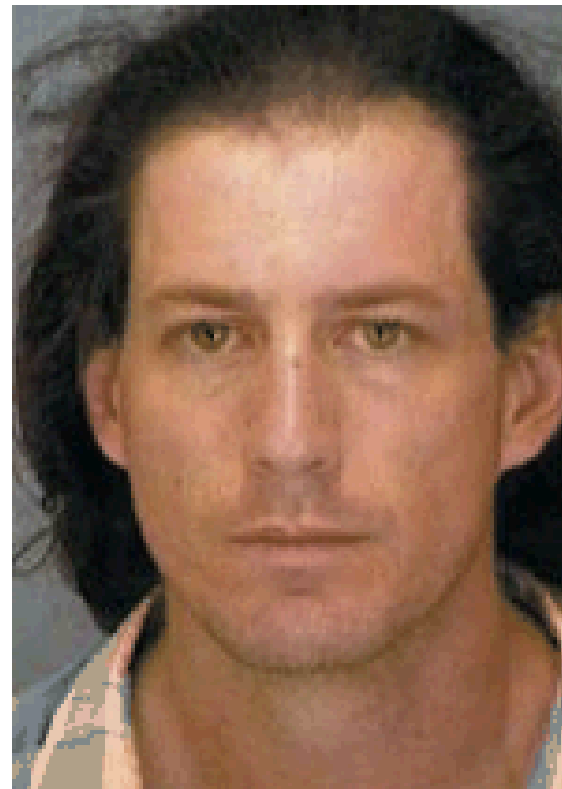
Photo from: http://www.huffingtonpost.com/2013/08/21/syria-chemical-weapons_n_3788481.html

Illicit Drug Production—Not just a Hollywood Drama



Breaking Bad, Albuquerque, NM

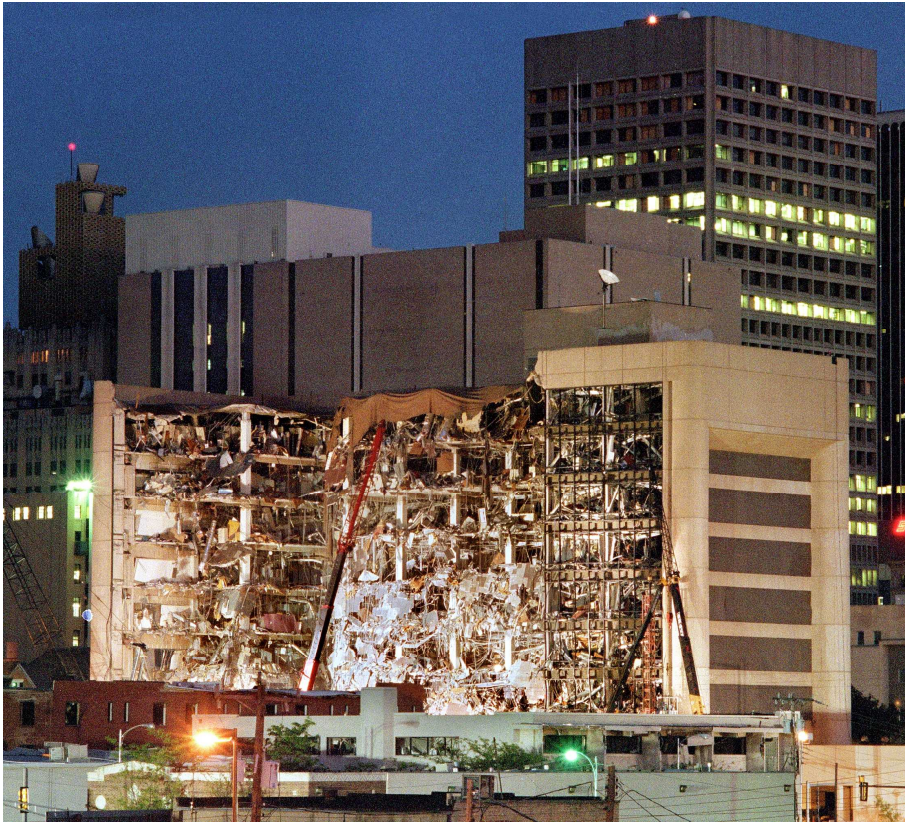
Photo from: <http://www.nydailynews.com/life-style/eats/breaking-bad-inspired-cafe-walter-coffee-roastery-cooking-article-1.2781771>



2008, UC Merced, Student Stole
~\$10k in chemicals to make
meth

Photo from: <http://cen.acs.org/articles/86/i36/Student-Suspected-Making-Meth.html>

Explosives—Made from Chemicals



Oklahoma City Bombing, April 19, 1995

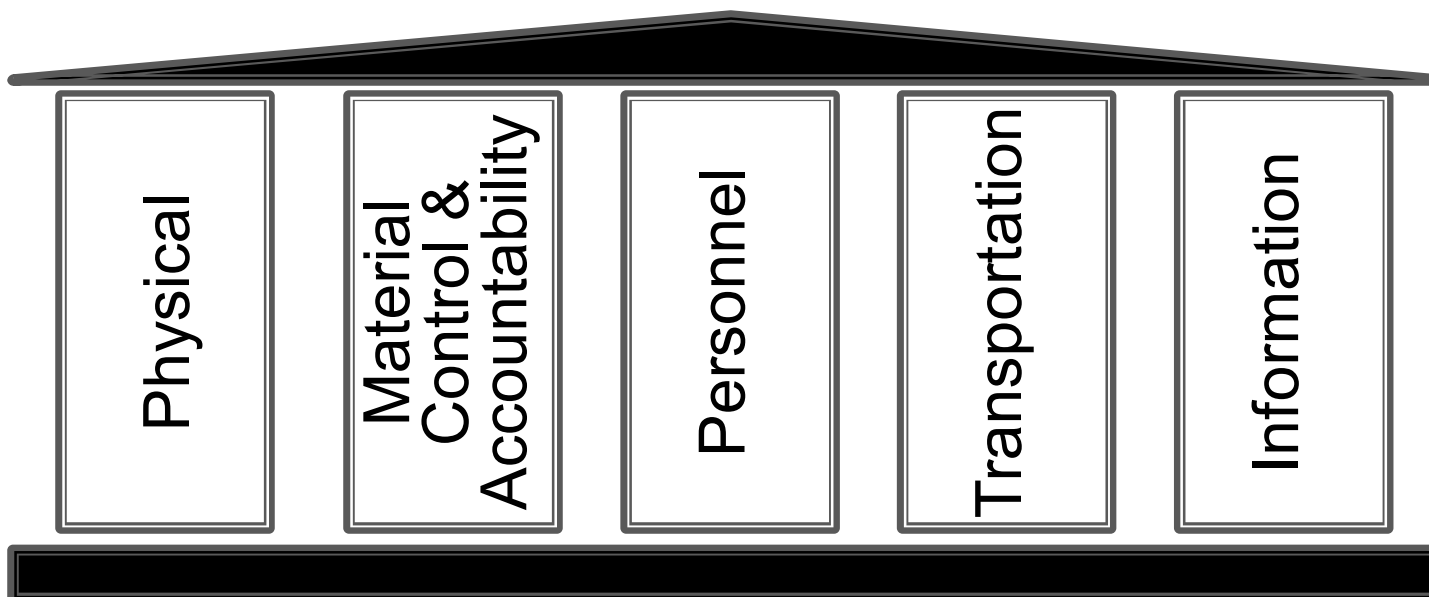
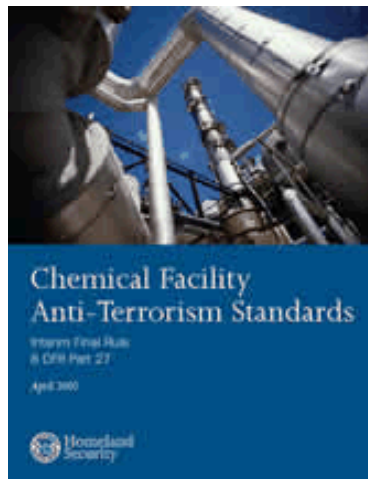
Photo from: <http://newshour-tc.pbs.org/newshour/wp-content/uploads/2015/04/136396589.jpg>



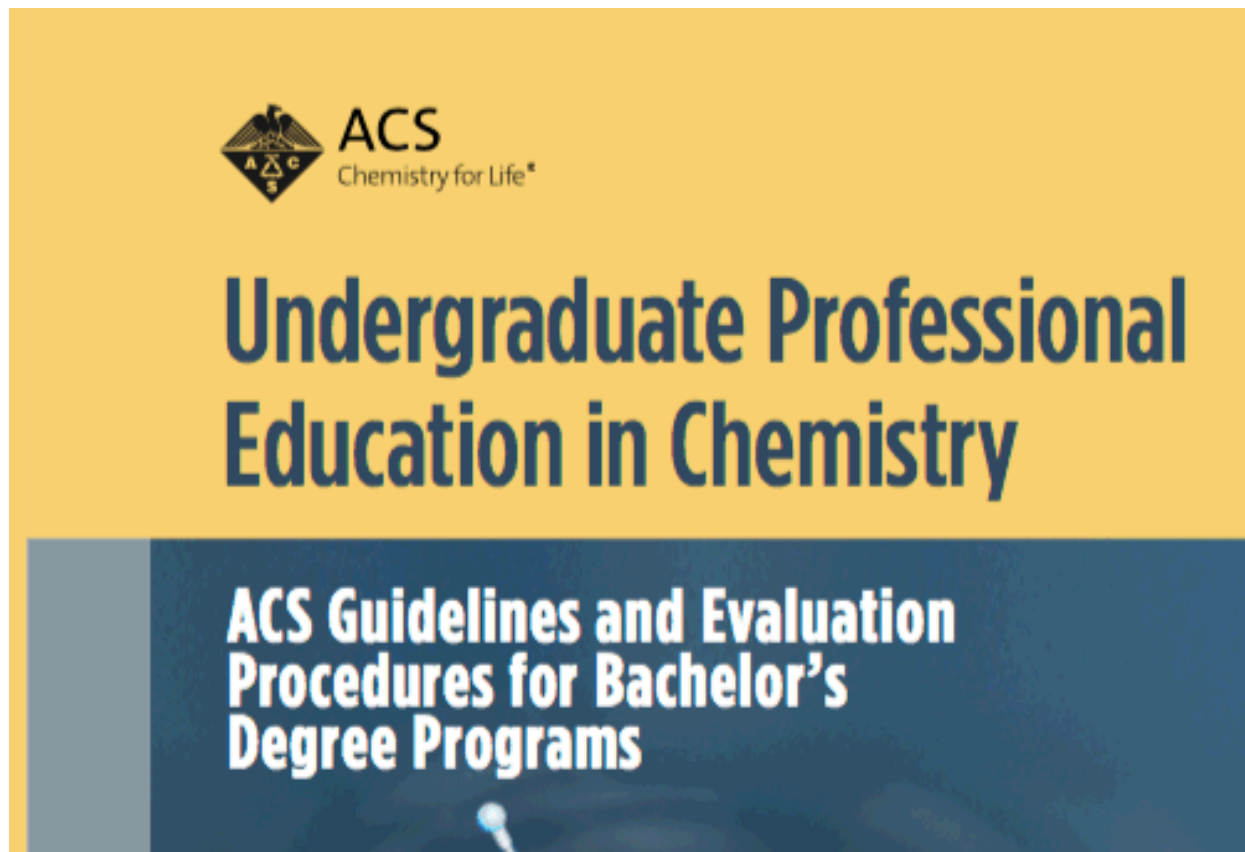
3 Arrested, March 16, 2017, George Mason University, bomb materials

Photo from: <http://www.nbcwashington.com/news/local/Three-George-Mason-University-Students-Barred-From-Campus-After-Fire-Bomb-Materials-Found-in-Dorm-Room-373247751.html>

How Do We Stop Illicit Usage of Chemicals?



Change Culture through Education



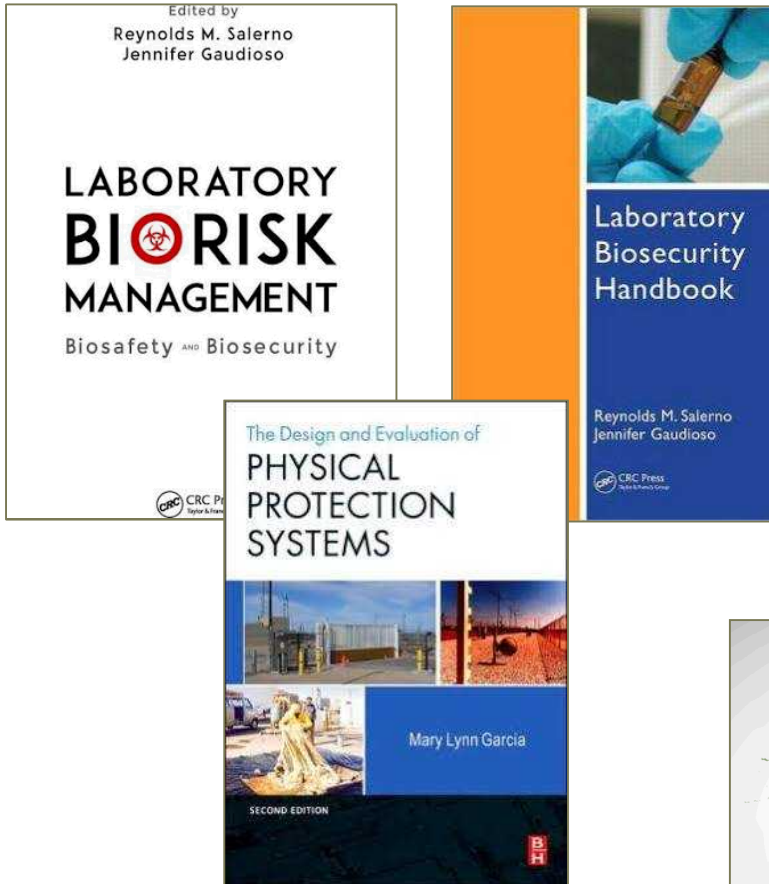
Word “Safe” mentioned 40 times, not a single mention of “Secure”

Key Messages

- Chemical Security is:
 - ancient AND **current** problem
 - important for developing and **developed**
countries
 - prevents weapons, illicit drugs, and explosives
 - **a teachable skill!**

How can we work together?

BOOKS



SOFTWARE

The screenshot shows the CMS© software interface, which is a web-based system for managing laboratory biosafety data. It features a search bar, a table of data with columns for Date, Sample ID, Chemical Name, CAS #, Quantity, and Risk, and a sidebar with navigation options like Home, Reports, and Check Check.

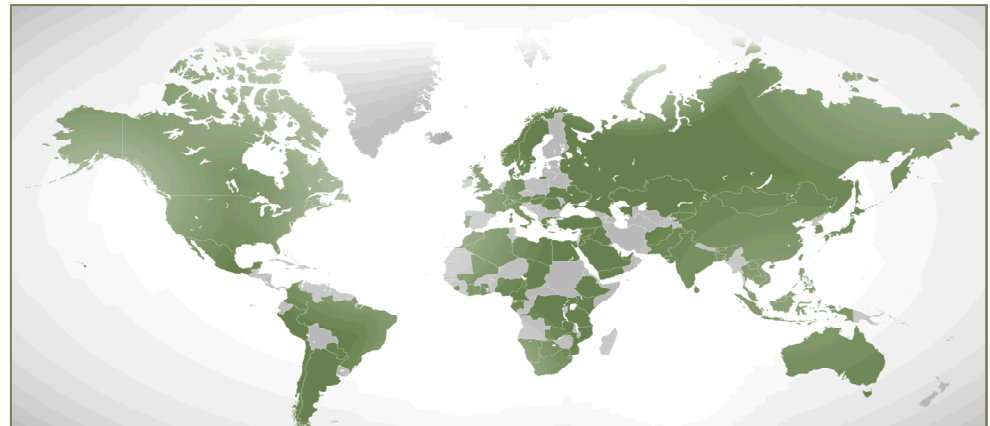
CMS©



Chem-SAM

www.csp-state.net

INTERNATIONAL NETWORKS





IBCTR

INTERNATIONAL BIOLOGICAL
and CHEMICAL THREAT REDUCTION

Thank you for your time!
Let's continue to discuss:

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505-220-8507 (mobile)