

Communicating with Congress

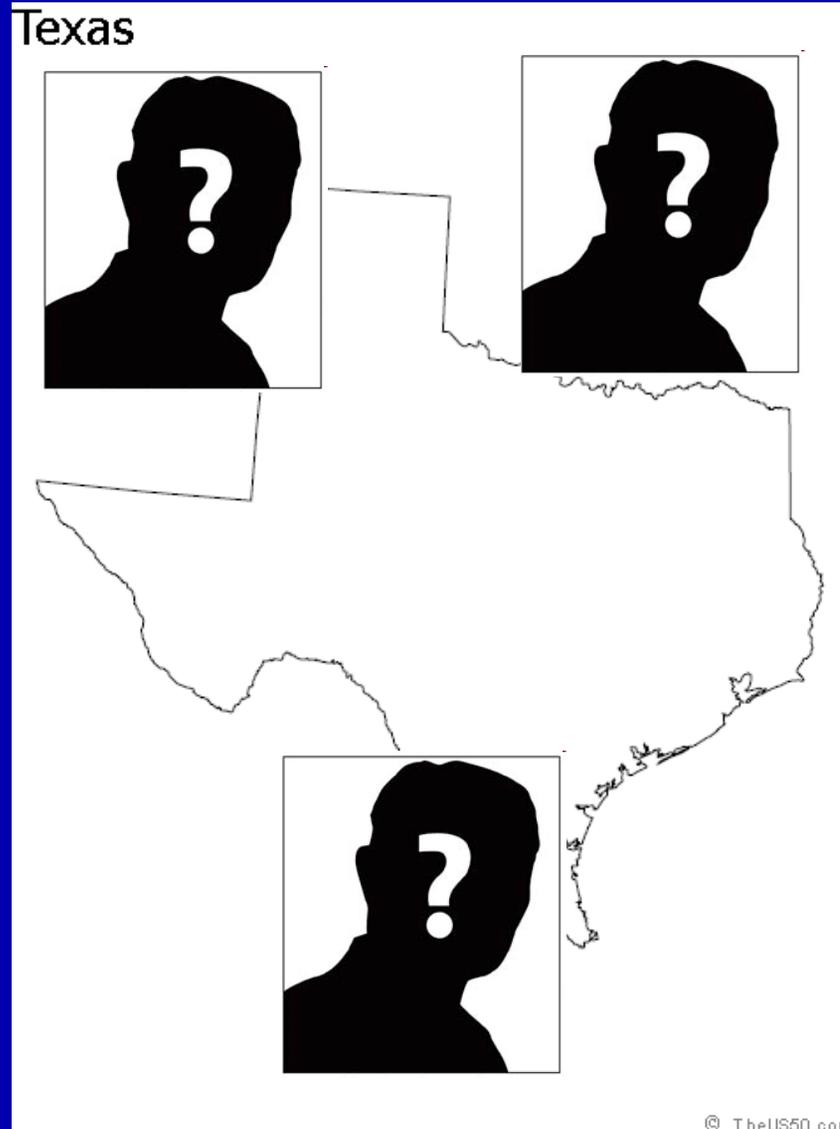
Benn Tannenbaum, Ph.D.

American Association for the Advancement of Science

Communicating with Congress

is hard

Communicating with Congress



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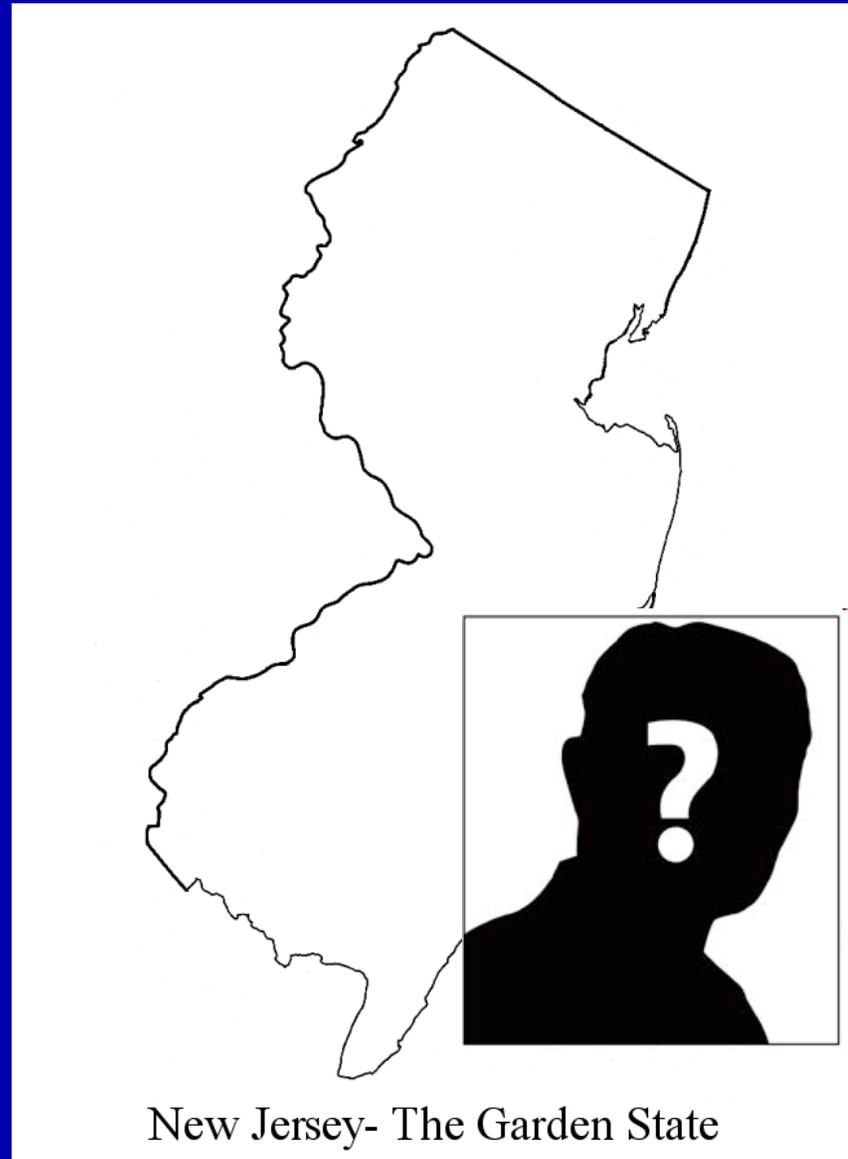
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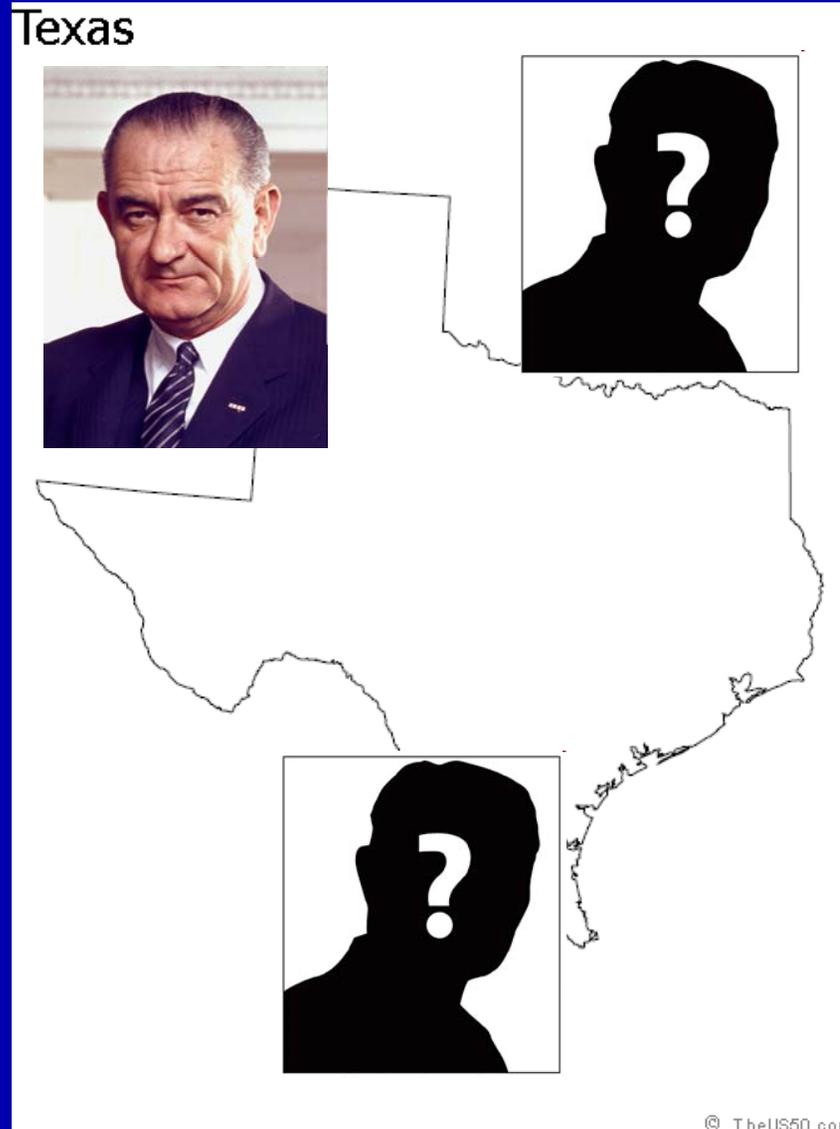
Georgia



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Some numbers

- 3000
- 200
- 400

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Some numbers with units

- \$3000
- \$200
- \$400



Some numbers with units and purpose

- \$3000 per day \approx \$2,000,000 for a House race
- \$200 per hour \approx \$10,000,000 for a Senate race
- \$400 per minute \approx \$800,000,000 for the presidency

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Georgia



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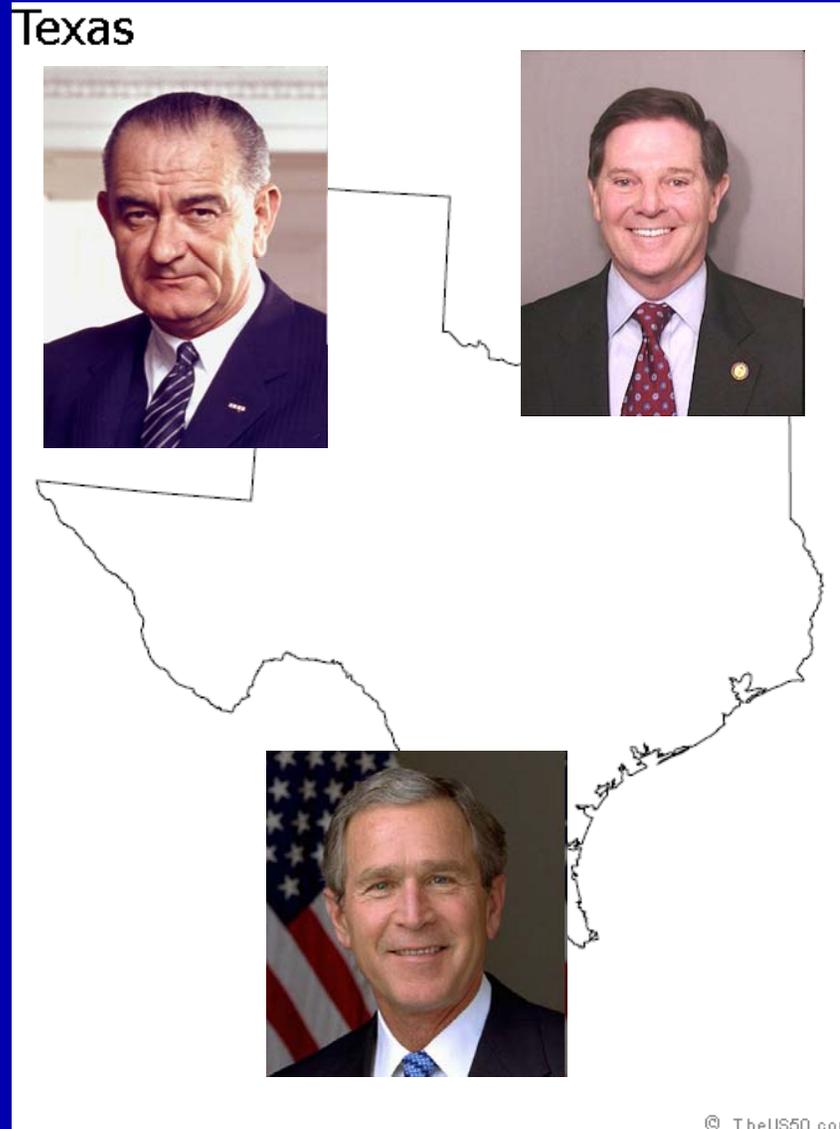


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New Jersey- The Garden State

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California



So what does this mean for us?

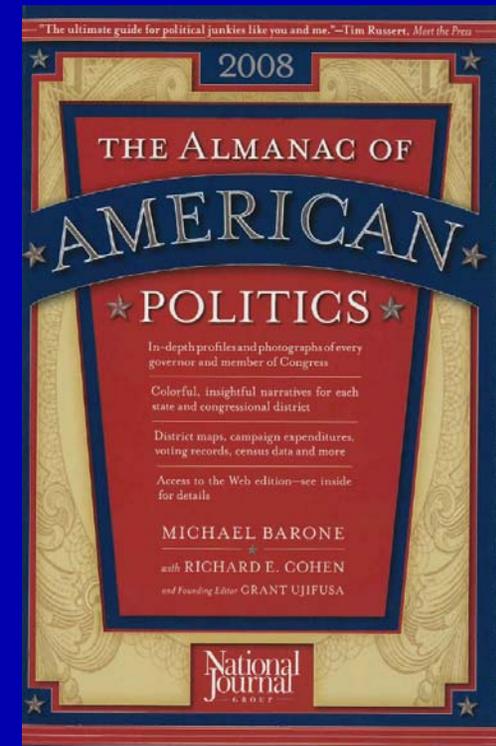
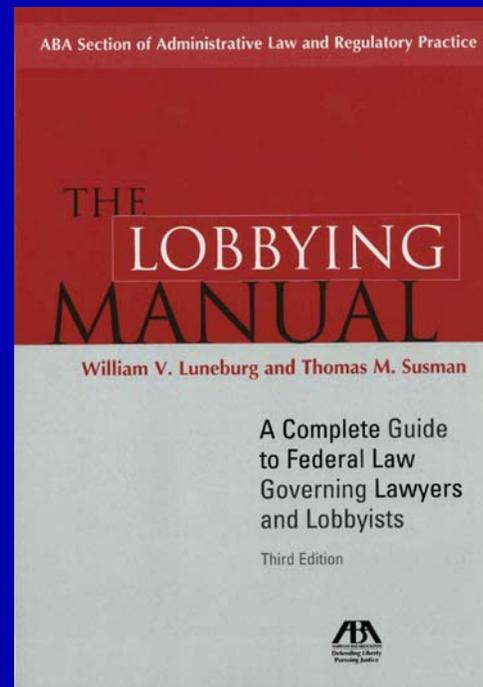
- People in power want to stay in power
- Money is always on their minds
- Ethical scandals, especially those involving lobbyists, have led to changes in rules that limit contact, travel, even food
- Politics seem to matter more than policy

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So what do we do?

- Homework first
- Note that universities are exempt from many lobbying restrictions



And the rest.... is all about messaging

- How is this relevant to the member or committee?
- How sophisticated is your audience?
- What is your 'ask'?

.... and relationships

- Work with members from your home district and state
- Then identify members/committees with appropriate jurisdictions
- Coming to DC is good...
- But having them come to you is better
- Universities and labs on home turf are great for political PR

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Expert Panel

Chaired by retired Livermore
Director Mike May

Released February 2008

Nuclear Forensics Role, State of the Art, and Program Needs

Joint Working Group of the American Physical Society
and the American Association for the Advancement of Science



Public briefings

- AAAS Annual Meeting in Boston in February 2008
 - Included separate press conference
- APS Annual Meeting in St. Louis in April 2008

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The Washington Post

AN INDEPENDENT NEWSPAPER

Op/ed in Washington Post on 25 March 2008, penned by panel member Jay Davis

TUESDAY, MARCH 25, 2008 A15

Jay Davis

After A Nuclear 9/11

The appearance of nuclear weapons materials on the black market is a growing global concern, and it is crucial that the United States reinforce its team of nuclear forensics experts and modernize its forensics tools to prepare for or respond to a possible nuclear terrorist attack.

Large quantities of nuclear materials are inadequately secured in several countries, including Russia and Pakistan. Since 1993, there have been more than 1,300 incidents of illicit trafficking of nuclear materials, including plutonium and highly enriched uranium, both of which can be used to develop an atomic bomb. And these are only the incidents we know about.

It is quite possible that a terrorist group could acquire enough nuclear material to build a bomb. Nuclear materials have been discovered by border patrols, seized in police raids from India to, as recently as last fall, Slovakia, and even hidden in a flower garden in Hanover, Germany. With enough stolen material, only a few specialists would be needed to build a nuclear weapon. After that, terrorists would lack only a truck to deliver it.

If a terrorist group were to detonate a nuclear weapon on U.S. soil, the FBI, CIA, Department of Homeland Security and the nation's national labs would race to track down those responsible and prevent any further detonations by that group.

After the Sept. 11 attacks, the time between the fall of the twin towers and our response in Afghanistan was less than one month. But current U.S. nuclear forensics capability — which involves analyzing nuclear radiation and isotopic signatures — can't guarantee definitive information within a month of an attack.

Fibers, fingerprints, hair samples, a truck axle — all standard forensics clues — would have been vaporized in the explosion. Only two primary pieces of evidence would remain: radiation and isotopic signatures.

Radiation and isotopic signatures are the scents that nuclear forensics scientists use to hunt terrorists. Within a few hours, they would know whether the bomb was made of plutonium or uranium, a crucial first step in narrowing the investigation. Within hours to weeks, they would determine key details about the original nuclear material and then estimate the size, weight and complexity of the bomb. Over the next several months, they might be able to identify the source

the United States.

But in our post-Sept. 11 world, we won't have months to respond. There would be enormous pressure to rapidly identify the terrorists and the chain of events leading up to the attack.

With a few changes, the speed and accuracy of nuclear forensics could be significantly improved.

First, we should update our 20th-century program to confront 21st-century enemies. Much of our field and laboratory equipment dates to the Cold War. So do most of our personnel. We need to develop and manufacture advanced, automated radiation analysis equipment that can be deployed to the field and is backed up by improved laboratory measurement. We need enhanced computer simulation and modeling capabilities. And we need to establish a federal initiative to reinvigorate the field of nuclear chemistry.

Second, international collaboration is essential. Nuclear material can have a unique signature depending on its source reactor or fuel facility. A shared and appropriately accessible international database of nuclear samples can help to more quickly match debris from an explosion with its original source.

Third, we must consider what it will take for the world to believe our analysis. The U.S. intelligence community's failures in assessing weapons of mass destruction in Iraq could well result in international skepticism regarding any nuclear forensics investigation we might perform. A group of recognized experts not associated with our federal investigation should be established to provide independent validation of the forensics analysis.

Finally, we need to manage expectations and prepare for the inevitable political pressure to respond quickly after an attack. Through realistic drills, our leaders can become aware of the strengths and limitations of the nation's nuclear forensics capability. Even with these changes, forensics analysis will take time, and results will not be immediately conclusive. Our leaders must recognize that, at times, decisions may need to be deferred or made amid uncertainty.

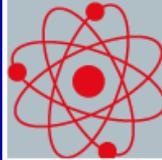
There has been some good news. Some countries, including Pakistan, are strengthening the critical programs that lock down nuclear material at its source. But we must take additional steps, in case plutonium or uranium slips past the gate.

Jay Davis, a weapons inspector in Iraq after the Persian Gulf War, serves on the Defense Department's Threat Reduction Advisory Committee. He is a founding director of the federal Defense Threat Reduction Agency and recently served on a committee sponsored by the American Physical Society and the American Association for the Advancement of Science that completed the first unclassified review of the nation's nuclear forensics capability.



Editorial in USA Today on 8 April 2008

■ Our opinion



Nuclear 'return addresses'

During the Cold War, the ultimate U.S. nightmare involved a nuclear attack by the Soviet Union. But the certainty that the United States would retaliate in kind — **known as MAD** (for mutual assured destruction) — kept nuclear weapons locked in their silos.

Today, the nightmare is that terrorists could obtain a nuclear device and detonate it in a major U.S. city. Such an attack could kill thousands or even millions — and would generate overwhelming pressure for retaliation.

But against whom? Without knowing the "return address" of the nuclear device, it would be impossible to strike back. And if the terrorists' suppliers know the nuclear materials cannot be traced back to them, a policy of MAD loses its deterrent value.

That's why "nuclear forensics" — essentially the science of identifying the DNA of nuclear materials — needs a new and urgent emphasis.

Since the Cold War ended, nuclear material and expertise **have proliferated** with fewer safeguards. Nuclear materials in the former Soviet Union are not always well secured. Iran is developing nuclear weapons and has links with terrorist networks. The father of Pakistan's nuclear bomb has sold technology and know-how. Ditto for the erratic leader of North Korea. The list goes on.

Given the new realities, it makes sense to focus on being able to identify and trace nuclear materials and those who handle them, much as criminal forensic experts home in on DNA or fingerprints.

A **new report** by the American Physical Society and the American Association for the Advancement of Science offers a useful blueprint.

At home, the key recommendations involve developing state-of-the-art equipment and training enough scientists with nuclear forensics expertise. Only about 35 to 50 now work at U.S. national laboratories, far fewer than would be optimal to identify the source of an explosion set off by a faceless enemy.

International cooperation on nuclear forensics requires everything from building databases to overcoming suspicions that the United States has ulterior motives. One possible forum is the existing **Global Initiative to Combat Nuclear Terrorism**, co-chaired by the United States and Russia, which own more than 90% of the world's nuclear weapons and related materials.

The best defense, of course, is to keep those weapons and materials out of the hands of terrorists and rogue regimes in the first place. But if that fails, nothing is more important than the ability to trace a weapon back to its source.

Posted at 12:20 AM/ET, April 08, 2008 in Nuclear weapons - Editorial, Politics - Editorial, Terrorism - Editorial, USA TODAY editorial | [Permalink](#)

More Briefings

- Briefed to Depts. of State, Energy, Homeland Security plus National Nuclear Security Administration, Homeland Security Council, National Security Council, Vice President's Office, Office of Management and Budget, STRATCOM, UK Atomic Weapons Establishment
- Also briefed Congress: Rep. Bill Foster, plus staff of SASC, HASC, Sen. Reid, et al
- Over 700 downloads from AAAS website; more from APS website

Bottom line....

- It can be done!