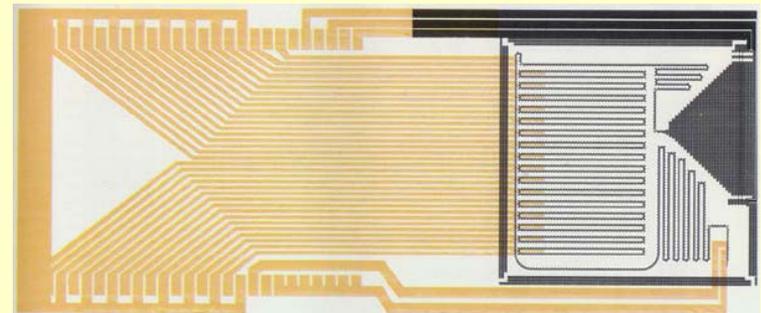
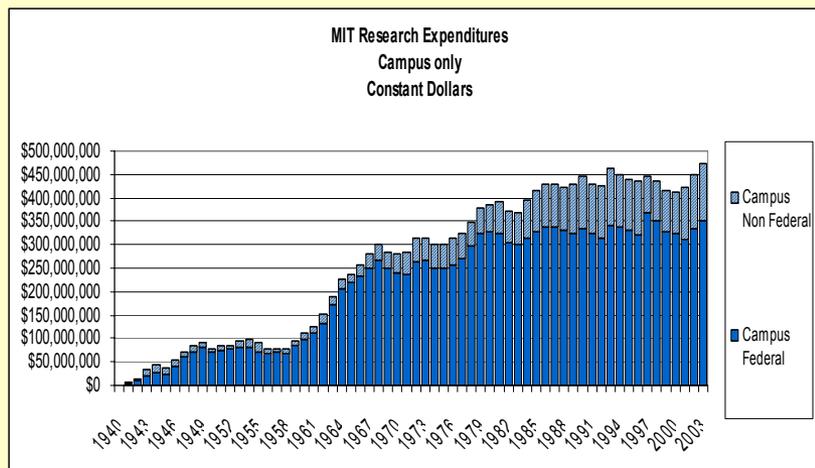


Security Policies and Restrictions in Research: Balancing Openness and International Participation

- Historical Context
- Openness and Information Exchange
- International Students, Scholars, Collaborations, MIT experience
- Community response, dialogue with government

Historical Context

- Federal funding for research
- Cold War
- Trade War/Technology Race – Pacific Rim
- Historical ambivalence about immigration



United States Leadership in Science and Technology

- Economies, and national security driven by science and technology.
- United States has uniquely effective R&D system. Three key elements:
 - federal funding of university research projects
 - merit-based competitions
 - entrepreneurship and licensing of patents.

Openness - More Important Than Ever

- Science is increasingly interdisciplinary
- Science is fueling technology more rapidly than ever
- US leadership in science and technology relies on close marriage between research and education

US Policy On Openness

NSDD 189

- **NSDD 189** - It is the policy of this Administration that, to the maximum extent possible, the products of fundamental research remain unrestricted. ...that where the national security requires control, the mechanism for control of information generated during federally-funded fundamental research in science, technology, and engineering at colleges, universities and laboratories is classification...**No restrictions may be placed upon the conduct or reporting of federally-funded fundamental research that has not received national security classification**, except as provided in applicable U.S. Statutes.” **Ronald Reagan, September 21, 1985**
- “..NSDD-189 shall remain in effect and **we will ensure that this policy is followed**”

Memo from Rice to Harold Brown, November 2001

Restrictions in Contracts and Grants – “Troublesome Clauses”

- Restrictions on participation by foreign nationals or on publications
- Increasing frequency
- AAU/COGR task force, 20 universities, report to OSTP
- 2003-2004 138 instances of restrictive clauses
- 105 publication restrictions, 47 DFARS 7000 (approval before publishing “sensitive” information) clause, 33 other dissemination or participation restrictions
- <http://www.aau.edu/research/Rpt4.8.04.pdf>
- Usually negotiated out; some schools accept restrictions
- Negotiation causes delay in contract funding (some more than 6 months)
- Occasionally University must refuse funding (15 cases in this study)
- Impact on fundamental research exemption for export controls; “deemed” exports may be a problem
- Awareness and solidarity

Concerns today

- Use of export controls, and contract clauses to restrict projects, overriding NSDD189
- Industrial subcontracts removing fundamental research exemption. View that subcontracts allow companies to avoid export controls
- DoD Inspector General's report on export controls: not being enforced strongly enough.
- DoC Inspector General's report focus on "deemed exports" and access to controlled equipment even if work is not export controlled. Academic research viewed as "loophole" in export controls.
- Foreign national participation; Cyber Security R&D Act
- Use of term "sensitive" information
- Impact of immigration processes on recruitment of best and brightest and on international collaborations

Making the case for immigration

- Global community – conferences, collaborations, visitors
- US S&T strength from immigrants:
 - 40 % engineering faculty
 - >1/3 Nobel Laureates
 - CEOs from 100 countries leading US firms
- US trained leaders in foreign countries

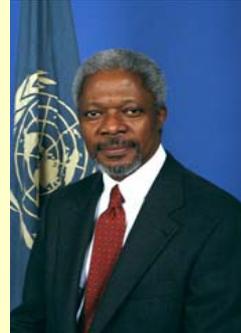
Foreign Students Yesterday World Leaders Today



Jacques Chirac
Harvard



Abel Pacheco
LSU



Kofi Annan
MIT



Gloria Arroyo
Georgetown U.

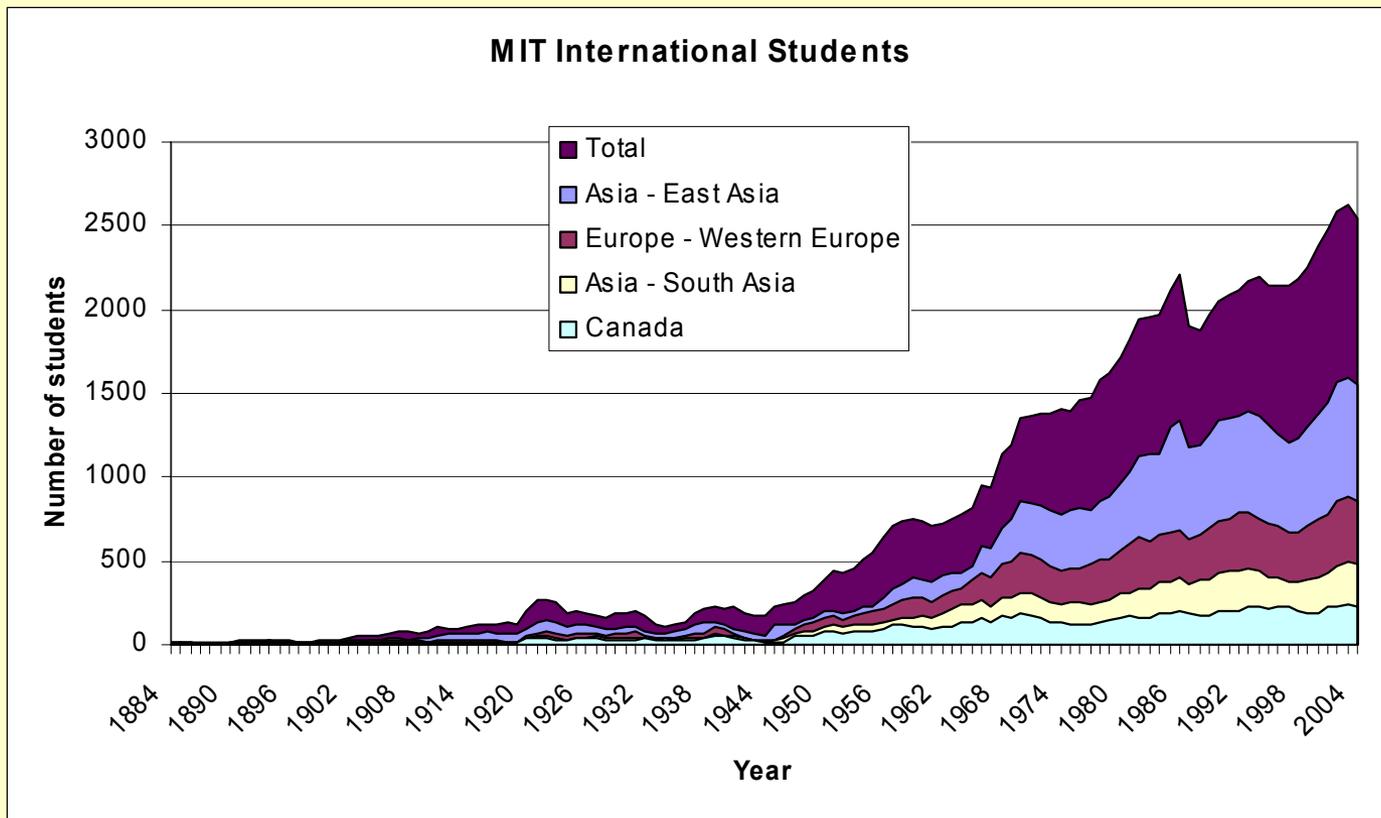


King Abdullah
Georgetown University

<http://exchanges.state.gov/education/educationusa/leaders.htm>

Lists over 180 international leaders educated in the US

MIT's International Heritage



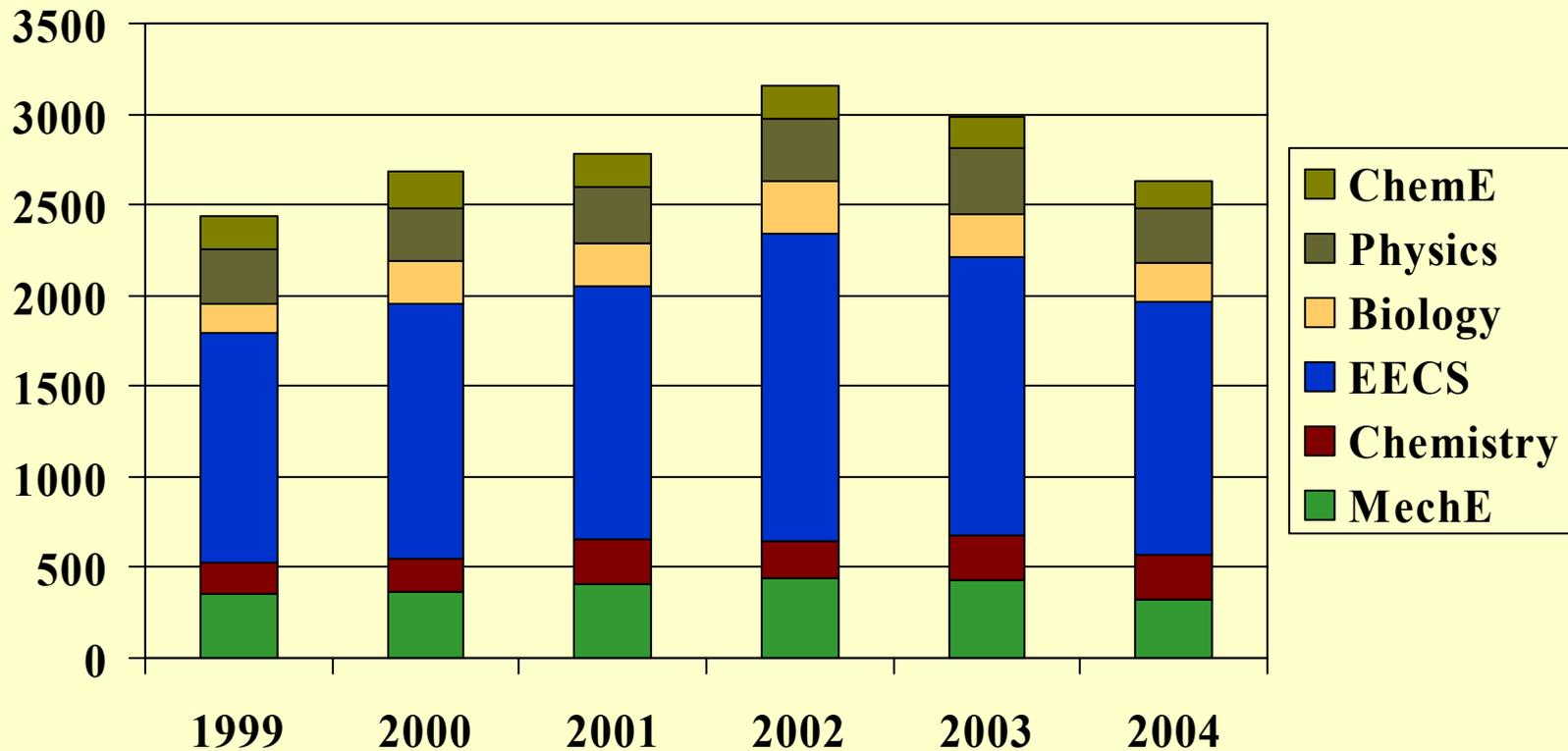
Posing the Problem

- Hurdles and barriers discourage international students/scholars
- Delays and denials make it attractive to go elsewhere
- Challenges:
 - numbers declining, quality more difficult to quantify
 - Political issue, balance workforce issues and S&T education for citizens

Immigration issues

- Consular offices – consolidation, support and training
- Technology Alert List – broad and subject to interpretation
- Security Advisory Opinion – timeline and clear process
- Returnees: students, scholars, faculty, industrial employees detained outside of US
- Change of status process extremely slow, travel difficult for those awaiting PR
- SEVIS – continual technical support and improvement
- NSEERS, US VISIT and other processes

International Graduate Students Applying to Selected MIT PhD programs 1999-2004



Campus Atmosphere

- Restrictive research clauses and export controls
 - communications about MIT guidelines and experiences
 - delays hamper research
 - concern about losing research to others
 - focus on international participation divisive and spreads concern
- International students
 - fear changes in policies and need solid information
 - Interlink@MIT
 - International scholars and students offices
 - Having coworkers stranded abroad provokes fear of international travel and concern about missed opportunities

Consequences

- Control of information undermines *peer review*, competitive proposal evaluation, and collaboration and removes serendipitous discoveries arising from casual access.
- If restrictions and processes to pursue research become too onerous, *scientists will migrate to other work* depriving us from the very talent we need to face challenges such as infectious disease or homeland security.
- Controls on information and international participation in research *damage our relationships with allies*. Scientists are great diplomats. Boycotts of conferences or losing visitors due to immigration difficulties or in solidarity have grave consequences.

Consequences

- Restrictions on the dissemination of research results undermine the synergy between *research* and *education* that make our system great and propel our leadership in innovation.
- Absurd examples of government controls create an *atmosphere of distrust or contempt* within a community of researchers. These attitudes are difficult to mend and divert attention from the areas of greatest need.
- Hindering our *ability to recruit the best and brightest* international students and scholars harms our productivity and leadership in science and technology.

Secure Borders, Open Doors

- We are not yet where we want to be, but we are committed to efficiently facilitating the travel of students, scholars, and all other legitimate travelers. **We recently increased to one year the validity of the clearance granted to certain scientists and scholars who participate in joint-research programs.** This enables travelers who need to make repeated visits within a given year to do so without our consular officers having to go back to Washington for an additional name check. We are working hard to further reduce delays and improve our service. Why? When a foreign student goes elsewhere to school, we lose not only the student, but his entire family, including siblings, who might have followed in their brother's or sister's footsteps. When scientists hold conferences in other countries, we lose their brainpower for our institutions.

– Wall Street Journal April 21, 2004 Colin L. Powell

University Response

- Develop coherent articulation of value of openness and international participation in research
 - Institutionalize the dialog between university and government on these issues
 - Ensure openness in research while protecting national security; the policy tone sent through agencies from the highest levels
 - Clear and effective immigration policies with coordinated training and consistent application
- Deliver consistent and unified messages to leaders and public at every opportunity
- Work with peer institutions for solidarity

Valuing International Exchange

<http://www.nafsa.org/content/PublicPolicy/FortheMedia/leaders.htm>

- **Former Secretary of Defense William Perry** " ... Welcoming international students to our nation constitutes a crucial long-term investment in American leadership and security. Such openness ... is a proven means to fight against the uninformed stereotypes, fear, and ignorance that are at the heart of the crisis we face today." — February 2003
- **Secretary of State Colin Powell** " People-to-people diplomacy, created through international education and exchanges, is critical to our national interests. Americans who study abroad expand their global perspective and become more internationally engaged. Foreign students and individuals who participate in citizen exchanges return home with a greater knowledge of our democratic institutions, and America's enduring values."—August 2002