

AAAS Science Diplomacy 2015  
Washington, D.C.  
April 29, 2015

# Scientific Drivers for Diplomacy

*American Physical Society - International Physics Programs*

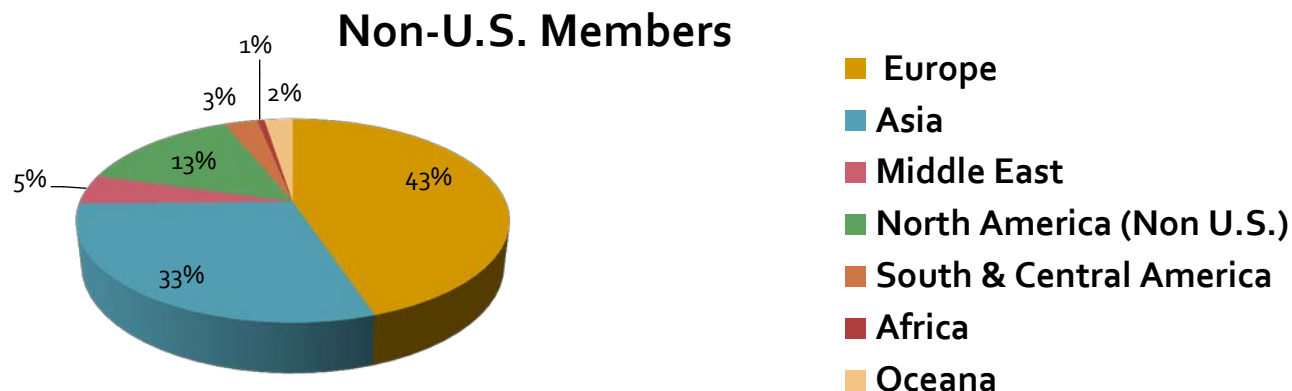
Dr. Amy K. Flatten  
Director of International Affairs  
American Physical Society

# The American Physical Society (APS)

*Who we are...what we do*

## The American Physical Society (APS)

- Membership: 50,000 physicists worldwide
- Core activities: Scientific Meetings & Journals
- Cross Cutting Programs: International Affairs, Education, Public Affairs & Outreach
- International Members: 23% of members live outside of the United States



# Engaging Internationally

## *Science Diplomacy in APS Programs*

### ❑ **General Overview**

- Scientific Diplomacy underpins APS international initiatives in education, policy, research

### ❑ **A Few Key Scientific Drivers for Diplomacy**

- **Fostering Communication:** scientific cooperation despite political tensions
- **Capacity Building:** science & engineering lead to economic growth
- **Developing Global Scientists:** preparing young physicists for international partnerships
- **Shared Scientific Resources:** large-scale multi-national collaborations

### ❑ **Science Diplomacy: Not Just “Talk” but Action**

- How APS programs achieve science diplomacy objectives

### ❑ **More Insights Regarding Physics Sub-disciplines**

# Foster Communication

## *Scientific Cooperation Despite Political Tensions (Middle East)*

### ❑ **SESAME: Synchrotron-light for Experimental Science and Applications in the Middle East**

- Synchrotron Light Source: under construction in Allan, Jordan
- SESAME Council members: Israel, Palestinian Authority, Iran, Turkey, Cyprus, Egypt, Jordan, Bahrain, Pakistan
- Builds scientific and cultural bridges between diverse societies
- Contribute to a culture of peace through international cooperation in science.

### ❑ **SESAME - Middle East Physicists Travel Award – Partnership among 7 Major Scientific Societies**

- American Physical Society (lead)
- German Physical Society
- UK Institute of Physics
- European Physical Society
- Italian Physical Society
- IUPAP
- American Chemical Society

SESAME Facility



# Capacity Building

## *Science & Engineering Lead to Economic Development*

### ❑ **Entrepreneurship Workshops for Physicists & Engineers**

- Partnership among US & European scientific organizations (APS, IOP, OSA, IEEE, ICTP, etc)
- Two or more held annually around the world
- Entrepreneurial skills to commercialize scientific inventions
- Address IP protection, tech transfer, commercialization, etc.



Participants ICTP, 2008

### ❑ **International Travel Grant Award Program**

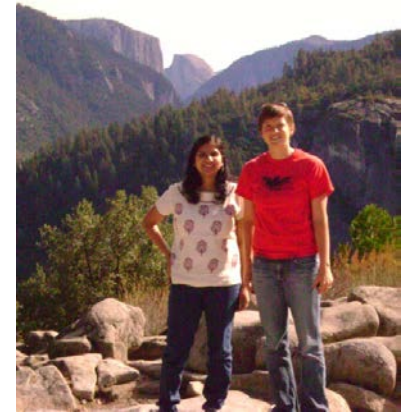
- Travel Awards (\$2K) for collaboration among developed & developing country physicists
- All APS Scientific Divisions contribute funds
- Has lead to first publication in western journals by developing country physicists
- Most collaborations still ongoing
- Proposals reviewed on: 1) scientific merit; 2) impact upon young scientists

# Developing Global Scientists

## *Preparing Young Physicists for International Partnerships*

### ☐ **Brazil & India Physics Exchange Programs**

- Students: Visit host for laboratory research, short course, or other
- Professors: Lecture series or short course in host university
- Combined programs support ~ 36 physicist exchanges/year
- Partnerships have supported ~200+ physics exchanges to date



S. Srivastava & D. Lieske:  
Exchange between Stanford & IIT

### ☐ **International Young Physicists Forums**

- **Canadian-American-Mexican (CAM) Graduate Student Physics Conference**
  - Biennial international graduate student meeting
  - Over 100 graduate students from 3 countries
- **US-China Young Physicists Forum**
  - 60 graduate students from US & China
  - Partnership with Chinese Physical Society
- **Science Diplomacy Goals:**
  - Foster appreciation for international collaboration
  - Promote international networks



CAM Participants – Poster Session

# Shared Scientific Resources

## *Large-Scale International Collaborations*

### **APS April Meeting Sessions: Models of International Partnerships<sup>1</sup>**

- International Partnerships: inevitable direction of “Big Science”
- No single model fits all
- Must learn from successes & failures of many models
- Create models for international partnerships that benefit both U.S. & international partners



### ***In Development*: APS Roundtable Series - U.S. Participation in Large-Scale International Collaborations**

- Physics Policy Committee (PPC) and Committee on International Scientific Affairs (CISA)
- Small, manageable vehicle for candid conversations (scientists, eventually gov't.)
- First roundtable: discuss “lessons learned” in current collaborations
- First roundtable outcomes will inform future discussions

### **Will hear more from representatives of physics subfields**

1. David Gross; Models of International Partnership; APS April Meeting 2015

# Enabling Scientific Mobility

## *Help with Visas for International Physicists*

### ❑ **APS Visa website**

- Information for visa applicants
- Information for U.S. meeting organizers
- How to avoid delays
- Where to go for help
- [www.aps.org/programs/international/](http://www.aps.org/programs/international/)

### ❑ **We'd welcome the chance to be of help!**

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