

APS Committee on International Scientific Affairs (CISA)

Annual Report 2004

A. SUMMARY OF 2004 ACTIVITY

The chief activity of CISA in 2004 was a major reorganization of the committee's purpose and function. CISA will serve a dual role:

1. To respond to, consider and advise on international topics brought to it by the membership, the executive, the executive board and the Director of International Scientific Affairs of APS.
2. To identify, consider and investigate international issues that have a longer term impact, perhaps continuing impact, on the APS, its members and the scientific community. These matters will be investigated by subcommittees of CISA which can include members of other APS units or individuals from outside the APS. The subcommittees will meet between the bi-annual meetings of CISA as convenient to investigate the topic, prepare a report or provide advice/input as the topic requires. The subcommittees are new in 2004. They enable CISA to identify and respond to topics having a longer term impact, to consider them effectively, to add expertise and to play a more integrating role within the APS in international affairs.

This change was motivated by the "Long Range Planning Project" initiated by APS president for 2004, Helen Quinn. The goal of the planning project was to examine trends in physics and its connections and to determine how the APS might position itself to best serve its members 5-10 years from now. The above is an enabling reorganization of CISA to meet this goal. The change was also motivated by a change in Directorship of International Scientific Affairs which brought Dr. Amy Flatten to the APS as new Director and a fresh look at the role of committees related to the Office of International Affairs.

B. CISA PLANNING ACTIVITY IN 2004

The year opened with study of the role and function of CISA over the past several years. The Director of International Affairs and the CISA Chair interviewed the Past Chairs of CISA for the preceding six years as well as a

number of other former members of CISA. From these interviews and in discussion with Jonathan Bagger, designated by APS to do long range planning in the field of International Affairs, a proposal for a modified role for CISA was developed. This specifically included the concept of subcommittees to consider long range issues and some topics that subcommittees might consider were identified.

At the May 1 meeting of CISA in Denver, the proposal was discussed and some further topics that subcommittees might address were identified. Jonathan Bagger contributed to this discussion. A number of other items were considered at the meeting. Particularly, Thomas McIlrath from the APS journals was invited to review the options that developing nations have to pay for their subscriptions and to gain electronic access to APS journals. Some members were most interested in this but unfamiliar with it. It is a subject often raised when CISA members visit developing nations. Former APS president Myriam Sarachik reviewed progress on the APS African Task Force.

A “Summary of CISA Long-Range Planning Discussion” at the May 1 meeting is attached here as an appendix. Six proposed topics for the subcommittees emerged from the May 1 meeting. Access to major facilities and Visas were topics highlighted.

In two subsequent conference calls, the second in September 2004, CISA members discussed the subcommittees and reduced the topics to two. In addition, Myriam Sarachik proposed that CISA might adopt the APS African Task force as one of its subcommittees or long range items. After extensive discussion, CISA declined this offer chiefly because CISA members felt that the Task Force was too large a project for CISA to take on at this very early stage of the new role of CISA.

Also in September, the APS Treasurer and the International Office approached CISA on the issue of access to APS journals in developing countries. Essentially, research institutions in developing countries are not taking advantage of opportunities offered by APS. The current “system” is either not known or understood, or too difficult to arrange in many countries. It was proposed that CISA work with the APS Treasurer and his staff to establish improved procedures and access.

At the October 9 meeting of CISA the APS Treasurer/Journals proposal was adopted as a subcommittee of CISA with Jerry Draayer coming forward as Chair. “Access to Major User Facilities” was also confirmed as a second topic. The topic of “Visas” was set aside because other societies are postponing action at this time.

C. SUBCOMMITTEES ESTABLISHED

CISA considered eight topics for the subcommittees and selected only two. These are:

1. Access to Major International Facilities
2. Access to APS Journals in Developing Nations

A White Paper on each topic setting out the goals and timelines is attached as an appendix.

D. OTHER ACTIVITY

CISA considered a number of items in 2005.

- VISA and related matters remained a central topic. It was decided that no separate CISA action would be taken at this time. The Office of International Scientific Affairs provides information on VISAs to APS members and will continue to work with other societies on joint action.
- CISA met with Dr. Kerri-Ann Jones, Director, Office of International Science and Engineering, National Science Foundation to discuss changes to NSF international programs. CISA members found the NSF bi-lateral exchange programs most worthwhile and regretted their termination. At the same time CISA welcomed the new programs aimed at providing young American scientists with an international research experience.
- CAM2005, a conference that is a continuation of previous Joint Canadian, US and Mexican Physical Societies' Graduate Student Conferences was considered. Support of CAM2005 by APS was recommended.
- Relations with the federation of Latin American Physical societies (FeLaSOFi) were discussed and it was recommended that APS continue to send one person to the annual FeLaSoFi meetings.
- Other items

Henry Glyde January 25, 2005

APPENDICES

1. CISA Committee Members, 2005
2. CISA Long Term Planning Discussion, May 1, 2004
3. APS Journal Access in Developing Countries
4. Access to Major International Facilities

APPENDIX 1

2005 Committee on International Scientific Affairs

Chair

Jerry Draayer (*FIP Past Chair*) (12/05)
SURA
1201 New York Ave., NW, Suite 430
Washington, DC 20005
Phone: (202) 408-7872
Fax: (202) 408-8250
E-mail: draayer@sura.org

Usha Mallik (12/07)
Department of Physics and Astronomy
The University of Iowa
203 Van Allen Hall
Iowa City, IA 52242
Phone: (319) 335-0499
Fax: (319) 335-1753
Email: usha-mallik@uiowa.edu

Vice Chair

Harry Swinney (12/05)
Department of Physics
University of Texas
Austin, TX 78712
Phone: (512) 471-4619
Fax: (512) 471-1558
E-mail: swinney@chaos.ph.utexas.edu

Gary Steigman (*FIP Chair*) (12/06)
Department of Physics
Ohio State University
174 W 18th Ave
Columbus, OH 43210
Phone: (614) 292-1999
Fax: (614) 292-7557
E-mail: steigman@mps.ohio-state.edu

Past Chair

Henry Glyde (12/04)
Department of Physics and Astronomy
University of Delaware
223 Sharp Lab.
Newark, DE 19716-2570
Phone: (302) 831-8051
Fax: (302) 831-1637
E-mail: glyde@udel.edu

Ubirajara van Kolck (12/06)
Department of Physics
University of Arizona
1118 East 4th Street
PAS 357
Tucson, AZ 85721
Phone: (520) 621-4230
Fax: (520) 621-4721
E-mail: vankolck@physics.arizona.edu

Edmond L. Berger (12/06)
HEP 362
Argonne National Laboratory
9700 S Cass Ave.
Argonne, IL 60439
Phone: (630) 252-6211
Fax: (630) 252-5047
Email: berger@anl.gov

James Vary (*FIP Councillor*) (12/07)
Department of Physics and Astronomy
Iowa State University
Ames, IA 50011
Phone: (515) 294-8894
Fax: (515) 294-6027
E-mail: jvary@iastate.edu

Gerald Epstein (12/07)
Center for Strategic and International
Studies
1800 K St., NW
Washington, DC 20006
Phone: 202-775-3125
Fax: 202-775-3199
E-mail: GEpstein@csis.org

Peter Zimmerman (12/06)
Department of War Studies
King's College London
Strand
London, WC2R 2LS
Phone: +44-20-7848-2178
E-mail: peter.zimmerman@virgin.net

APPENDIX 2

Summary of CISA Long-Term Planning Discussion May 1, 2004

Henry Glyde
2004 CISA Chair

The APS as a whole has under taken a “Long Range Planning Project”, initiated by the President of the APS, Helen Quinn. The goal is to examine trends in physics and its connections and explore how the society might best position itself to most effectively serve the interest of the members and physics 5-10 years from now. As part of this planning process, CISA examined it’s activities in the past and how it might be re-structured to examine long term trends in International Affairs and more effectively serve the APS.

I. Changes in Role and Structure of CISA

- A. CISA has served an effective advisory role. That is, it has served to comment on and advise APS executives and the APS Executive Board on whether to endorse, support or carry out projects having international dimensions. These projects are brought to CISA by APS members and by the APS executive.
- B. CISA has also advised and worked with the Director of International Scientific Affairs on some specific projects that have been most successful.
- C. In the above chiefly advisory role, CISA has played largely a reactive role to respond to items and projects brought to it. CISA meets twice a year for one day. There is currently little activity between meetings. As a result, committee members do not get to know each other well. It is difficult for members of CISA to develop a sense of continuity regarding what is important to APS in International Affairs. With meeting only twice per year, three year terms seem short. Members of CISA feel they cycle through CISA very rapidly with only two meetings per year.
- D. In addition to its advisory role, CISA proposes to establish subcommittees that will examine long-term international issues and trends that affect physics, APS members and APS as a Society. The subcommittees will work “continuously” in between CISA meetings as needed to examine a

topic, prepare a report and recommend a course of action to the Director of International Affairs, the APS executive or the Executive Board. The subcommittees would enable continuous and proactive activity by CISA that would address longer term issues that either cannot be resolved or properly understood in a single meeting. The lifetime of a specific subcommittee would be set by the topic investigated. For example, if desired, a CISA member could remain on a subcommittee beyond his or her term on CISA itself in order to complete a specific topic that is being investigated.

- E. The subcommittees will serve to add an active, continuous role for CISA members to consider and comment on issues that are important over a long-term and take a longer period to investigate. The subcommittees may meet or hold conference calls. The subcommittees would report to CISA at the full CISA meetings. CISA might also hold a conference call to consider findings of a subcommittee.
- F. The subcommittees could invite individuals from other units or divisions to join or be members of a subcommittee if the topic involved or called for their input.
- G. CISA would continue to serve as an advisory body to APS on matters that are brought to it by the membership or the APS executive. The subcommittees would enable CISA to play a new, more active role in identifying important, longer term issues and exploring and developing these to the point where recommendations on them could be made. With the addition of this active role, the general consensus was that 3 year terms for members of CISA was long enough. Also, with the ability to add members from outside CISA to the subcommittees, there was a general consensus that 9 members may likely be sufficient. It had been seen as an advantage in the past to ask the CISA committee Chair to serve a year beyond the year he/she was Chair.
- H. CISA will seek endorsement by APS of this expanded role.
- I. It is important that the subcommittees can draw on the APS staff for assistance.
- J. A list of topics that subcommittees might consider is listed below. CISA as a whole, in close consultation with the Director of International Affairs, will decide on which topics are actually adopted by a subcommittee.
 - 1. Access to large facilities: Given the growing # of facilities, how do different nations participate and how can APS help U.S. scientists with access?

2. International activities of other organizations: Examine how other professional societies structure their international program and what they regard as priority issues.
3. Education: Investigate the role of international students in U.S. graduate programs, and ways to encourage U.S. students to pursue physics.
4. Science visa: Explain what features are needed in a new “Science visa” category and how/why other visa categories don’t fit the needs of the scientific community. Collect existing data on visa statistics and indicate how members could gain access to this collection.
5. International perceptions of the United States: Document how the scientific community regards working and/or studying in the United States in the post- 9/11 security environment.
6. Strengthened connections to international societies: How can APS strengthen connections to international physical societies at various levels (i.e., units, such as at the Division-to-Division level)
 - a. Differing perspectives between development agencies and physics community: Many international development agencies do not see funding basic science as an investment priority despite an “intellectual acknowledgement” of the connection between S&T and economic development. CISA might explore the gap between physics, basic science, and international development agencies. It might examine how to bridge this gap so that development of basic science is seen as an important component of development in emerging nations meriting some support.

II. CISA Improvements

A. Shortcomings of Current Structure

1. CISA members meet only twice a year. Largely, the members do no committee “work” in between these meetings. The function consists of reading the agenda & meeting book prior to meetings, commenting as effectively as possible on the agenda items, and going home.
2. CISA members do not get to know each other well or develop a working relationship with each other.
3. Even though the normal term is 3 years, with only two meetings per year, committee members really cycle through CISA committee too

quickly to develop a working relationship with topics that CISA is reviewing or might pursue or develop.

4. Topics or programs in International Affairs or others that reach across countries usually depend for success on personal connections. Within CISA, they get initiated as a result of personal interests and connections of one or two CISA members. These individuals cycle off CISA and the connections are not sustained. The projects go into limbo. Example, FeLaSoFi Pan American Working Group—APS as a part of this.
5. CISA tends, with the present structure, to be reactive – to comment on, pass judgment on, or make suggestions on proposals that come to it – either from the APS membership, the APS executives or from agencies outside US. Some of this is very good.
6. Given its structure, CISA rarely initiates projects or takes up projects initiated elsewhere and examines or “executes” these.

APPENDIX 3

Draft White Paper

CISA Subcommittee on APS Journal Access in Developing Countries

A. Introduction:

The mission of the American Physical Society is "*to advance and diffuse the knowledge of physics.*" Toward this end, one of the major endeavors of the Society is the publication of some of the world's leading physics research journals. The *Physical Reviews* are primary research journals among physicists worldwide. Thus, access to the Society's journals is vital for many physicists.

For many years, the APS has strived to make its journals available in regions of the world where the cost of the journals is prohibitive or where electronic access is hampered by poor or non-existent Internet access. However, many developing countries are not taking advantage (or do not know how to take advantage) of electronic access to APS journals that are available at reduced, or even no, cost.

B. Background:

Currently, the Electronic Information for Libraries (eIFL) foundation is responsible for leading, negotiating, and promoting access to APS journals by universities, public, national, or government libraries or research institutions in a selected group of developing countries.

However, of the 36 developing countries where APS journal access is offered for no fee, only 5 are participating in the eIFL program. APS staff are concerned that this is due to lack of effort and coordination on the part of eIFL itself. By 2006, the APS contract with eIFL will expire and APS will be available to engage other partners in better promoting journal access in the developing world. Consequently, APS would like to better understand other options available for encouraging such access.

Against this background are some very good examples of "success stories" where the availability of APS journals has led to the formation of successful consortia that are managing and promoting access to APS journal, and in

some cases now even paying for the service at a level that is commensurate with their ability to pay. But these are exceptions; there is a need to market what the APS has to offer better.

C. Goal and Scope of Study:

The APS Treasurer and his staff have asked CISA to explore new opportunities for increasing APS journal access in the developing world. (The APS Publications Oversight Committee oversees general editorial policy and does not address customer-oriented issues or access to journals, hence, the request to CISA.)

So while the APS wishes to “advance and diffuse the knowledge of physics” in the developing world by making its *Physical Reviews* available at low- to no-cost to developing countries, the eIFL has not been particularly effective in promoting this offering. Furthermore, since APS’s contract with eIFL ends in 2006, APS will soon be free to explore other options for promoting this program. To advance this agenda, it is proposed that the subcommittee should investigate:

1. How do other organizations (scientific societies, publishers, etc.) offer access to online information in developing countries?
2. Are there other models that seek to offer offering online information, and if so, how are they managed and what is their success rate?
3. What are the barriers to providing online access? (To what extent is Internet access a barrier, and are CD ROMs a good interim solution?)
4. What other opportunities exist to encourage eligible institutions to participate in free access to APS journals?
5. Would there be any benefit in partnering with other organizations like the APS so as to be able to offer a more comprehensive scientific coverage?
6. How can one deal in an equitable manner with countries with “have” and “have-not” institutions?
7. Would there be agency interest (NSF, DOE, NIH, etc.) in promoting a program that has objectives like those of the APS?

Instead of addressing access throughout the entire “developing world,” the CISA subcommittee CISA may decide to limit the scope of its efforts to a single region, such as Latin America, Africa, or the Middle East. If so, where can the APS have the most impact initially and get the most out of this effort?

D. Timeframe/Milestone Dates:

The subcommittee will first organize a roundtable meeting with 6-10 representatives from small to medium-sized scientific societies that have journal distribution programs abroad. The goal will be to survey and assess other models for providing electronic access in developing countries. Organizations that might be asked to participate include the American Chemical, Mathematical, and Physiological Societies, the American Institute of Physics, the Optical Society of America, SPIE – The International Society for Optical Engineering, and the American Geophysical Union.

January 2005: Subcommittee meeting hosted by SURA to survey and assess other options for providing electronic access in developing countries.

End of 2005: The subcommittee could develop recommended alternatives to eIFL that could be pursued when the contract expires in January 2006. The subcommittee's recommendations would serve as the foundation for decisions by the APS Treasurer/Publisher to adopt new options or models for promoting APS journal access in developing regions.

E. Anticipated Costs:

January Meeting: Travel to meet with rep from another societies or one of the "pan-publisher" initiatives similar to eIFL such as INASP.

Subcommittee meetings/conference calls.

F. Subcommittee Members:

Jerry Draayer, Subcommittee Chair
Other CISA Member
Experts and/or special advisors as needed

APPENDIX 4

ACCESS TO MAJOR INTERNATIONAL FACILITIES

A PROPOSED REPORT BY THE
COMMITTEE ON INTERNATIONAL SCIENTIFIC AFFAIRS
AMERICAN PHYSICAL SOCIETY

PREAMBLE

In 2004, the Committee on International Scientific Affairs (CISA) of the APS decided to create subcommittees to investigate specific topics of an international nature that are projected to have a significant long-term impact on physics and related sciences. Major facilities are playing an increasing role in physics. While major facilities have been critical in particle physics for many years, they are now important in most fields of physics. The ability to conduct world-class research depends increasingly on access to these major facilities. CISA therefore decided to strike a subcommittee to examine the evolving conditions for access to major international facilities and the projected international interdependence of major facilities. This White Paper outlines the proposed study.

1. GOAL AND SCOPE OF THE STUDY

The central goal is to provide an assessment of the terms of access to major facilities for physics research from the perspective of the user community in the USA. Terms of access are evolving, as is the organizational and international agreements under which major facilities are constructed and operated. This evolution is often different in different fields of physics and in different nations and regions of the world. A specific aim is to articulate this evolution and assess its impact on access for US physicists. What will the picture look like in 2015? How can the US respond to improve access for all and particularly US scientists?

In the future, there will be major facilities outside the US that do not exist inside the US. US physicists will require access to these facilities or will have to leave the field. Equally, there will be facilities outside the US that are significantly better in some fields than any facility in the US. US physicists will similarly require access to these facilities or that field will no longer be internationally competitive in the USA.

Many major facilities in Europe are now multinational facilities. The trend is in this direction for synchrotron light sources and neutron scattering facilities. How can the US relate to the multinational facilities so that US physicists

have access? Simple reciprocal access to facilities on a bilateral basis no longer applies well to multinational facilities.

A goal of the study would be a survey of current and proposed major facilities in the world and the conditions for access.

2. METHODS OF STUDY

FIELDS AND FACILITIES INVOLVED

The fields of physics and/or type of major facility that should be included in the study were identified as:

- Particle physics
- Nuclear physics
- Plasma physics
- Astrophysics
- Synchrotron light sources
- Neutron scattering sources

Essentially, the CISA members of the subcommittee felt that a full subcommittee should have a member on it from each of these categories to ensure completeness and accuracy and to ensure credibility. It was noted that the latter two categories involve fields outside physics, particularly materials science, chemistry, and biology. At this time, it was decided to exclude astronomy. A statement that astronomy was explicitly excluded is probably important since it could be viewed as an omission.

INVENTORY OF FACILITIES

An inventory of major facilities is clearly needed. This could probably best be done by field with the committee member from each "field" identified above making the inventory in that field. The inventory should include the date the facility opened and its projected closing date. It should include planned and projected facilities and their projected opening dates.

Clearly very large, major facilities should be included. As criteria for what facilities to include/exclude, the following was suggested:

- Facilities that have a program committee that reviews proposals for use should be included.
- Facilities that are inexpensive enough that many nations have one so that there is essentially no access issue should not be included. Small synchrotron light sources and small nuclear reactors at universities might fall in this category.

INVENTORY OF PREVIOUS REPORTS

There are many reports that consider major facilities, in the US, Europe, Japan and elsewhere. Most of these reports focus on the scientific case for major facilities and on the selection and planning for future facilities. Some of these reports also mention access. However, there are few reports that deal exclusively with access. In any case, it will be important to make an inventory of reports and identify the position taken on access issues. Many of these reports in the USA will be DOE or OSTP sponsored reports. Reports in other countries can be obtained through reciprocal societies, e.g. neutron scattering societies in other nations.

CONSULT "FOREIGN FACILITIES" ON CONDITIONS FOR ACCESS

A most important part of the study will be identifying the conditions for access at specific facilities included in the inventory, how terms of access have evolved, what they are now and are projected to be in the future. Also, in planned facilities what are the projected terms of access? Since this report will be chiefly about access to international facilities outside the US, setting out terms of access to foreign facilities and understanding the rationale behind them is at the center of the study. Which facilities will US scientists particularly want to use? How are terms of access at facilities outside the US evolving compared to those in the US?

3. SUBCOMMITTEE MEMBERS

The subcommittee members from CISA are:

Edmond L. Berger

HEP 362
Argonne National Laboratory
9700 S Cass Avenue
Argonne, IL 60439
Phone (630) 252-6211
Fax (630) 252-5047
Email berger@anl.gov

Henry R. Glyde, Chair

Department of Physics & Astronomy
University of Delaware
223 Sharp Lab
Newark, DE 19716
Phone (302) 831-8051
Fax (302) 831-1637
Email glyde@udel.edu

John Peoples

Fermi National Accelerator Laboratory

PO Box 500

Batavia, IL 60510

Phone (630) 840-4085

Fax (630) 840-8274

Email peop@fnal.gov

Committee members in the fields of nuclear, plasma, astrophysics and synchrotron facilities are needed. The current CISA members can cover the fields of particle physics and neutron scattering. The total number on the committee is projected to be seven.

4. CONSULTING APS DIVISIONS AND MEMBERS

It will also be important to consult the APS Divisions involved and some specific members of APS. This could be done at the March and April meetings and/or by letter, or otherwise, to the Division Chair seeking input from the Division. Also, it is important to consult various "scientific societies," for example, the Neutron Scattering Society of America.

A workshop might be held in collaboration with the National Academy of Sciences through the US Liaison Committee for IUPAP.

5. TIME FRAME

At this time, completing the study by the end of 2005 appears quite possible. Milestones could be set for:

- Completing the inventories of facilities and reports in each field.
- Consulting nationally within the USA.
- Consulting abroad, especially the facilities and other national and international bodies.
- Completing the reports from each field on access policies and on what facilities are likely to be unique in the future.
- Preparation of the report.

6. COSTS

Much of the information can be obtained by phone, from the Web, or by email. Projected costs include some travel to facilities for consultations but this would be combined with travel for other purposes. The subcommittee will probably hold meetings and conference calls. Assistance from the Office of International Scientific Affairs in report preparation is very much needed. While most of the costs will be assumed by the members of the subcommittee or assigned to other functions, additional costs (travel, phone, meetings) are estimated at \$5,000.