



View From the Chair

Gary Steigman, The Ohio State University

2005 has been an active year for FIP and our agenda will continue to increase in 2006. As FIP Chair for 2005, I wish to thank our past Chairs, Henry Glyde and Jerry Draayer, who paved the way for me and, also our Chair-Elect, Irving Lerch, and our Vice Chair, Herman Winick, for helping to set the agenda for the future.

In December 2004, under the guidance of FIP APS Councillor James Vary, we launched the FIP-sponsored, Travel Grant Award Program (TGAP). Awards were given to Anthony Starace, University of Nebraska-Lincoln with Nikolai Manakov, Veronezh State University, Russia on “Intense laser-atom interactions” and to Bira Van Kolk, University of Arizona with Claudio Maekawa, Fundacao Universidad do Rio Grande, Brazil on “The electric dipole form factor of the nucleon”. The success of “Phase I” of TGAP encouraged the Executive Committee to expand this program and, as described elsewhere in this newsletter, we have begun “Phase II” after receiving additional support from the APS Office of International Affairs and from the APS Division of Nuclear Physics. Kudos to James Vary for his persuasive and tireless efforts on behalf of the TGAP.

Thanks, mainly, to Chair-Elect Irving Lerch, FIP organized several very successful sessions at the April 2005 APS Meeting in Tampa. One very stimulating session on, “The Globalization of Science: Constructing the Future” was Chaired by APS President Marvin Cohen, with panelists Lawrence Tabak representing the NIH, James Langer the National Academy of Sciences, and Michael Turner the National Science Foundation. Another, very timely FIP session at the April 2005 meeting was on “The Problem with Visas: The Impact on Universities, National Labs and Industry”. This session was Chaired by APS past-President, Helen Quinn and included as panelists, Alice Gast from MIT presenting the view from universities, Charles Shank from LBNL providing the perspective from the National Labs, and Ron Webb from Proctor & Gamble sharing the view from industry.

Thanks to Hilda Cerdeira, Irving Lerch, and Herman Winick, FIP is sponsoring even more sessions at the 2006 March and April APS meetings. FIP will hold a Business Meeting in Baltimore to which you are all invited. Among the items on the agenda is a discussion of the revision to our bylaws. We are sponsoring or cosponsoring three sessions at the April APS Meeting in Dallas.

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Building a Stronger System to Promote and Support International Physics in the Graduate Student Community: The Collaboration of FIP and FGSA

Anne Catllá

What mark will you leave on your work? The Mayan workers who built the city of Uxmal left their red handprints as a sign to the gods of dedication to their work. The CAM Conference held in Mérida, Mexico aimed to ask today's physics graduate students just this question. This event is just one of the ways that the Forum on Graduate Student Affairs (FGSA) has moved into the international physics community. I am pleased to have this opportunity to highlight some of these efforts and recent FIP/FGSA collaborations.

The Merida Conference was largely organized by graduate students from the APS, the Canadian Association of Physics (CAP), and the Sociedad Mexicana de Física (SMF). Students arranged everything from NSF funding to hotel accommodations to the scientific program. Despite challenges posed by different languages and learning each country's customs with regards to scientific exchange, the international collaboration was an overwhelming success. One hundred and six students attended the conference (24 from Canada, 46 from the United States, and 36 from Mexico), including two who drove all the way from Canada! Among the U.S. contingent were several students of foreign nationality, who were attending U.S. universities and colleges. Over 95% of the U.S. students were supported with travel grants of up to \$500.00 obtained from the National Science Foundation.

Students from universities in all three countries participated in oral and/or poster sessions where they presented their research to a diverse group while sharing their energy and enthusiasm for the work being done throughout the physics community. Seven invited speakers presented their work on topics ranging from atomic physics to archaeoastronomy. "Listen to that buzz," said Ron Olowin (St. Mary's College), one of the invited speakers, "I've never been to such an active poster session!" Many students agreed that it was the most lively poster session they had attended.

Indeed, several discussions lasted well into the time set aside for social activities. Some of these presentations even resulted in new international collaborations.

Students and invited scientists participated in roundtable sessions centered on the theme of the conference: "Student Visions for the 21st Century". In these sessions, students discussed a broad range of social and scientific issues. The discussions covered a wide range of topics including concerns with

obtaining visas to visit collaborators, scientific ethics and integrity, the social importance of research being done, and the increasingly interdisciplinary nature of physics. Several students rendered their predictions of discoveries that will be made in this century, including, for example, advances in bioengineering and bioelectronics, quantum computing, quantum intelligence, discovery of the Higgs particle, resolution of the matter-antimatter debate, and closure on the existence of gravitational waves.

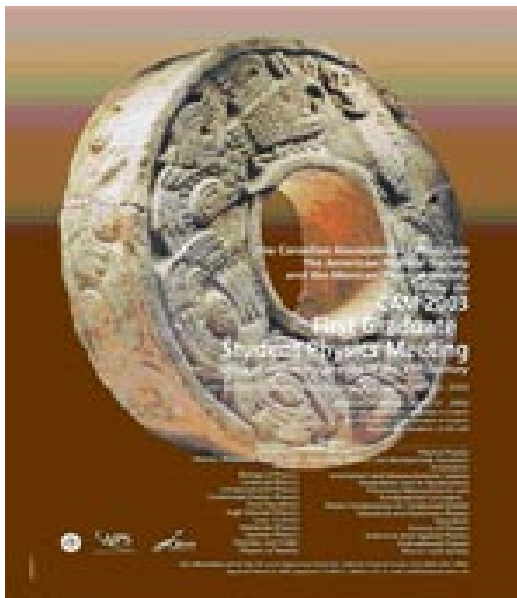
In addition to the science program, social events were spectacularly planned by the local committee in Mérida. We saw a Charreada Show (a rodeo-like performance of skill with horses and lassos), a symphony performance, and took a tour of the Mayan ruins at Uxmal followed by a wet but wonderful light show.

In response to visa concerns discussed at CAM, FGSA is considering the creation of an International Student Affairs (ISA) committee whose chair would be an elected position on our executive board. This committee would act as a student advocacy group for international student issues to the APS and would serve as the principal point of contact between FGSA and similar organizations outside the United States.

FIP has been a strong supporter of FGSA's efforts to move into the realm of international physics. Two members of the FIP executive committee, Gyongyi Baksay and Laszlo Baksay, both attended CAM in Merida as a show of support and to discuss future projects. Gyongyi Baksay was then appointed as FIP liaison to FGSA. In this capacity, she has organized an FIP/FGSA table at an April meeting's Lunch with an Expert, providing students with the opportunity to informally discuss "The International Experience in US Graduate Physics Programs" with Laszlo Baksay. She has also participated in FGSA executive board phone meetings and arranged for Lindley Winslow, FGSA Chair-elect, to participate in an FIP Executive Committee meeting.

We foresee that the continued exchange of ideas and collaboration between FIP and FGSA will help both forums to better address the needs of international students in the United States, expand student knowledge of opportunities in international physics, and increase the number of opportunities for future international collaborations.

Collaboration between FIP and FGSA will help better address the need of international students





Steven Trent Manson : 2005 John Wheatley Award



“For building collaborations with scientists in Uzbekistan, India and Turkey; and for promoting research groups and supporting students in these countries.”

Steven Trent Manson was born in Brooklyn, NY on December 12, 1940. He obtained a B.S. in Physics from Rensselaer Polytechnic Institute in 1961. He did his graduate work at Columbia University, specializing in Theoretical Atomic Physics under the direction of Professor Henry Foley, and he received the Ph. D. in 1966.

He was then awarded a National Academy of Sciences – National Research Council Postdoctoral Fellowship at the National Bureau of Standards where he spent two years studying atomic photo-ionization under the direction of Ugo Fano and John Cooper. In 1968 he became an Assistant Professor at Georgia State University in Atlanta, where he is now Regents Professor. He received the Arts & Sciences Alumni Distinguished Professor Award in 1977, the Golden Key Outstanding Faculty Research Award in 1985 and the University Alumni Distinguished Professor Award in 1986. His research work over the years has concentrated on the interaction of charged particle and electromagnetic radiation with atoms and ions. He has published well over 200 papers in the area and his work has been supported by NSF, DOE, NASA, ARO, the Academy of Applied Science, NATO, and the Civilian Research and Development Foundation. His current research is focused on photo-ionization of free and confined atoms and ions. He has been involved in international collaborations for most of his professional career. His present collaborations involve scientists from France, U. K., Ireland, Russia, Serbia and Montenegro, Turkey, Israel, India, South Korea and Uzbekistan.

FIP Sessions planned for the APS March and April Meetings, 2006

Some details of the programs organized by FIP and listed below are still being worked out, others might change. Please check the APS website for program updates.

March 13, 2006, Baltimore, 14:30, Invited Session “Scientists from Developing Countries: is there an effective way to support meaningful research?“, Moderator: Katepalli Sreenivasan, Director, ICTP.

Research by scientists from developing countries has increased dramatically while support for research remains static. This symposium will examine the needs and opportunities for meaningful research in developing countries. Invited Speakers: Timoleon Crepin Kofane, University of Yaounde; Zohra Ben Lakhdar, University of Tunis (received the 2006 Marshak Lectureship); Carlos Henrique de Brito Cruz, Director Científico, Fapesp (Brazil); Bernard M’Passi-Mabiala, University Marien Ngouabi (Congo)

April 22, 2006, Dallas, 13:30, Invited Session “Public and Private Funding for International Research“, Moder.: Presidential Line.

This symposium will examine the existing and changing landscape of funding to promote international scientific collaboration - to include governmental, intergovernmental and private foundation programs. Invited Speakers: Arden Bement, NSF; Charles (Tom) Owens, CRDF; Wolfgang Schleich, Alexander Von Humboldt Foundation and University of Ulm.

April 22, 2006, Dallas, 15:30, Invited Session “Science and Development: Innovation Systems for Fighting Poverty“ Co-sponsors: FPS, APS; Moder.: Presidential Line.

This symposium will examine investments in science, technology and education to improve national innovation systems to

fight poverty in developing nations. Invited Speakers: Mustafa El-Tayeb, UNESCO; David Dickson, SciDev.NET; Jeffrey Sachs, Chair, Millenium Project, Special Advisor to the UN Secretary-General or Christofer Neal, The World Bank Group)

April 23, 2006, Dallas, 15:30, Invited Session “Scholars at Risk“, Moder.: Andrew S. Sessler, Lawrence Berkeley Laboratory
This symposium will explore programs to support and provide safe haven for scholars persecuted for their speech, ethnicity, gender and citizenship. Invited Speakers: Robert Quinn, Scholars at Risk Network, NYU; Yuri Orlov, Cornell University (First Recipient of the Sakharov Prize); M. Hadi Hadizadeh, Fedowski University (Iran) and visiting scholar, Ohio University

Other activities will include the yearly Meeting of the FIP Executive Committee in Dallas on Apr 23 8:00-15:00, an Open Business Meeting for the FIP Membership at the March meeting in Baltimore, FIP sponsored Receptions, and consultative meetings with groups, which have expressed interest in cooperating with FIP, such as associations in the U.S. of Chinese, Indian, Iranian, and Korean Physicists.

Please check the FIP and APS websites for further details, as they become available.

APS Sakharov Prize

The FIP contributed \$ 5,000 towards the establishment of the APS Sakharov Prize.

A total of \$ 70,000 has been raised so far towards the \$100,000 goal.



ICFA Instrumentation School in Istanbul

K. Dehmelt, M. Sheaff

Istanbul, the most populous city in Turkey, comprises a very large urban area distributed onto two continents. This beautiful city was the venue for the Second Regional School/Workshop on Instrumentation in Elementary Particle Physics, which was held at the Center for Instrumentation at Istanbul Technical University (ITU) during the first two weeks of September 2005. The event was organized by the International Committee for Future Accelerators (ICFA) Panel on Instrumentation, Innovation, and Development, ITU, and the Scientific & Technological Research Council of Turkey (TUBITAK). Professor Mahmut Hortacsu of ITU was the School director.

The ICFA Panel has a regular program of biennial schools/workshops which it helps to organize in different venues around the globe. The formation of two permanent instrumentation centers in strategic locations, one at ITU in Turkey, the other at the University of Michoacan in Morelia, Mexico, came about following two of these biennial schools, the one held in Istanbul in 1999 and the other held in Leon, Mexico, in 1997. In both countries, the local particle physics community recognized the benefit of this type of program to the education of the students, and wished to create a permanent site where schools/workshops like this could be held on a regular basis. The centers are expected to be somewhat less international in scope than the biennial schools. It is also expected that local physicists will take on more and more of the responsibility for the lecture and laboratory courses to be held there as time goes on. This was the Second School/Workshop to take place at the center at ITU. For this workshop, two of the laboratory courses were set up by Turkish physics groups using their own equipment. Three other courses that were organized in Siegen, Germany, were taught by Turkish physicists.

Student participants in this workshop were graduate students in particle physics and related fields, as well as postdoctoral fellows, who had finished their studies and were just starting their careers. All were eager to learn about the latest technologies that are used in present state-of-the-art experiments. And what they were presented with was top-of-the-notch.

The 41 students and postdocs came from all over the world: China, India, Nepal, Pakistan, Romania, Serbia, Germany, United States of America, and of course, the major fraction, from all parts of Turkey. Most of the international students were working either in Germany or in the United States, and many of them were able to attend this workshop due to the generous support of the National Science Foundation (NSF).

The international organizing committee consisted of world-renowned physicists, many of whom were present at the workshop, either presenting fabulous talks or giving great help to the students while performing experiments.

Topics of the presentations were diverse, ranging from physics and principles of radiation detection, data acquisition and triggering, electronics and signal processing for radiation detectors, silicon detectors, and calorimetry to the use of HEP detectors in astro-particle physics, challenges of the LHC experiments, experi-

ments at the Linear Collider, and even to detectors for medical applications. All of these presentations were followed by practical lab courses. Those experiments gave the students a good idea how detectors operate and what kinds of tools are necessary in order to make use of such detectors.

The schedule for the day began with the lectures in the morning, followed by the laboratory courses in the afternoon. This kept the students busy for the entire day. Nevertheless, there was always time left to chat with each other and exchange experiences and opinions. Although there did exist some language barrier, the communication was excellent. This also stemmed from the hearty and hospitable atmosphere.

As the workday finished, Turkish and international students grouped together and were eager to explore the beauty of Istanbul. This was a great experience for everyone, since even many of the Turkish students were spending their first time ever in that city. Consequently, a lot of ties were established, not only in terms of scientific interests and possible future collaboration, but also in terms of friendship.

Of course, the cultural aspects should not be overlooked. World-famous sites, like the Hagia Sofia, the Topkapi, the Blue Mosque and more were visited over the weekend. Since many relics from earlier times remain in Istanbul, one always had a feeling of walking through an ancient oriental town, for example when walking through the Grand Bazaar, the biggest contiguous marketplace in the world.

To conclude, this workshop was a great combination of scientific and interpersonal aspects, of very high value. It will remain an unforgettable experience.



Participants of the ICFA school



Wealth of Nations 2005: Building Capacity and Innovation Systems in Africa

Irving A. Lerch

“AFRICA must apply its brainpower to the development process. We must place our people in the position of being able to use science and adopt technology for the betterment of their lives.”

—Prime Minister Nahas Angula of Namibia, June 29, 2005

As is true of many African leaders, Prime Minister Angula received his graduate training in the Northern Hemisphere—in his case at Columbia University, receiving two Master’s degrees. When he was born in 1943, Namibia did not exist and would not achieve independence for another 47 years, having become a League of Nations mandate administered by South Africa in 1920. In 1966, after the UN declared an end to the mandate, there followed a two decades-long armed struggle against South African rule.

It is important to keep this history in mind, not to catalog the sins of the past but to chart a path to the future. It is less than a generation since Namibia gained independence and its head of government, a specialist in education, has declared that capacity building is essential for his country—as it is for all of Sub-Saharan Africa—if it is to make its place among modern technological societies. The political and historical reality for any former colony is that the intellectual and commercial centers were elsewhere. Colonies are dependencies to provide markets, raw materials and intellectual talent for the rulers. Thus the vital ingredients for a national innovation system either do not exist or are in rudimentary form: indigenous modern industry, developed markets, trade networks, research universities, transportation and communications, the legal infrastructure to nurture and protect innovation and integrated economic policies.

This does not condemn sub-Saharan Africa to everlasting penury. As was true of the “Asian Tigers” and all countries that have evolved their economic and social systems, the inherent intellectual and cultural talent and natural gifts of Africa make it prime real estate for development. The questions are: What must the Africans do and what must their neighbors do?

“One of the key factors behind the phenomenal economic success of latecomers such as the South East Asian economies was their emphasis on human capital formation and a dynamic system of innovation.”

—Banji Oyelaran-Oyeyinka and Lou Anne Barclay, 2003 *Systems of Innovation and Human Capital in African Development*

In Africa, by contrast, the authors noted, “... development is positively associated with the growth of technical personnel while personnel in R&D make no contribution to income growth. This is intuitively correct as very little local R&D is carried out in Africa.”

Earlier in 2005, the Task Force on Science, Technology, and Innovation of the UN Millennium Project (commissioned by Secretary-General Kofi Anan to develop strategies to achieve the Millennium Development Goals) issued a report entitled, *Innovation: Applying Knowledge in Development*. Africans are acutely aware that to mount programs that will be effective in reducing poverty, it is not only necessary to nurture, develop and exploit

intellectual capacity but to strengthen and support the institutions capable of putting that capacity to productive work. The strategic heart of the Millennium Project report,

“... describes approaches for effectively applying science, technology, and innovation to achieving the [Millennium] Goals. It outlines key areas for policy action, including focusing on platform (generic) technologies; improving infrastructure services as a foundation for technology; improving higher education in science and engineering and redefining the role of universities; promoting business activities in science, technology, and innovation; improving the policy environment; and focusing on areas of underfunded research for development”.

This prescription not only defines strategic targets but provides a measure for success. Aside from debt forgiveness, outright grants and other philanthropic approaches, the reformation of institutions, political and juridical policies and even social outlooks will require leadership at the highest level. With this as the exoskeleton on which the edifice is to be erected, what is expected of the scientific and educational communities of the North? What must we do and what do we have to gain?

“The smart approach would be to support the pooling of expertise to create the critical mass, and form partnerships around collective research programmes. This is the approach that informs the creation of networks of knowledge centres ... Central to our plan is the development of institutional and human capacity.”

—Mosibudi Mangena, Deputy Minister of Education, South Africa, January, 2005

A recurring theme of development experts in and out of Africa is *partnerships*. This implies the sharing of intellectual and institutional resources for communal benefit. For the industrial North, this has traditionally meant the drain of talent from the South to feed the growing appetite of universities labs and businesses for intellectual capacity (the “brain drain”). By expanding North-South and South-South research and education links, partners share both facilities and talent, thus building capacity to attract business, development bank and government support. The rise of the Indian Institutes of Technology and the subsequent explosion of business enterprises in Bangalore and elsewhere illustrate the importance of this approach.

For the natural sciences, there is another way of looking at this issue—one that has rapidly evolved with the advent of the World Wide Web and the Internet. In 1999, Barbara Drossel at the University of Manchester suggested a simple model for complex interactions (B. Drossel, “Simple Model for the Formation of a Complex Organism,” *Physical Review Letters*, Volume 82, Number 25, 21, June, 1999, pages 5144-5147) that I apply to the productivity of scientific collaborations of n members (with apologies to Dr. Drossel):

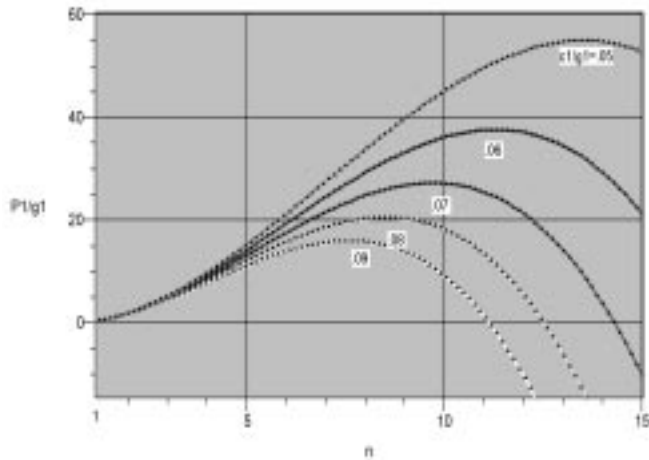
$$P_i(n) = g_i n(n-1) - c_i n^2(n-1)$$

Where $P_i(n)$ is the productivity of the n -member collaboration, the parameter g_i indicates the gain in productivity achieved as n increases and c_i is the cost associated with linking the n members together (the numerical index signifies this as a first order collabo-



ration and many such collaborations may be combined into higher order organizations). If communication costs are low, then larger and larger collaborations are sustainable (see the figure below).

This simple model demonstrates what we know to be true—that as communications costs decline, collaborations can sustain larger and larger numbers. A further example is the growth in



“outsourcing” of such service tasks as programming and other technical jobs and the broadening global reach of major research collaborations in the natural sciences (high-energy physics, genome mapping, etc).

Telecommunications has already integrated a growing population of scientists from developing countries into common cause and institutions such as the Abdus Salam International Center for Theoretical Physics in Trieste have sought to expand telecommunications in Africa not only to facilitate scientist interactions but to provide access to remote equipment controls and readouts and current literature and textbooks.

But without the infrastructure investments noted in the Millennium Report cited above, the reach of this technology will be limited as illustrated to the left in a map that contrasts concentration of telecommunications infrastructure in the North *versus* population distribution worldwide (Modeling the Internet’s Large-Scale Topology, Soon-Hyung Yook, Hawoong Jeong, Albert-László Barabási *Department of Physics, University of Notre Dame*).

“Developing countries ... need to mobilize and strengthen their own S&T infrastructures and capabilities to address their development problems from their own policy perspectives.”

— *Carl Greenidge and Rutger Engelhard, The Need for a Policy, Dialogue on Science and Technology for Development in ACP Countries, 2002*

“In our deliberations, we recalled the series of initiatives by Africans themselves aimed at addressing the developmental challenges of Africa Each time, these initiatives were counteracted and ultimately undermined by policy frameworks developed from outside the continent and imposed on African countries.”

— *Declaration on Africa’s Development Challenges, Accra, April 23-26, 2002, Council for Development of Social Science Research in Africa (CODESRIA) and Third World Network (TWN) - Africa.*

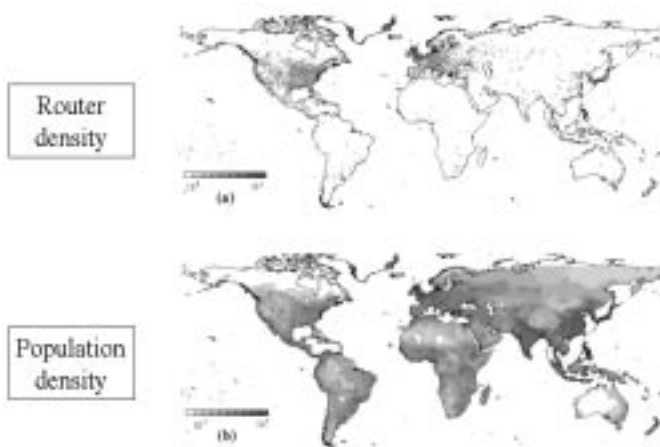
These two competing grand statements bear the residual taste of Northern patrimony and Southern resentment born from a legacy of colonial rule and centuries of economic domination by the North. But resentment does not purchase freedom to fashion a new reality divorced from hostile economic conditions.

In the summer of 2001, at an Organization of African Unity summit meeting, a strategic framework for development was adopted entitled, New Partnership for Africa’s Development (NEPAD). The five initiating Heads of State were the presidents of Algeria, Egypt, Nigeria, Senegal and South Africa. And while the Accra meeting (see the last quote above) criticized this initiative, the UN and much of the world has recognized NEPAD as the lead organization for promoting African development.

The New African Initiative is the strategic outline of NEPAD that lays down the core objectives of the Partnership and mirrors most of the Millennium Development Goals. Integrated into the Initiative are certain political and social targets such as democratization, gender rights, environmental preservation and transparency in government dealings. But certain quandaries pertaining to promoting partnerships with industry and improving scientific access to telecommunications remain unresolved.

The international community has declared its commitment with the Millennium Development Goals and while funding from the G-8 nations fell from a high of more than \$26 billion annually in the early 1990s to less than \$16 billion at the turn of the century, funding is now increasing and the latest G-8 meeting has promised a further increase to over \$50 billion. The Africans themselves appear committed to adopting policies friendly to development and have recognized the centrality of education, science and engineering to their economic and social future.

One question remains. What roles will we—the scientific and engineering communities of the G-8—play?





SESAME – Science for Peace

Herwig Schopper, President of SESAME Council

An international research centre SESAME (Synchrotron light for Experimental Science and Applications in the Middle East) is being set up in Alan (Jordan) about 30 km from Amman. Following the model of CERN it has been created under the auspices of UNESCO. The UNESCO Executive Board qualified it as a “quint-essential UNESCO project combining capacity building with vital peace-building through science” and described it as a “.. model project for other regions”. SESAME has the objective to promote science and technology in the Middle-East and, at the same time, to offer invaluable opportunities to develop mutual confidence and tolerance among people from different traditions, religions and races through scientific cooperation.

SESAME has currently the following Members: Bahrain, Egypt, Israel, Jordan, Pakistan, the Palestinian Authority and Turkey. The ratification process for Iran and Morocco is still not finished and Iraq has recently requested to become a Member. Germany, Greece, Italy, Kuwait, Russia, Sweden, UAE, the U.K. and the U.S.A. are Observers. France and Japan are also shortly expected to become Observers. All other countries in the region are welcome and several have expressed interest.

The reasons for choosing Jordan as Host State was the assurance by the Government that all scientists of the world would have free access to the Centre, and the commitment to provide the land, the existing buildings and funds for the construction of the building to house the facility. The construction of the building started in August 2003 and it is expected to be ready in summer 2006. H.M. Abdullah II, King of Jordan, strongly supports the project.

The SESAME synchrotron with a final energy of 2.5 GeV has been designed using components, donated by the German government, of the shutdown BESSY I storage ring. These components have been already shipped from Germany to Jordan. Funds for the upgrading of the machine are being sought from the European Commission. It is expected that the SESAME machine will become operational in 2009.

Beamlines for the first phase of exploitation have been identified in close cooperation with potential users. Contacts with the users community are assured by four advisory committees (Beamlines, Scientific, Technical, and Training Committees). SLAC, U.S. and former Lure, in France will donate parts of beamlines from decommissioned machines. Funds for beamline equipment are being sought from sponsors and other organisations like IAEA.

The governing body of the centre is an international Council with each Member having one vote. The Directorate consists of a Director (Minister K.H. Toukan, Jordan), an Administrative Director (H.Helal, Egypt), a Scientific Director (A. Baig, Pakistan), and a Technical Director (G. Vignola, Italy). Working on the design of the machine is a core staff from the region that has been trained in synchrotron radiation laboratories in Europe and the United States.

Training is one of the major objectives of SESAME. Several

workshops in different fields have been organized, users meetings take place regularly and individual scientists and technicians are trained in synchrotron labs in Europe, the USA and other countries. These programs are carried out with assistance from IAEA, Vienna and ICT, Trieste and with contributions from observers like Japan and USA.

*Did you know?
22% of all APS Members Re-
side Outside of the United
States*

Pedro Prieto Receives G-77 AWARD

Submitted by Marcelo Alonso

The Group of 77, in collaboration with the Academy of Sciences for the Developing World (or Third World Academy of Sciences) has granted the first “G77 Award for Science, Technology and Innovation” to Prof. Pedro Prieto, Physics Department, University del Valle, Cali, Colombia, and member at large of the APS Executive Committee on International Physics, for his research on the “development on materials science and electronic devices, particularly in superconductivity and magnetism”. The award (cash and a diploma) will be presented to Prof. Prieto at the UN G77 headquarters in NY next January 2006.

The G77 award has been established to “recognize and honor individual scientists, technologists and innovators from developing countries that have made outstanding contributions”. The recipients must be citizens of a developing country and must be working in their country. The award will be granted every three years.

The Group of 77 (G-77) was established on 15 June 1964 by seventy-seven developing countries signatories of the "Joint Declaration of the Seventy-Seven Countries" issued at the end of the first session of the United Nations Conference on Trade and Development (UNCTAD) in Geneva. Beginning with the first Ministerial Meeting of the Group of 77 in Algiers in 1967 which adopted the Charter of Algiers, a permanent institutional structure gradually developed which led to the creation of Chapters of the Group of 77 in Rome (FAO), Vienna (UNIDO), Paris (UNESCO), Nairobi (UNEP) and the Group of 24 in Washington, D.C. (IMF and World Bank). Although the membership of the G-77 has increased to 132 countries, the original name was retained because of its historic significance.



No Burial for Balakot

Dear Members of FIP. Below is a report from our colleague Pervez Hoodbhoy at Qaid-e-Azam University in Islamabad describing the earthquake devastation in Pakistan Kashmir. It is also an appeal for Help. (Checks can be made out to “Quaid-e-Azam University and Eqbal Ahmad Foundation Earthquake Relief Fund.”)

Thursday evening, 13th October 2005

Four days later, they are still not even trying to extricate the dead.

From under the rubble of collapsed buildings, a gut-wrenching smell of decaying corpses now fills the town. The rats have it good; the one I accidentally stepped upon was already fat. If there is indeed a plan to clear the concrete rubble in and around the town, nobody seems to have any clue. But the Balakotis are taking it in their stride - nose masks are everywhere.

Aid from across the world is making its way, and the United States is here too. Double bladed Chinook helicopters, diverted from fighting Al-Qaida in Afghanistan, weave their way through the mountains. They fly over the heartland of jihad and the militant training camps in Mansehra to drop food and tents a few miles beyond. Temporarily birds of peace instead of war, they do immensely more to soothe the highly Islamic, highly conservative, bearded mountain people than the reams of silly propaganda on glossy paper put out by the US information services in Pakistan.

Visibility makes relief choppers terrific propaganda, for good or for worse. This is undoubtedly why the Pakistani government refused an Indian offer to send in helicopters for relief work in and around Muzzafarabad, the flattened capital of Pakistani administered Kashmir.

Bad news: the aid is still too little, often of the wrong kind, and is not getting to those most affected. Hundreds of destroyed communities lie scattered deep in the mountains. We saw helicopters attempt aerial drops; landing is impossible in most places. But people told us that they often miss and the supplies land thousands of feet below or in deep forests.

For me personally, there was a sense of dejavu. Nearly 31 years ago, on 25th December 1974, a powerful earthquake had flattened towns along the Karakorum Highway killing nearly 10,000 people. I had traveled with a university team into the same mountains for similar relief work. Prime Minister Zulfikar Ali Bhutto had made a passionate appeal for funds around the world, taken a token helicopter trip to the destroyed town of Besham, and made fantastic promises for rehabilitation.

The clock is ticking. In barely two months from now, the mountains will get their first snowfall and temperatures will plummet below zero. There are simply not enough tents, blankets, and warm clothes to go around. Hundreds of tent clusters have come up, but thousands of families remain out under the skies, facing rain and hail, and with dread in their hearts. These families have lost everything but the tattered clothes on their backs. Some even lost

the land they had lived upon for generations - the topsoil simply slid away, leaving behind hard rock and rubble. Those without shelter will die.

From a special university fund we have pledged a dozen families to rebuild their houses. This number can be pushed up to fifty with the amount you have pledged so far (assuming 50K per house, where the cost is for wood and stone mostly). But ten thousand or more will be needed in the Mansehra-Balakot-Kaghan area alone, not to speak of adjoining Kashmir.

That's all for now.

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Marcelo Alonso (1921 – 2005)

Submitted by Laszlo and Gyongyi Baksay

It is with sadness that we send this note about Marcelo Alonso's death, on November 11, 2005. Professor Alonso was a member of the Department of Physics and Space Sciences at the Florida Institute of Technology in Melbourne, Fl. Previously he held faculty positions at the University of Havana, Cuba and Georgetown University, Washington, D.C.

For several decades, Marcelo Alonso has been a figure in the international physics enterprise. As Director at the Organization of American States he was strongly involved in efforts to find solutions to problems of global dimensions. His goal was always to achieve tangible results and make identifiable improvements for the region, the people and the science involved. He made his greatest impact in this area through his contributions to the development of science in Latin America. He was highly regarded and respected as a most competent scientist and a benevolent advisor who had a vision for the future and acted to shape it.

He has played an active role with agencies such as UNESCO, OECD, AIP, IUPAP, the Inter-American Nuclear Energy Commission, and the World University Federation. For example, he conceived and organized the first 3 Inter-American Conferences on Physics Education. This very successful series is still continuing today.

His record as a prolific writer and thinker includes 9 physics textbooks, which have been translated into 14 languages. Especially the classic introductory text “University Physics”, co-authored with Edward Finn, has remarkable impact on helping to educate students worldwide.

As an internationally leading authority in physics education he was traveling the world till the end of his life. In fact, the impact of his innumerable presentations might rival that of his textbooks. It

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The APS Forum on International Physics presents

The International Travel Grant Award Program (TGAP)

I. Background

The APS Forum on International Physics (FIP) recognizes that funding for collaborations between U.S. and developing country scientists is often insufficient to meet existing needs and opportunities.

While the needs are great, and though FIP has only limited resources to stimulate growth of longer term collaborations, a modest Travel Grant Award Program (TGAP) may make a significant difference. This TGAP underscores the aim of FIP to promote international scientific collaboration and exchange.

II. Purpose

Promote international scientific collaborations, especially among APS/FIP members in developing countries.

III. Amount of the award

Up to \$2000 for travel and lodging expenses for international travel while visiting a collaborator.

IV. Features

A. Time limit - once awarded, the time limit on the use of the award will be a maximum of 5 years.

B. Report - a report, with a 300 word public abstract, is required upon completion of the award; this report will be entered onto the FIP website.

C. Bi-directionality - the trip can be in either direction, with preference given for travel from developing countries to the U.S.

D. Preference - support for the growth of existing collaborations will be given preference over new ones, a measure of the former, for example, being joint publications.

V. Conditions and Criteria

A collaborative visit must be for a period of at least one month. One or both partners (co-applicants) in the collaboration must be APS/FIP members. When rank-ordering applications, consideration will be given to:

A. Merit

1. Past record of research accomplishments and promise of future accomplishments

2. Invited talks to be delivered during the trip, especially APS meeting talks

B. Need

1. Under-represented countries and ethnic groups will be given priority;

2. Resources available from other sources with matching funds (leverage) will be considered as a positive factor while potential support available, but not sought, from other sources as a negative factor.

VI. Start-up program

Up to five awards will be made over the next 5 years based on 6-month competitive cycles. The deadline for receipt of applications for the first cycle is December 1, 2004 with decisions made by December 15 for a starting date of January 1, 2005.

Applications are to be submitted via email to Noemi Mirkin (nmirkin@umich.edu). They should consist of a 500 word (maximum) narrative proposal, lists of up to 5 most relevant publica-

tions of the U.S. and foreign co-applicants, a statement of support provided from an appropriate representative of other sources (leverage), and a statement of who is (are) the member(s) of APS/FIP.

Applications received will be considered active for up to a maximum of two cycles. The Executive Committee of FIP will be responsible for reviewing the applications and will seek outside reviewers as needed. Confidentiality of the reviews is assured with reports going only to the co-applicants.

VII. Longer-term program

FIP invites funding partners to either continue this program or co-develop new programs that meet our combined objectives. Larger awards with broader aims and no restriction on FIP/APS membership are anticipated. For further information, contact James Vary, FIP/TGAP Chair (jvary@iastate.edu).

VIII. Acknowledgement of Financial Support

APS Forum on International Physics, APS Office of International Programs, US-Liaison Committee of IUPAP, APS Division of Nuclear Physics

TGAP 2005

17 applications were received for Round 2 of the Forum's Travel Grant Award Program (TGAP). The response of the reviewers was very enthusiastic regarding the overall strength of the proposals. Congratulations to the winners:

- **Milton Cole**, Pennsylvania State University and **E. Susana Hernández**, University of Buenos Aires on "Quantum Fluids Near Surfaces"

- **Robert DuBois**, University of Missouri-Rolla and **Antonio Santos**, Universidade Federal do Rio de Janeiro on "Positron Impact Studies: A Collaboration between the University of Missouri-Rolla and Universidade Federal do Rio de Janeiro"

2006 Eugene Feenberg Award for

Ray Bishop

The International Advisory Committee of the series of International Conferences on Recent Progress in Many-Body Theories announced the award of the tenth Eugene Feenberg Memorial Medal in Many-Body Physics jointly to **Raymond Bishop**, Professor of Physics at the University of Manchester, UK and **Hermann Kümmel**, Professor Emeritus, Institute of Theoretical Physics, Ruhr University Bochum, Germany. Prof. Bishop, a Member-at-Large of the Executive Committee of the APS Forum on International Physics, is cited for his "development of the coupled-cluster method toward a comprehensive /ab initio/ approach, and innovative applications across the full spectrum of subfields of quantum many-body physics."

The award will be presented at the 13th International Conference on Recent Progress in Many-Body Theories in Buenos Aires, Argentina, 5-9 December 2005



The 2005 FIP Sponsored Fellows

Alonso, Marcelo

Florida Institute of Technology

For his tireless efforts to strengthen scientific research throughout Latin America, for his leadership in global physics education, and for enriching physics understanding of students worldwide through his many textbooks.

Bishop, Raymond Francis

UMIST

For pioneering development of the coupled-cluster method and its innovative application across the full spectrum of subfields of physics, as well as for his leadership of the international community of many-body theorists

Guo, Hong

McGill University, Canada

For pioneering contributions to theoretical and computational modeling of quantum transport in nanoelectronic systems.

Kajino, Toshitaka

National Astronomical Observatory & Dept of Astronomy
Grad School of Science

For significant contributions to nuclear astrophysics and theoretical nuclear physics and for the promotion of scientific exchange between Japan and the international community.

Rudowicz, Czeslaw Zygmunt

City University of Hong Kong

For his significant contributions to optical and EMR spectroscopy of transition ions and for outstanding leadership in promoting international meetings and collaborations as Founder and President of the Asia-Pacific EPR/ESR Society.

Vicent, Jose Luis

Universidad Complutense

For his seminal contributions to the understanding of superconductivity in artificial layered structures and for innovative experimental contributions to the study of magnetic dots.

The INTERNATIONAL YEAR OF PHYSICS

A personal note by Marcelo Alonso, FIP sponsored fellow, Florida Institute of Technology

The 2005 International Year of Physics (IYP) established to commemorate the centenary of Einstein's 1905 Miraculous Year, in which he published five seminal papers that altered profoundly our understanding of the physical world, has generated a lot of interesting activities worldwide. I have had the opportunity of participating in some of those activities in Spain, Mexico and Colombia. Most of those activities have been geared toward making students and teachers acquainted with Einstein's contributions, but also have served to reflect on the conceptual revolutions in physics that took place during the 20th Century and their impact on physics research and the teaching of physics, something that hopefully will have a positive long term impact throughout the 21st Century. Although most of the activities in those countries have consisted of conferences (e. g. I attended one on the Frontiers of Science at the the Univ. of Salamanca, Spain), short courses (I offered one for physics teachers in the Bogota area), regional seminars and general publications (the Rev. Española de Física dedicated two issues to review articles on Einstein work), it should be noted that in some instances there have been activities geared toward making the general public aware of the relevance of Physics. For example, in Spain the IYP was inaugurated with a solemn act at the Cortes (Congress) and lottery tickets and stamps were issued with the logo of the IYP.

What will be the long term impact on physics research and teaching of the 2005 IYP remains to be seen. However 2006 has been designated the International Year of the Brain and this may offer a unique opportunity for physicists and neuroscientists to collaborate in unravelling the operation of the neural system at the fundamental molecular, atomic and electronic level, that still is not well understood.

Fellowship Nominations

The Forum on International Physics can sponsor the election to fellowship of a member of the American Physical Society. The Forum is anxious to recognize our foreign members who meet the criteria for fellowship. The deadline for nominations for FIP is April 1, 2006. Complete instructions can be found at:

<http://www.aps.org/fellowship/fellinfo.cfm>

The procedure is for the nominator to submit an official nomination form signed by himself and one other member of the APS, together with a vita and a number of supporting letters to:

Executive Officer

ATTN: Fellowship Program

The American Physical Society

One Physics Ellipse

College Park, MD 20740-3844

It is very important that you support your colleagues and nominate them for fellowship in APS.



Tidbits

Benefits of FIP Membership

FIP Travel Grants provide partial travel support for a physicist working in the U.S. who is a member of the American Physical Society to give a presentation at an international conference

Wheatly Award honors and recognizes the dedication of physicists who have made outstanding contributions to the development of physics in countries of the third world, by working with local physicists in research or teaching.

Fellowship nominations can be made through FIP.

Journal/Book Exchange allows for the donation of books and journals to other countries.

How to become a member

Membership in 2 Fora comes free with APS membership but you have to sign up.

Express your interest in international issues by **checking the FIP box** with your APS renewal.

To **join FIP** at **any other time**, sign up **on the APS website**

<http://www.aps.org/memb/unitapp.cfm>

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With the APS Forum on Physics and Society, we are planning a session on "Science and Development: Innovation Systems for Fighting Poverty". In addition, there will be an FIP-sponsored session on "Public and Private Funding for International Research", with panelists from the National Science Foundation, the Alexander von Humboldt Foundation and, the Civilian Research & Development Foundation. A third FIP session will be on the topic, "Scholars at Risk". This session will include as a participant, Yuri Orlov, the recipient of the First APS Sakharov Prize, whose establishment was supported by the FIP. At both the March and April meetings we hope to hold consultative meetings with representatives of various expatriate Physics groups. Those interested in participating in these meetings should contact Irving Lerch.

As you can see, it has been a busy year for the FIP and 2006 promises more of the same. I am confident I will be leaving the organization of the FIP in the good hands of its Chair-Elect, Irving Lerch and its Vice Chair, Herman Winick. I look forward to seeing you at the upcoming FIP functions.

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was on one of these 'missions' that he contracted a disease that eventually led to his death.

His contributions were well recognized around the world and he received many honors, including honorary doctorates in a number of countries. In 2005, sponsored by the Forum on International Physics, he was elected Fellow of the American Physical Society. (See p.10 of this issue for the citation). He was an active member of the FIP and one could always count on his contribution (see 2 articles in this issue).

With the passing away of Marcelo Alonso we have lost a most respected truly international statesman of physics. His many friends will miss him but it will be a consolation to know that his work is still bearing fruit today.

The **Marshak Lectureship**, endowed by Ruth Marshak in honor of her late husband and former APS president, Robert Marshak, is to provide travel support for physicists from "developing nations or the Eastern Block" invited to speak at APS meetings.

The award recipient for the 2006 March meeting is **Zohra ben Lakhdar** (Tunisia). She was nominated by FIP Executive Committee member Hilda Cerdeira and supported by the FIP.

FIP membership increasing. During the last year FIP membership increased by a record 10% and is now at 6.56% of the total APS membership. This is the highest since the International Physics Group became FIP. This ensures that FIP has a seat in the APS Council.

The **Beller Lectureship** was endowed by Esther Hoffman Beller for the purpose of bringing distinguished physicists from abroad as invited speakers at APS meetings.

The awardees for 2006 are: **Pierre-Giles de Gennes**, France (March meeting in Baltimore), nominated by the Division of Polymer Physics, and **Albrecht Wagner**, Germany, Director of DESY, the German Accelerator Center in Hamburg, (April Meeting in Dallas), nominated by the Division of Particles and Beams and the Division of Particles and Fields. Along with the travel funds of up to \$ 2,000 each, the awardees will be honored in the meeting program and/or other printed materials as recipients of the Beller Lectureship Award.

The FIP Newsletter is inviting Letters To The Editor. These may be comments on previous Newsletter articles, information items, or brief discussions of topics of potential interest to the FIP membership. They are subject to editorial review.

E-mail submissions to baksay@fit.edu.

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