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SCIENCE BULLETIN

National Science Council
106, Ho-Ping East Road, Sec. 2,
Taipei, Taiwan, Republic of China

行政院 國家科學委員會 資料室

The National Science Council Joins the International Foundation for Science

The National Science Council (NSC) has been accepted for membership in the International Foundation for Science (IFS). As per Foundation regulations, the NSC will become an official member after at the January 1991 meeting.

Including the three countries which were accepted this year, there are now 73 member countries in the IFS. Due to the international importance of the IFS, the NSC applied for membership in March of 1989. However, Communist China applied for membership at the same time and requested that the IFS change the Council's name to "Science Council Located in Taipei," which would thus make the NSC eligible for status of simply a regional representative and not a member country. Fortunately, NSC chairman H. M. Hsia's trip to Europe in the summer offered him the opportunity to negotiate the situation in person. Chairman Hsia put Mr. H. Y. Meng, Director of the NSC Science and Technology Office in West Germany, in charge, and, with the help of the R.O.C. representative in Sweden and the support of several countries with which the R.O.C. maintains science and technology cooperation (including West Germany, Holland, Switzerland, Austria, and Sweden), the NSC succeeded in having Communist China's request rejected. As a result, the Communists withdrew their application and the R.O.C. is listed as a "Governmental Sponsor" under the name "China, Republic of." After the country name, the "National Science Council (Taipei)" is listed as an official member of the IFS. The NSC has been directed to send a representative to observe at the 16th Sponsors' Committee Meeting to be held in Bangkok, Thailand. Director H.Y. Meng has been designated to represent the NSC in Bangkok.

The following points have also been agreed upon:

1. The NSC will offer US$50,000 in sponsorship to the IFS for 89/90. At an appropriate time in the future, this amount may be increased.
2. The NSC will actively participate in all IFS activities. The NSC is considering holding a "Workshop/Training Course" in order to raise the level of science knowledge and understanding of the Chinese people.
3. The NSC will send a mission to Zimbabwe in 1991 to attend the triennial meeting.

Sino-American Symposium on Long-Term Change in Air Quality and the Effect on Climate

On November 14 and 15 (1989), the National Science Council of the Executive Yuan and the National Science Foundation (NSF) of the United States will meet in the International Conference Room of National Taiwan University. The purpose of the conference is for both parties to exchange relevant information regarding trends in the change of air quality. The NSC will put forth domestic research results as well as research towards the feasibility of establishing a "Global Air Quality Background Station in Taiwan."

This symposium is sponsored jointly by the National Science Council and the National Science Foundation. The Department of Atmospheric Science of National Taiwan University, the Environmental Protection Administration, and the Central Weather Bureau

of the Ministry of Communications all acted as secondary sponsors.

Since the hole in the ozone layer over Antarctica was discovered in 1985, research in the fields of atmospheric science and air pollution has entered a new era. The pollution problems of every country, even the smallest regions, have become of world concern. The effects are so far-reaching, affecting the world climate and man's living environment. Therefore, in September of 1987, the *United Nations Environmental Organization* promoted the Montreal Pact. The pact, which was supported by 31 countries (including the United States, Japan, West Germany, USSR, and England), is to lead to world cooperation in controlling materials which destroy the earth's ozone layer. This is the first step towards world cooperation in environmental protection. This is an indication that, in the future, mankind will continue to have worldwide efforts towards environmental protection.

The next step in worldwide environmental protection is to aim for "Cooperation in Control of Worldwide Changes in Climate." Since the industrial revolution, carbon dioxide and other gaseous and suspended particles have been increasing constantly. This situation has led to the increased greenhouse effect and the gradual warming of the earth's surface.

The long-term change in air quality and its effect on climate have become a major point of concern of scientists around the world in recent years. The R.O.C. lacks long-term atmospheric background information and research and data on radiation and climatic changes. As a result, in cooperation with Professor Julius Chang (of the Atmospheric Research Center of the State University of New York) and Doctor Shaw Liu (of the U.S. National Oceanography Atmosphere Administration), the NSC promoted the "Sino-American Symposium on Long-Term Change in Air Quality and the Eff on Climate" with the following go in mind:

1. Exchange relevant informat with other countries.
2. Promote domestic research atmospheric changes and the eff on climate.
3. Research the possibility of tablishing a research laboratory in out-of-the-way region in Taiwan. T laboratory would be a "South-E Asian Subtropical Atmospheric Che istry/Radiation/Climate Backgrou Research Station." It would work cooperation and exchange informati with other countries. On a long-ter basis, it would collect and analyze da regarding the effects of regional pollution problems on the atmosph in general, radiation levels, and lon term changes in climate.

Laser Spectroscopy and Laser Chemistry Research Plan

The National Science Council (NSC) of the Executive Yuan will be promoting a research plan in the studies of laser spectroscopy and laser chemistry. To this end, the NSC has approved grants totalling more than NT$660,000 to National Tsing Hwa University and Academia Sinica for the purchase of mid-size equipment. The equipment will be used to set up high-caliber laser testing laboratories: the Laser Spectroscopy and Photo Chemistry Research Laboratory, the Metal Vapor Research Laboratory, and the Atmospheric Chemistry Research Laboratory.

In accordance with the "Chemistry Research Position Paper," in March of 1987, the NSC invited domestic laser chemistry research personnel to attend a panel discussion. They devised the plan to promote research in laser spectroscopy and laser chemistry and to establish the above-mentioned laboratories in order to make the most efficient use out of large-scale research equipment.

Lasers are one of the most powerful tools available in the field of chemistry. The use of lasers in research has spread to every field of science. The development of laser chemistry has profoundly affected the understanding of the chemical reactions of minute structures. Recently, laser technology has been used in chemical separation, analysis and synthesis techniques, and electronic materials. These applications have proven highly effective.

Currently, there are eight laser instruments installed in the Atomic and Molecular Science Institute of the Academia Sinica and the Chemistry Institute of Tsing Hwa University; however most of the equipment is incomplete. Using high resolution of supersonic jet expansion and low temperature matrix isolation system together can lead to a greater understanding of free radical spectroscopy, mass spectroscopy and the fluorescente. Greater use of multiple las ionization to detect metallic particl and molecules has greatly improv analytical accuracy. The level of r search in other related fields – such gas phase reaction rate, the inte mediates and products in radical rea tions, and heterogeneous chemic reaction – has also been raised signifi cantly.

The laser spectroscopy and lase chemistry research plan will be pro moted for a year starting August 1s 1989, and continuing through Jul 31st, 1990. Money has been set asid for Academia Sinica Atomic an Molecular Science Institute (NT$4.5 million) and Tsing Hwa Universit Chemistry Institute (NT$2.101 mi lion). The Atomic and Molecular Sc ence Institute of the Academia Sinic has further designated NT$1.35 mi lion for the purchase of dye-laser an excimer laser.

** The Major S & T Projects Supervised By Executive Yuan in FY 1990 **

Agency	Important Governmental S&T Projects	Execution Unit
Ministry of Economic Affairs	1. Industrial Material Research and Development Program	Industrial Technology Research Institute (Materials Research Laboratories)
	2. Electronics Research and Service Organization	Industrial Technology Research Institute (Electronics Research and Service Organization)
	3. Development of Integrated Service Communication Technology	The Institute for Information Industry
	4. Application Research on High Tc Superconducting Materials	Industrial Technology Research Institute (Materials Research Laboratories)
	5. Industry Technology Information Service	Industrial Technology Research Institute
	6. Automation Industry Technology Research & Development	Industrial Technology Research Institute (Mechanics Research Laboratories)
	7. Biotechnology Development and Promotion Program	Development Center for Biotechnology
	8. Environment Protection and Pollution Control Technology Research and Development	Industrial Technology Research Institute Development Center for Biotechnology Metal Industries Development Center China Textile Testing and Research Center
Ministry of Communications	9. Meterological System Computerization Automatical and Numerical Forecasting Project of Central Weather Bureau	Central Weather Bureau
	10. Applied Research in Telecommunications	Directorate General of Telecommunications (MOC)
	11. Research and Development of Information Technology	Directorate General of Telecommunications (MOC)
	12. Study Development of Switching Technology	Directorate General of Telecommunications (MOC)
Department of Health	13. Hepatitis Control	Department of Health
Environmental Protection Administration	14. Research of Environmental Science & Technology	Environmental Protection Administration
Atomic Energy Council	15. Development of Nuclear Power Plant Reload Technology	Institution of Nuclear Energy Research
	16. Nuclear Fuel Performance Evaluation Program Plant Operation	Institution of Nuclear Energy Research
Council of Agriculture	17. The Research and Development of Food Flavor	Council of Agriculture
Taiwan Provincial Government	18. Squid Survey of Northern Pacific Ocean	Fishery Research Institute
	19. Explotation and Examination of the Fishery Resources in South China Sea	Fishery Research Institute
National Science Council	20. The Reinforcement of S&T Statistic Mid-Term Plan	National Science Council
	21. The Promotion, Implementation and Regulation of "the Republic of China Ten-Year Science and Technology Development Plan (1986-1995)"	All relevant departments and/or authorities

Sino-Japanese Symposium on Pharmacy Technology

From November 22nd to the 25th, Asia and Pacific Council for Science and Technology and the Chinese Pharmacy Association will be co-sponsoring a Sino-Japanese Symposium on Pharmacy Technology. The National Science Council and the Department of Health are both acting as secondary sponsors. The symposium, which is to be held in the National Central Library on Chung Shan South Road in Taipei, will focus on theory and research results.

Opening ceremonies will be held in the library on the third floor on the 23rd at 9:00 a.m. Dr. J. Y. Lin, the president of the Chinese Pharmacy Association, will preside over the ceremonies. A total of 38 doctors of pharmacology – including those in academia and in manufacturing – are expected to arrive from Japan. Two hundred seventy-seven local scholars and association members have already signed up, making a current total of 345 expected to attend.

台北市信義路一段二七七號

Sino-American Cooperation in Hazard Mitigation: Discussion Meeting

The National Science Council of the Executive Yuan and the Central Weather Bureau jointly sponsored a "Discussion Meeting for Sino-American Cooperation in Hazard Mitigation." The meeting, which began on September 31st, lasted for three days giving the scholars and experts from both sides who attended the meeting time to discuss certain problems. The meeting arrived at the following three conclusions:

1. A "Hazard Mitigation Information Center" should be established in Taiwan. This Center would collect, analyze, and disseminate pertinent information to assist decision makers. The Center would also help to strengthen communications between hazard mitigation organizations and to coordinate the establishment of a disaster inspection organization. Another important function of the Center would be to improve public awareness a sense regarding hazard mitigation.

2. A "Hazard Mitigation Demonstration Area" would be drawn up. An appropriate place would be chosen in Taiwan to be used for demonstrations related to typhoon, heavy rain, flooding, earthquake, and landslide disasters.

3. In order to facilitate the above two projects, a preparatory task force will be set up domestically as soon as possible. In April of next year (1990), a meeting will be held in Washington, D.C., to review the progress.

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