



# SCIENCE BULLETIN

National Science Council  
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## The Lectureship Program of the National Science Council

### I. Foreword

The profound domestic need for science and technology to help coordinate industrial development has led to a flood of applications to the Lectureship Program of the National Science Council. In the early stages of the program, applications came predominantly from National Taiwan University, National Tsing Hua University, National Chiao Tung University, and the Academia Sinica. The field has since expanded to include virtually all post high school institutions. Budget for the program now stands at more than NT\$20 million, and, even with that sizable sum, there is not really enough to go around.

One of the main aims of the National Science Council is to serve academia. Academia, in turn, serves the society and the nation. Following is a general outline of the development and the operations of the lectureship program from the perspective of providing these services.

The Lectureship Program was initiated in 1987. The major purpose of the program is to invite renown scholars and experts to come to the R.O.C. to fill short-term lectureship positions. At the time when the program was initiated, there was no organization in the R.O.C. which organized such visits on an annual basis. These lectureships would help to promote academic exchange and thus elevate research standards domestically. The more than 600 overseas scholars who came to Taiwan through the program from 1987 through 1992 have enhanced the foundation of science in the R.O.C. Academic institutions interested in

support from the program should contact overseas scholars needed for ongoing research and then place an application with the National Science Council. If the application is approved, the National Science Council will invite the named scholar on behalf of the academic organization and will provide a fixed amount of financial assistance.

Over the years, the domestic body of academically oriented researchers has grown and international academic exchange has also increased. In order to keep pace with this growth and to help coordinate the promotion of the Six-year Plan for Sci-tech Development, the National Science Council revised the Lectureship Program on March 11, 1992. The International Programs Division of the National Science Council has been placed in charge of designing the lectureship program so that it can be properly coordinated with all other international exchange programs. All divisions, both domestically and overseas, of the National Science Council must work together and maintain close communication for the program to be wholly effective.

### II. Purpose

The many years of the Lectureship Program have already proven to have a beneficial effect on sci-tech development within the R.O.C. and on international academic exchanges. There have been numerous changes in the domestic sci-tech environment over recent years. The increase in the size of the research body, the gradual establishment of a variety of national research labora-

tories, the promotion of the projects which fall under the Six-year Plan for National Development, the planning of the Science City in Hsin Chu, and the economic growth and resultant increase in the standard of living all demonstrate the need for domestic academic sci-tech research to aim for ever greater results. The National Science Council has restructured the lectureship program based on the ever changing needs of the environment. The new program focuses on two main goals: supporting academic research and coordinating national sci-tech and economic developmental policies.

#### A. Expand support for academic research

Greater support for academic research can help raise sci-tech research standards domestically. New fields can be breached and international sci-tech cooperative exchanges can be increased. Through carefully planned support programs, research can be balanced between sci-tech fields and the humanities and social sciences.

#### B. Coordinate national sci-tech and economic development policy

Economic development and resultant improvements in the standard of living can be best accomplished with a strong sci-tech foundation.

The most important difference between the regulations governing the Lectureship Program as revised in March 1992 and the original plan is in the standards that have been set for visiting lecturers. The level of excellence required has been



raised, and lecturers must be in a strategic area for development of the domestic environment. The number of lecturers allowed has been reduced but the compensation to be given during their stay has been increased proportionately.

In August 1991, the National Science Council hosted Dr. Alan Schriesheim, President of the Argonne National Laboratory under the Department of Energy of the United States. Dr. Schriesheim spoke at the National Synchrotron Radiation Research Center and the Industrial Technology Research Institute (ITRI). The major purpose of Dr. Schriesheim's visit was to share ideas and provide guidance on the establishment of the national laboratories and research centers in the R.O.C.

In April 1992, the National Science Council hosted Dr. Chang-Lin Tien, President of UCLA Berkeley to participate in the Conference on the Six-year Plan for National Development and Sino-American Technology Cooperation. While here, Dr. Tien offered advice regarding the planning and development of the Science City in Hsin Chu and related affairs. All this was carried out the Lectureship Program.

The above examples demonstrate how the Lectureship Program has been re-tailored to fit the needs of the domestic sci-tech environment.

Additional revisions to the lectureship program include the computerization of all relevant administrative matters. The impetus to this adjustment is so that the program can be better managed through the National Science Council administrative system. Once this task has been completed, all information can be easily stored for reference or statistical analysis so as to improve the program even more in the future.

### III. Program Design

The newly designed regulations will put greater emphasis on improving the quality of speakers invited through the lectureship program and on coordinating with the needs of domestic mission-oriented research projects. A limit of 100 speakers will be sponsored per year. Program regulations stipulate the type of speakers sponsored and the responsibilities of speakers during their stay in the R.O.C.

#### A. Speaker qualifications

##### 1. Standard speakers

a. Academic researchers who are members of a nationally sponsored research institute, regardless of nation of origin, who have attained outstanding research results.

b. Scholars of all disciplines who have new outstanding, far-reaching or innovative theories.

2. Special speakers: This category is limited to recipients of the Nobel Science Prize during the past ten years. Those speakers whose topics are relevant to current national sci-tech development goals or annual economic development projects will be given first priority.

#### B. Rights and responsibilities of the speaker

1. The National Science Council provides a cash stipend to the speaker. This grant is provided to cover air transportation to and from Taiwan and to reimburse for certain food and lodging expenses during the speaker's stay.

a. Standard speakers: Those from Asian regions will be given US\$3,500. Visitors from South Africa and European nations will receive US\$6,500. Speakers coming from Canada, Australia, or the United States will be awarded US\$5,500.

b. Special speakers: All speakers who qualify under this category will receive US\$10,000 regardless of nationality.

2. Speakers invited through the Lectureship Program should remain in the R.O.C. for a minimum of five work days and should be involved in at least two academic activities, such as workshops. The speaker must also provide the National Science Council with a paper of from three to five pages long that can be presented domestically.

3. In addition to providing a stipend to the speaker, the National Science Council also provides a support grant to the host organization. Grants will be given based on actual expenditure (as proven with appropriate receipts) but will not exceed NT\$60,000 for each standard speaker or NT\$80,000 per special speaker. Expenses that qualify for support grants must fall into one of the following categories.

a. Insurance: The host organization will purchase a NT\$2 million

insurance plan (under the International Technical Cooperation Insurance Plan offered by the Life Insurance Department of the Central Trust of China) for each speaker and family member accompanying him/her.

b. Miscellaneous expenses: Conference site and administrative expenses, costs for printing scientific papers, banquet expenses, car rental and other transportation fees, insurance, costs for advertising in various media, gifts, etc.

4. The Lectureship Program is geared strictly towards academic endeavors. Speakers who receive support through the Lectureship Program may not accept aid from any other organization.

### IV. Afterword

On March 11, 1992, in the face of changes in the domestic sci-tech research environment, the National Science Council revised the Lectureship Program as outlined in this paper. In order to make the Lectureship Program more effective in strengthening academic research and in supporting national sci-tech and economic development goals, the personal qualifications for speakers under the program have been made more demanding. At the same time, the speakers' fields must correspond with the general direction of national development policy. To compensate for the stricter requirements, the recompense has also been increased appropriately.

A secondary goal of the program revisions is to tailor the program to the computerized management operations of the National Science Council. All aspects of the program, including the application materials and procedures and the operations have all been standardized.

In recent years, the number of academic institutions applying for aid through the Lectureship Program have increased significantly. In order to simplify program-related procedures for these organizations the International Programs Division of the National Science Council drew up the "Financial Procedures for the Lectureship Program" in July 1992. This publication provides reference in many matters concerning program aid, including filing for payment and concluding a case. A copy of this publication was sent to all relevant administrative units.

# NSC and ITRI Boost Development of Precision Instruments

Ranking officials of two ROC national research institutions, the Precision Instrument Development Center of the National Science Council (NSC) and the Center for Measurement Standards of the Industrial Technology Research Institute (ITRI), have reached a consensus on their division of labor in the joint promotion of the independent development of the domestic precision instruments industry. These two institutions will play an upstream and midstream role for the nation's precision instruments industry, integrating with downstream industries having a mature manufacturing capability to strengthen the overall operating system for instrument development and giving support to high-tech industries in regard to their precision instrument requirements.

Following the assumption of the post of director of the NSC's Precision Instrument Development Center by Huang Wen-hsiung, the center will follow flexible directions in its future operations. At the same time, 20% of its expenditures will be used

for the development of precision instrument technology so as to manifest the fruits of research and development work in the competitive structure of industry as well as help the center build up its own style and technological character.

Since taking over the directorship of the center, Huang Wen-hsiung has worked vigorously to set up cooperative relationships with the units of ITRI that are related to the development of precision instruments. He has worked especially hard to guide the establishment of the national standards laboratory and the measurement standards center, which embodies the ROC laboratory accreditation system. He has also engaged in intensive discussions with officials of the Center for Measurement Standards about the directions and details of future cooperative efforts. Since standards form the foundation for the development of precision instruments, the Precision Instrument Development Center and the Center for Measurement Standards have chosen the area of instrument standards as

the starting point of their initial cooperation. From that starting point they will move, step by step, to develop and establish the precision instrument technology needed in Taiwan.

Since the Center for Measurement Standards has already set up good models for the cooperative division of labor with such private-sector organizations as the Taipei Instruments Commercial Association, the Metrology Society, and the Society of Sound and Vibration, its entry into the upstream force for the development of basic technology, together with the bringing together of high-tech industries from the Hsinchu Science-based Industrial Park (including the five major industries of integrated circuits, opto-electronics, communications, precision machinery, and computer peripherals) to participate jointly in the development of precision instruments, will help the instrument industry to take root and grow in the ROC, thereby breaking away from the long-standing dependence on imports for the precision instruments needed in Taiwan.

## Study of Hepatitis E Infection in Taiwan Approved

The National Science Council (NSC) has approved funding for a study run by Dr. Lee Sheo-dong of the Gastroenterology Department of Taipei Veterans General Hospital, titled: A Study of Hepatitis E Virus Infection among the Population of Taiwan. The study began on Feb. 1, 1993, and will run for one year.

An NSC spokesman said a study of hepatitis E had never been undertaken in Taiwan. Recently scientists have, through gene recombinant technology, produced specific protein antigens of the hepatitis E virus, and then used these antigens to test for the presence of hepatitis E antibodies in the serum of patients. The enzyme immunoassay for hepatitis E is easy and convenient, and perfectly suited to routine testing and large-scale testing diagnostic

approaches.

The immune reaction of this method of analysis has already been demonstrated many times in tests on serum from patients in regions where the infection rate is high, proving that the culprit in the spread of hepatitis in these areas was, in fact, the hepatitis E virus.

Although outbreaks of hepatitis E are in most cases either epidemics or sporadic incidents, in developed countries such as England and the United States there are scattered cases reported. These originate in hepatitis E viruses being brought back from infected areas by travelers.

Therefore, although there has not been an outbreak of hepatitis E in Taiwan, an "import" of this sort is still possible in this region.

Meanwhile, there have been re-

ports that immunity to hepatitis E is temporary in nature, and because of this epidemics often recur in the same region. Therefore the question of whether Chinese people are different in terms of immunity to the hepatitis E virus is one that needs further study.

In order to understand the rate of infection of hepatitis E in Taiwan and the role played by hepatitis E among the non-A and non-B types of hepatitis, this study will follow patients who have a positive reaction for hepatitis E virus antibodies, in order to understand the durability and immune effect of these antibodies.

The results of this study will benefit epidemiology, preventative medicine and liver studies, and will be a tremendous contribution to the health of the people as a whole.

# Academic Interchange Across the Taiwan Straits

To promote academic and technological interchange between Taiwan and mainland China, the National Science Council recently gave approval for three scientists from the mainland – Wang Yuan, Sun Hung-chou, and Chou Chuan – to come to Taiwan and participate in research work under the “Guidelines for the Recruitment of Mainland Scientific and Technical Personnel for Research Work in Taiwan.” Two of the scientists, Wang Yuan and Sun Hung-chou, were recruited directly from the mainland; this represents a departure from the usual practice of the past, when mainland Chinese

personnel recruited to come to Taiwan were mostly living in foreign countries, and is a clear indication of the progress made in exchanges across the Taiwan Straits.

Of the three mainland scientists approved to come to Taiwan, Wang Yuan is a research professor and member of the mainland's Chinese Academy of Science, as well as a professor in the physics department of Tsing Hua University there. His coming, unlike past visits by mainland scientists (such as Kuan Wei-yen) living in foreign countries, has a more concrete significance for the acceleration of interchange across

the straits.

Wang Yuan, Sun Hung-chou, and Chou Chuan all hold important academic positions in their respective specialized fields. Wang Yuan's expertise is in number theory and its application; he was once head of the mathematics association in the mainland, and he will come to Taiwan to participate in research work for the Academia Sinica. He will be on the island for approximately three months. Sun Hung-chou, who is specialized in the theory of nuclear groups, will come to Taiwan to carry out research work at National Tsing Hua University. He will stay in Taiwan for six months.

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