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# China Report

SCIENCE AND TECHNOLOGY

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CHINA REPORT  
SCIENCE AND TECHNOLOGY

No. 215

CONTENTS

PEOPLE'S REPUBLIC OF CHINA

APPLIED SCIENCES

Symposia Discuss Reforms in Surveying, Mapping  
(CEHUI XUEBAO, No 2, 1983)..... 1

Vacuum Society Admitted Into International Union  
(XINHUA, 6 Nov 83)..... 4

LIFE SCIENCES

Nuclear, Radiation Medicine Committee Meets  
(XINHUA, Nov 83)..... 5

Survey of Hemoglobinopathy in China  
(ZHONGHUA YIXUE ZAZHI, No 6, 1983)..... 6

Briefs

Tianjin Infectious Disease Hospital	15
International Immunology Symposium	15
Oncology Hospital in Beijing	16
Tumor Treatment	16
Leukemia Cure	16
Cancer Center in Xiamen	17
Qinghai Health Association	17

SCIENTISTS AND SCIENTIFIC ORGANIZATIONS

Membership of Sichuan Scientific Advisory Group  
(SICHUAN RIBAO, 30 Sep 83)..... 18

Briefs

Gansu Science Center	20
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ABSTRACTS

COMPUTERS

XINXI YU KONGZHI [INFORMATION AND CONTROL] No 4, 1983..... 21

## APPLIED SCIENCES

### SYMPOSIA DISCUSS REFORMS IN SURVEYING, MAPPING

Beijing CEHUI XUEBAO [ACTA GEODETICA · CARTOGRAPHICA SINICA] in Chinese No 2, 1983 pp 159-160

[Text] Under the arrangement made by the Chinese Scientific Association, the China Surveying and Mapping Society held two symposia on January 17 and March 4, respectively, to discuss the problems of creating a new situation for the surveying and mapping community, and reforms in surveying and mapping work. The two symposia were chaired by the chairman of the society, Comrade Li Tingzan (2621 1694 6363), and the secretary of the society, Comrade Chen Junyun (7115 0193 0516), respectively; the symposia were attended by 150 people. The invited attendees included department heads, specialists, as well as society managers, chairmen, deputy chairmen, and secretaries of various committees, and a selected number of senior surveying and mapping technicians.

The main topics of the symposia were concerned with promoting the spirit of the 12th CPC Congress, and the question of how to create a new situation for the surveying and mapping community, and carrying out reforms in surveying and mapping work, so as to provide better service for the four modernization program. During the symposia, valuable and innovative suggestions were offered in the areas of future development trends, establishment of new organizations, economic systems, potential customers and cooperative efforts within China's surveying and mapping community. In particular, numerous comments were made on the problem of overcoming the phenomenon of "eating from a common rice bowl."

#### I. On the Problem of Creating a New Situation for the Surveying and Mapping Community

The surveying and mapping workers in this country have made significant contributions to China's economic and defense construction through their diligence, courage and personal sacrifices. Within a period of less than three decades, they basically completed the surveying and mapping of 9.6 million sq km of territory in this country. This achievement ranks among the top in the world. Since the 11th CPC Congress, much surveying and mapping work has been done and significant numbers of finished maps have been produced for China's socialist modernization program. But they still fall considerably short of China's development needs; there is still a big gap between supply and demand. Also, the production cycle of finished maps is

quite long, the quality should be further improved and the variety is inadequate. These are the weak links in today's surveying and mapping work.

#### A. Cooperation Between Different Departments Must Be Reinforced

In this country, the administrative department is in charge of carrying out China's basic surveying and mapping work, but other specialized departments have their own large surveying and mapping teams to serve their particular needs. Due to the lack of coordination among different departments, there has been a considerable amount of duplication both in surveying and mapping work and in the procurement of foreign instruments and equipment, resulting in financial waste to the state. Therefore, increasing coordination and cooperation between the departments should be a problem of high priority for all departments. The National Bureau of Surveying and Mapping has the responsibility of overall management of the surveying and mapping work of the entire country; at the same time, it should try to expand the scope of surveying and mapping services. In addition, it should also have the following responsibilities: coordinating all the surveying and mapping workers in specialized industries; consolidating the manpower from all sources; sponsoring the research work in surveying and mapping sciences and exchange of results, information, and technical experience; organizing efforts to establish rules and regulations for surveying and mapping work; and coordinating joint efforts on major projects. Through coordinated efforts, significant contributions can be made toward the goal of socialist modernization.

#### B. The Direction of Development of Surveying and Mapping Technologies Must Be Clearly Defined

Development of new technologies in surveying and mapping is constrained by China's economic conditions. We cannot pursue every new technology that other countries have; we must devote our efforts to those which are clearly needed and feasible. Some new technologies require large investments; for these large projects, we must first perform extensive research, collect different opinions, and make our decisions only after consideration. In conjunction with the development of new technologies, we must also emphasize the development of conventional technologies.

### II. On Reforms in Surveying and Mapping Work

#### A. Establishing a Surveying and Mapping System Consistent With the Needs of the Society

It is feasible from a long-term and overall point of view to establish a unified organization which governs all industries, all regions and all departments in order to avoid duplication and waste in manpower, materials and financial resources. Such an organization can also facilitate map construction, reduce the production cycle of finished maps and increase economic benefits. Furthermore, consideration can also be given to the establishment of a survey company which spans all industries and departments.

## B. Promoting the System of Assigned Responsibilities

The problem of "eating from a common rice bowl" also exists in China's surveying and mapping community; as a result, the socialist activism of the surveying and mapping workers cannot be fully realized. An effective way to mobilize the workers, to improve efficiency and to increase economic benefits is to promote various forms of responsibility systems at the department level and unit level according to individual conditions. At the same time, efforts should be made to actively pursue foreign contracts in order to introduce China's surveying and mapping services to the international market. This is also an important aspect in expanding the scope of our service. In order to establish a good responsibility system, the National Bureau of Surveying and Mapping should set up an overall plan of assigning quotas for surveying and mapping work.

C. In the area of surveying and mapping education, efforts should be made to correct the following problems: 1) due to overspecialization, graduates are rather narrow in their field of knowledge and not sufficiently adaptable in doing their work; 2) the policy of assigning graduating students is not always fair; some departments are flooded with college graduates who cannot apply their training due to lack of work, while other departments do not have enough college graduates. This phenomenon is abnormal and must be corrected.

3012

CSO: 4008/172

APPLIED SCIENCES

VACUUM SOCIETY ADMITTED INTO INTERNATIONAL UNION

OW061358 Beijing XINHUA in English 1323 GMT 6 Nov 83

[Text] Nanjing, 6 Nov (XINHUA)--The Chinese Vacuum Society was recently admitted into the International Union for Vacuum Science, Technology and Applications.

It was announced by Jin Jianzhong, president of the Chinese Vacuum Society, at the society's second national meeting, which opened here today.

Founded in 1979, the Chinese society consists of six affiliated specialized committees and has a membership of over 1,400.

Speaking at today's meeting, President Jin Jianzhong said China has made considerable progress in studying and applying vacuum science and technology in recent year. Vacuum technology has been widely applied in astronautics, nuclear energy, laser, electronics, metallurgy, and petroleum and textile industries in the country.

President Jin also said that Chinese scientists have conducted academic exchanges with their counterparts in the United States, Britain, France, Japan, Switzerland and Austria. Dozens of papers on vacuum technology written by Chinese scientists have been published abroad, he added.

Jin Imachi, an official of the International Union for Vacuum Science, Technology and Applications, attended today's opening ceremony.

CSO: 4010/08



LIFE SCIENCES

NUCLEAR, RADIATION MEDICINE COMMITTEE MEETS

OW051144 Beijing XINHUA in English 0857 GMT Nov 83

[Text] Beijing, 5 Nov (XINHUA)--All China's provinces, municipalities and autonomous regions except Tibet are using nuclear technology in medical diagnosis, treatment and research, according to Professor Wang Shizhen, president of the Chinese Society of Nuclear Medicine.

Professor Wang is attending a three-day meeting of the nuclear and radiation medicine committee which opened here today. He is chairman of the committee.

He said over 800 hospitals and research institutions with 4,000 staff have taken up nuclear technology, since China applied isotopes to medical research in 1956. About one million patients are diagnosed or treated with nuclear technology in China each year, he added.

China has made much progress in nuclear organimaging and functional tests, he said. Imaging is a conventional clinical method for testing organs including liver, gallbladder, brain, thyroid, kidney, and lungs. Liver scanning is indispensable in diagnosing liver cancer, Professor Wang said.

Beijing now has over 50 hospitals using or studying radiation and isotopes.

Isotopes have been widely used in China to study physiology, bio-chemistry, pharmacology, microbiology and parasitology. Nuclear technology has also been employed to analyze the active principles of more than 60 medicinal herbs, while isotope tracing has helped research on acupuncture anesthesia, family planning, tumors, heart disease, immunology and molecular biology.

Noting that China still lags behind the advanced world standards in nuclear medicine, Professor Wang suggested that nuclear medicine centres be set up to train more professionals and develop nuclear medical equipment. He also called for more international academic exchanges in the field.

More than 30 specialists and professors from Beijing, Shanghai, Tianjin, Jiangsu, Sichuan, Fujian and Guangdong are attending the meeting. They will discuss major research projects and development plans for nuclear and radiation medicine.

CSO: 4010/10

## LIFE SCIENCES

### SURVEY OF HEMOGLOBINOPATHY IN CHINA

Beijing ZHONGHUA YIXUE ZAZHI [NATIONAL MEDICAL JOURNAL OF CHINA] in Chinese  
No 6, 1983 pp 382-385

[Article by National Coordination Group of Hemoglobinopathy Research\*: "A Survey of Hemoglobinopathy in 600,000 People of 20 Provinces, Cities and Autonomous Regions"]

[Text] In the winter of 1979, the Chinese Genetics Association's first lecture on human and medical genetics studies was held in Changsha. Delegates to the conference, through consultation, founded the National Coordination Group of Hemoglobinopathy (Hb) Research and decided to carry out a nationwide survey of Hb. In March 1980, the Coordination Group held a study class in Hb survey techniques to formulate the survey program and unify the survey method. Up to October 1982, the various units of the Coordination Group has surveyed 606,613 people in 20 provinces, cities and autonomous regions. The following is a report of the results of the survey.

#### I. The State of Identifying Abnormal Hb:

A. Rate of identification in various areas: see Table 1. Among 606,613 people, 1,785 cases of abnormal Hb have been identified. The total rate of identification is 0.29 percent.

B. Rate of identification among various nationalities: the targets of the survey belong to 37 nationalities. Abnormal Hb was discovered in 24 of the nationalities. We are listing in Table 2 the survey results with accurate nationality records. Those nationalities which have been surveyed but among which abnormal Hb has not yet been discovered are: the Mulao, the Daur, the Oroqen, the Hezhen, the Manchu, the Ewenki, the Ozbek, the Tatar, the Russian, the Salar, the Gaoshan, the Bai and the Gelo.

C. Types of abnormal Hb (Table 3): those determined to be of the first-level structure include 32 types and 284 cases, and 7 of the types are discovered for the first time. The work of analyzing the first-level structure was completed mainly through the coordination of the Medical Genetics Research Office of the Shanghai Children's Hospital, the Basic Medical Research Institute and the Hematology Research Institute of the Chinese Academy of Medical Sciences, the Hainan Medical College and various investigating units.

D. The distribution of abnormal Hb: as far as the geographical distribution is concerned, Hb E has been discovered in 14 provinces, cities and autonomous regions. A total of 106 cases has been identified in the Changjiang basin and various provinces south of the basin, while only 6 cases have been seen in the north, exhibiting a clear trend of having more cases in the south than in the north. At present, Hb New York and Hb Q-Thailand are seen only in southern provinces, while Hb J-Bangkok and Hb G-Chinese are also seen mainly in the south. But Hb D-Punjab seems to appear more often in the north. The geographical distribution of both Hb G-Taipei and Hb G-Coushatta is fairly widespread and Hb Wuming-Wenchang is seen only in Guangdong and Guangxi. Only three cases, in three respective families, of Hb Leiden of the amino-acid deficient type have been seen in Pingxiang, Jiangxi.

We have to wait until the structural analysis of the samples from all the areas has been completed before the incidence of the various types in various areas and among the nationalities can be calculated.

## II. Investigation of Mediterranean Anemia

A. The state of identifying  $\alpha$  Mediterranean Anemia (Table 4): in 9 provinces, cities and autonomous regions, tests such as Hb electrophoresis and isopropanol have been used to test blood samples of 203,913 people for  $\alpha$  Mediterranean anemia. A total of 217 cases of  $\alpha$  Mediterranean anemia have been discovered and the identification rate is 0.11 percent. Most of them are Hb H or Hb compound Bart's; 18 of the cases are Hb Constant Spring; individually, they are typical  $\alpha$  Mediterranean anemia.

Six provinces, cities and autonomous regions carried out Hb analyses of the umbilicus blood of 11,118 newborns and discovered 326 cases of  $\alpha$  Mediterranean anemia, the identification rate being 2.93 percent. The main manifestation is the increase of Hb Bart's in the umbilicus blood and, in a few of them, Hb H can also be detected. These two investigations identify a total of 543 cases of  $\alpha$  Mediterranean anemia.

It is generally believed that the result of the umbilicus blood test is representative of the incidences of  $\alpha$  Mediterranean in that area. Therefore, we can consider that this disease is found more in the south.

Moreover, we have also found people with  $\alpha$  Mediterranean anemia compound Hb Q-Thailand in Jiangxi and Guangxi. In Guangxi, we have found the Hb E compound  $\alpha$  Mediterranean anemia and compound  $\alpha$  and  $\beta$  Mediterranean anemia types.

B. The state of identifying  $\beta$  Mediterranean anemia: 13 provinces, cities and autonomous regions carried out an investigation of 361,523 people for  $\beta$  Mediterranean anemia and discovered a total of 2,406 cases of various types of  $\beta$  Mediterranean anemia. The identification rate is 0.67 percent (Table 5). It can be seen that this disease is found more in the south, especially in Guizhou, Sichuan, Guangxi and Guangdong. The type identified most is  $A_2$ , with a total of 1,875 cases. There are also F type (426 cases),  $A_2F$  type (69 cases) and HPFH (5 cases). The Medical Genetics Research Office of the

Shanghai Children Hospital has, through umbilicus blood test, discovered one case of Gr<sup>0</sup>, which is discovered for the first time. It has discovered 22 cases of Hb E compound  $\beta^+$  (or  $\beta^0$ ) Mediterranean anemia, mostly in the south while there is 1 case in Beijing. We have also found Mediterranean anemia compound J group or the compound type of D group abnormal Hb.

C. The state of investigating Mediterranean anemia among various nationalities (Table 6): those nationalities in which Mediterranean anemia has been found include the Han, Zhuang, Li, Bouyei, Miao, Dong and Dai; Mediterranean anemia has been seen in the nationalities of Han, Zhuang, Li Biao, Shui, Bouyei, She, Yao, Hui, Dong and Dai.

(Compiled by Chen Renjun [7115 0086 7486] of the Hospital of Chinese Medicine of Jiangxi College of Chinese Medicine) (Article received on 15 December 1982; revision received on 7 February 1983)

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Table 1. Result of Survey of Abnormal Hb in Different Areas

<u>Area Surveyed</u>	<u>No of People Surveyed</u>	<u>No of Cases of Abnormal Hb</u>	<u>Rate of Identification (%)</u>
Guangdong	163,221	474	0.29
Xinjiang	154,781	634	0.41
Guangxi	70,344	280	0.40
Jiangxi	32,359	89	0.28
Nei Monggol	27,557	43	0.16
Heilongjiang	26,791	35	0.13
Henan	25,558	28	0.11
Hubei	22,953	35	0.15
Guizhou	22,373	45	0.20
Beijing	13,994	29	0.21
Sichuan	13,072	18	0.14
Shanghai	10,233	13	0.13
Hunan	10,026	19	0.19
Liaoning	3,216	4	0.12
Zhejiang	2,958	4	0.14
Gansu	2,124	2	0.09
Anhui	1,824	5	0.27
Fujian	1,276	2	0.16
Tianjin	1,216	3	0.25
Yunnan	737	23	3.12
Total	606,613	1,785	0.29

Table 2. Nationalities in Which Abnormal Hb Has Been Discovered and the Rate of Identification

<u>Nationalities</u>	<u>No of People Surveyed</u>	<u>No of Cases of Abnormal Hb</u>	<u>Rate of Identification (%)</u>
Han	230,141	696	0.30
Uygur	51,392	288	0.56
Zhuang	17,254	153	0.89
Kazak	15,691	94	0.60
Mongolian	13,452	13	0.10
Hui	8,455	14	0.17
Li	7,624	4	0.05
Shui	5,863	1	0.02
Miao	5,102	12	0.24
Dong	4,382	5	0.11
Xibe	4,337	1	0.02
Kirgiz	3,649	42	1.15
Korean	3,236	3	0.09
Jing	3,114	27	0.87
She	2,314	3	0.13
Yao	2,303	7	0.30
Bouyei	2,298	8	0.35

Maonan	2,009	8	0.40
Tajik	1,807	22	1.22
Tibetan	1,324	1	0.08
Tujia	642	1	0.16
Dai	152	10	6.58
Yi	110	5	4.55
Lisu	80	4	5.00

Table 3. Types of Abnormal Hb Whose Structural Analysis Have Been Completed

Type	Amino-acid Residue Substitution	No of Cases	Areas Discovered	Nationalities in Which Discovered
Hb Wuming-Wenchang	$\alpha$ 11(A9) Lys $\rightarrow$ Gln	7	Guangxi, Guangdong	Zhuang, Han
Hb Beijing	$\alpha$ 16(A14) Lys $\rightarrow$ Asn	1	Beijing	Han
Hb Shenyang	$\alpha$ 26(B7) Ala $\rightarrow$ Glu	1	Liaoning (originating in Sichuan)	Han
Hb Shuangfeng	$\alpha$ 27(B8) Glu $\rightarrow$ Lys	1	Beijing (originating in Hunan)	Han
Hb Duan	$\alpha$ 75(EF4) Asp $\rightarrow$ Ala	1	Guangxi	Zhuang
Hb Qionghai	$\beta$ 78(EF2) Leu $\rightarrow$ Arg	1	Guangdong	Han
Hb Jianghua	$\beta$ 120(GH3) Lys $\rightarrow$ Ile	1	Hunan	Han
Hb Ottawa	$\alpha$ 15(A13) Gly $\rightarrow$ Arg	1	Heilongjiang	Han
Hb I	$\alpha$ 16(A14) Lys $\rightarrow$ Glu	2	Guangxi, Hunan	Zhuang, Han
Hb Handsworth	$\alpha$ 18(A16) Gly $\rightarrow$ Arg	1	Guangxi	Han/Zhuang
Hb Chad	$\alpha$ 23(B4) Glu $\rightarrow$ Lys	1	Hubei	Han
Hb G-Chinese	$\alpha$ 30(B11) Glu $\rightarrow$ Gln	13	Sichuan, Jiangxi, Guangdong, Guangxi, Henan	Han
Hb Queens	$\alpha$ 34(B15) Leu $\rightarrow$ Arg	4	Shanghai, Heilongjiang, Jiangsu	Han, Korean
Hb Montgomery	$\alpha$ 48(CE6) Leu $\rightarrow$ Arg	1	Zhejiang	Han
Hb Russ	$\alpha$ 51(CE9) Gly $\rightarrow$ Arg	2	Guangdong, Beijing (originating in Shanghai)	Han
Hb Ube-II	$\alpha$ 68(E17) Asn $\rightarrow$ Asp	2	Guangdong	Han
Hb Q-Thailand	$\alpha$ 74(EF3) Asp $\rightarrow$ His	11	Jiangxi, Guizhou, Guangxi, Guangdong	Han, Bouyei, Zhuang

Hb Stanleyville-II	878(EF7)	Asn → Lys	3	Guangdong, Jingxi, Guangxi	Han
Hb M-Iwate	87(F8)	His → Tyr	4	Shanghai, Shandong	Han
Hb Iwata	87(F8)	His → Arg	1	Nei Monggol (originating in Hebei)	Han
Hb O-Indonesia	116(GH4)	Glu → Lys	1	Guangxi	Han
Hb Leiden	60r7	Glu → O	3	Jiangxi	Han
Hb Siriraj	7(A4)	Glu → Lys	3	Jiangxi, Jinagsu	Han
Hb G-Coushatta	22(B4)	Glu → Ala	21	Beijing, Henan, Jiangxi, Heilongjiang, Guangdong, Guangxi, Hubei, Qinghai	Han
Hb G-Taipei	22(B4)	Glu → Gly	15	Shanxi, Sichuan, Hubei, Jiangxi, Beijing, Guizhou, Henan, Guangdong, Guangxi, Nei Monggol, Tianjian, Shanxi	Han, Shui
Hb E	26(B8)	Glu → Lys	112	Jiangxi, Beijing, Guangdong, Guangxi, Yunnan, Hunan, Hubei, Sichuan, Nei Monggol, Shanghai, Guizhou, Shandong, Tianjin, Shanxi	Han, Zhuang, Dai, Mongolian, Yao, Miao, Jing, Maonan, Lisu
Hb Willamette	51(D2)	Pro → Arg	3	Guangxi	Zhuang, Zhuang/Han
Hb J-Bangkok	56(D7)	Gly → Asp	28	Guangdong, Jiangxi, Beijing, Hunan, Shanghai, Hubei	Han



Hb J-Lome	β 59(E3) Lys→Asn	1	Guangxi	Yi
Hb J-Calabria	β 64(E8) Gly→Asp	1	Guangxi	Zhuang
Hb New York	β 113(G15) Val→Glu	28	Hunan, Jiangxi, Guangdong, Guangxi, Hubei, Zhejiang	Han, Zhuang, Jing, Maonan, She
Hb D-Punjab	β 121(GH4) Glu→Gln	9	Nei Monggol, Xinjiang, Henan, Liaoning, Beijing	Han, Mongolian, Uygur

Table 4. Result of α Mediterranean Anemia Survey

Area Surveyed	Survey of Natural Group			Hb Analysis of Umbilicus Blood		
	No of People Surveyed	No of Positive Cases	Rate of Identification (%)	No of People Surveyed	No of Positive Cases	Rate of Identification (%)
Guangdong	102,356	118	0.12	4,310	117	4.11
Guangxi	47,797	53	0.11	301	45	14.95
Jiangxi	31,590	22	0.07	769	20	2.60
Sichuan	6,479	2	0.03	4,007	77	1.92
Guizhou	8,655	14	0.16	-	-	-
Hunan	5,044	1	0.02	-	-	-
Fujian	1,276	4	0.31	-	-	-
Shanghai	-	-	-	872	3	0.34
Xinjiang	-	-	-	859	4	0.47
Yunnan	370	2	0.54	-	-	-
Liaoning	346	1	0.29	-	-	-
Total	203,913	217	0.11	11,118	326	2.93

Table 5. Result of β Mediterranean Anemia Survey

Area Surveyed	No of People Surveyed	No of Positive Cases	Rate of Identification (%)
Xinjiang	117,951	29	0.02
Guangdong	102,356	1,110	1.08
Guangxi	52,471	800	1.52
Jiangxi	31,590	56	0.18
Hubei	21,603	19	0.09
Shanghai	12,017	8	0.07
Guizhou	8,655	191	2.21
Sichuan	7,525	164	2.18

Hunan	5,178	19	0.37
Fujian	1,276	2	0.16
Yunnan	370	1	0.27
Liaoning	346	1	0.29
Anhui	185	6	3.24
Total	361,523	2,406	0.67

Table 6. Nationalities with Identified Mediterranean Anemia and Rate of Identification

Nationality	Mediterranean Anemia			Mediterranean Anemia		
	No of People Surveyed	No of Positive Cases	Rate of Identification (%)	No of People Surveyed	No of Positive Cases	Rate of Identification (%)
Han	75,633	92	0.12	79,690	767	0.96
Zhuang	10,496	4	0.04	10,496	166	1.58
Li	9,634	24	0.25	9,634	360	3.74
Shui	5,863	0	0	5,863	46	0.78
Bouyei	2,584	3	0.12	2,584	79	3.06
She	-	-	-	2,314	2	0.09
Miao	1,751	3	0.17	1,751	13	0.74
Dong	393	1	0.25	393	15	3.82
Hui	317	0	0	317	13	4.10
Dai	150	2	1.33	150	1	0.67
Yao	129	0	0	129	2	1.55
Yi	103	0	0	103	0	0

12380

CSO: 4008/195

BRIEFS

TIANJIN INFECTIOUS DISEASE HOSPITAL--An infectious disease hospital that meets the standards of the 1980s has been built in Tianjin. Located on Hongqi Road south of Xihu Bridge, this hospital has a building area of over 20,000 square meters, 400 beds and a reception center for patients' families. In the areas of separating each department by function and of traffic routes, the hospital is partitioned so as to prevent overlapping and congestion. It also strictly maintains sterilization and separation in processing pure water supplies and sewage. It treats sewage through ozone sterilization, a technique that is considered advanced both domestically and abroad and whose rate of effectiveness is 99.98 percent. Sewage so treated for the most part becomes a colorless, tasteless and clear liquid. This hospital was designed by the First Office of the Tianjin Academy of Architectural Design and constructed by the Fourth Company and the Installation Company of the Sixth Municipal Architectural Engineering Bureau. Upon completion this hospital will expand Tianjin's capacity for treating patients and play a large role in controlling the sources of infectious diseases. Interior touch-up work is currently in progress, and the hospital will open in the near future. [Text] [Tianjin TIANJIN RIBAO in Chinese 13 Aug 83 p 1] 12431

INTERNATIONAL IMMUNOLOGY SYMPOSIUM--The Beijing international symposium, which will explore the relationship between traditional Chinese and Western medicine and their effect on immunity, opened today at the Beijing Oncology Institute. This, the first international immunology symposium ever held in China, is being attended by over 200 scholars from Belgium, Brazil, England, France, Japan, Switzerland, the United States and China. Chinese and foreign scholars will deliver 15 specialized reports and 11 short papers and will study and discuss immunological adaptation [mianyi tirojie 0346 4004 6148 4634] and other problems. In his opening address, China's famous oncologist and director of the Beijing Oncology Institute, Wu Hengxing [0702 1854 5281], stated that this symposium represents a new development in the exchange of oncological research between Chinese and foreign scholars and that the symposium will provide an excellent opportunity to promote their mutual understanding and cooperation. The symposium is sponsored jointly by the Oncology Institute of the Chinese Academy of Medical Sciences and the University of Texas Health Science Center and received funding from the Newport Pharmaceuticals International Corporation of the United States. [Text] [Beijing RENMIN RIBAO in Chinese 31 Aug 83 p 3] 12431

ONCOLOGY HOSPITAL IN BEIJING--Construction of a hospital the entire nation has been awaiting, the Oncology Hospital of the Chinese Academy of Medical Science's Oncology Institute, has been completed in Beijing. The hospital was formally turned over for use 10 August and has already begun receiving and treating large numbers of patients. With 600 sick beds and designed to receive 1,200 outpatients and to provide radiotherapy to 1,000 people daily, the hospital now is China's largest oncological research, treatment and instructional center. [Text] [Beijing RENMIN RIBAO in Chinese 11 Aug 83 p 1] 12431

TUMOR TREATMENT --There have been new developments in a national priority and scientific key task, that of oncological diagnosis and treatment. The Beijing Pharmaceutical Industry Institute has successfully extracted and synthesized from animal blood hematoporphyrin derivative (HPD), the quality of which approximates or has achieved the standards of similar products abroad. When combined with lasers in clinical practice, this drug can facilitate more accurate diagnosis and effective treatment of tumors. The scientific research that produced this drug has therefore contributed a new and effective method of treating tumors. HPD is a photosensitive material. When injected into a patient and irradiated with laser, it gives off a reddish-orange fluorescence at the location of the tumor, to which site diagnosis can then be applied. Next a one-wave length laser beam can be used to irradiate the tumor to destroy cancer cells, and thus the function of treatment is served. Clinical tests in the Beijing area indicate that this drug, when used to treat tumors, has a rate of effectiveness of 80.6 percent. At a conference held 6-7 September to appraise the results of research on HPD, experts stated that although China was late getting started in this type of work, a new level of development has been achieved through the HPD project. In the future, pharmacological, pharmacochemical and other basic research on HPD must be increased, and we must continue to attack such key problems as improving quality and reducing photosensitive reactions. [Text] [Beijing RENMIN RIBAO in Chinese 8 Sep 83 p 3] 12431

LEUKEMIA CURE--Changhai Hospital, which is attached to the PLA Second Military Military Medical College, has achieved initial success in applying fetal liver transplantation to treat leukemia, thus making new progress in clinical research regarding the treatment of the disease. The 13-year old boy who received the transplant has survived over two months and remains in good health. Through clinical and laboratory examination, this patient was diagnosed as having a combination of lymphatic and meningeal leukemia. On 6 May the hospital treated him with a high dosage of total body <sup>60</sup>Co irradiation so that he was essentially rendered "marrowless" for a period of time. Next a homologous fetal liver transplantation was conducted, and the patient was given an infusion of fetal liver hematopoietic stem cells. Following the transplant, the patient exhibits such symptoms a dizziness, weakness, anorexia, parotidean swelling and pain, and alopecia. Nevertheless, the attentive diagnoses, treatment and care provided by doctors and nurses enabled the patient to survive the roentgenopathic crisis, and his condition is improving daily. His leucocyte level has returned to normal, and his weight has increased by more than 4 kilograms. Leukemia is a pernicious cancer of the blood. Domestically and abroad all types of effective

treatments continue to be explored. In recent years hematopoietic stem cell transplants (primarily bone marrow and fetal liver transplantation) have provided a promising new method of treatment. Abroad there have been only two reported cases of successful application of total body radiotherapy in combination with fetal liver transplantation to treat leukemia. The two patients involved survived 153 and 30 days and died of complications. [Text] [Beijing JIANKANG BAO in Chinese 24 Jul 83 p 1] 12431

CANCER CENTER IN XIAMEN--Xiamen University established a cancer research center during June. This center set up a research office to achieve its central task. Each researcher must focus his work on the early diagnosis, treatment and prevention of gastric, esophageal and lung cancer. The center will employ such research techniques as cytobiology, cyto-engineering, immunology and selective destruction (through hematoporphyrin, radio-anaphylactogen, ultra-low temperature immunological therapy and Chinese herbal medicines). It will strive to integrate traditional Chinese pharmacology with theory and clinical research and thus will preserve China's distinctive characteristics. Responsible members of the center's staff say that the Cancer Research Center will also serve the needs of the broad masses of overseas Chinese. [Text] [Beijing JIANKANG BAO in Chinese 24 Jul 83 p 1] Xiamen University's planned Cancer Research Center, of which Professor Wang Deyao [3769 1418 5478] of the university's biology department will serve as director, has appointed Assistant Professor Weng Kaihua [3769 1418 5478] of Shandong Normal University vice director. Initial plans are that prevention and early diagnosis and treatment of gastric cancer will comprise the central tasks of this center. The center will adhere to the principle of integrating theory and practice and adopt a multidisciplinary approach. It will be an integrated unit, in which scientific research will be central but will also be combined with clinical practice, teaching and production. While engaging in cancer research, the center will also undertake clinical diagnosis and treatment, produce anticarcinogens and train researchers. [Text] [Beijing RENMIN RIBAO in Chinese 6 Sep 83 p 3] 12431

QINGHAI HEALTH ASSOCIATION--The Qinghai Provincial Public Health Economic Association was established on 21 October. Public health economics is a new applied science in which the theory and methods of political economics are used to study all economic rules in the public health field so as to strive for better economic results. At the establishment meeting held in Xining, regulations of the association and the main work of the association from 1983 to 1986 were discussed and adopted and its first council was elected. The meeting received 24 academic treaties and special investigation reports. Some 77 comrades held academic discussions on theories and methods of public health economics, management of public health plans, economic results of rural public health, and the reform of the public health service system. [Summary] [Xining Qinghai Provincial Service in Mandarin 1100 GMT 27 Oct 83]

CSO: 4008/54

SCIENTISTS AND SCIENTIFIC ORGANIZATIONS

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Chengdu SICHUAN RIBAO in Chinese 30 Sep 83 p 1

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## SCIENTISTS AND SCIENTIFIC ORGANIZATIONS

### BRIEFS

GANSU SCIENCE CENTER--The Scientific and Technological Cooperation Center of Northwest and Southwest China was established in Xi'an on 24 October. The Center was established according to the principle of equality and mutual benefit and on a voluntary basis by seven units in northwest and southwest China, including the (Emei) Machinery Plant, the (Xiangyang) Machinery Company, the (Lingnan) Machinery Company, and the Northwest China Industrial University. At the first meeting of directors of the Center held on 24 and 25 October at the Northwest China Industrial University, Professor (Ji Menwei), president of the Northwest China Industrial University, was elected managing director of the Center. [Summary] [Xi'an Shaanxi Provincial Service in Mandarin 1130 GMT 27 Oct 83 HK]

CSO: 4008/55



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TITLE: "Digital Ship Maneuvering Simulator for Training"

SOURCE: Shenyang XINXI YU KONGZHI [INFORMATION AND CONTROL] in Chinese No 4, 1983 pp 45-52

ABSTRACT: This paper introduces the CCF-2S digital ship maneuvering simulator. Making use of a microcomputer, it is the first one designed and made in China. It will be used for the purpose of training pilots and captains in skills such as docking and avoiding collision. In the mathematical model, the simulator is designed on the foundation of water surface maneuvering equations, with additional consideration to such practical factors as the wind, rudder efficiency at low speed, etc. The hardware and software of the simulator are briefly described.

AUTHOR: JIANG Suran [1203 4790 3544]

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TITLE: "Symposium on Remote Sensing Technology Held in Beijing"

SOURCE: Shenyang XINXI YU KONGZHI [INFORMATION AND CONTROL] in Chinese No 4, 1983 pp 52, 88

ABSTRACT: The 2d National Symposium on Remote Sensing Technology of the Remote Sensing Specialty Committee, of the China Astronautics Society was held on 24-28 April 1983 in Beijing and 126 delegates representing 74 organizations attended. The symposium received 104 papers; 67 of these were read before various groups of the gathering while the contents of the remaining were included as subjects for discussion. In this brief report of the symposium, the contents of 28 papers on the application of computers in the remote sensing system, 15 papers on coding theory and data simplification methods, and some innovations in foreign countries which were extensively discussed at the meetings were introduced. Some delegates proposed that the publication of the magazine YAOCE JISHU should continue and that it is urgent to emphasize the translation of famous foreign books and the publication of textbooks, popular science booklets, and special treatises in the field of remote sensing. The establishment of a planning team to survey the status of remote sensing equipment in China and its problems and shortcomings was also suggested.

6248

CSO: 4009/04

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