



#### COUNCIL:

President:	M. Ito
1st Vice President:	X.L. Yang
2nd Vice President:	J.A. Young
Treasurer:	C.Y. Chai
Secretary:	C. Pholpramool
Members:	S.H. Lee
	F. Motamedi
	U. Nayar
	R. Pack
	R. Rahamimoff
	H.J. Singh

# FAOPS

## NEWSLETTER

Vol. 6 No. 1, 1997

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### THE FUTURE OF PHYSIOLOGY

33<sup>rd</sup> IUPS Congress Opening Ceremony Address by...  
Ewald R. Weibel, M.D., D.Sc.,  
President, IUPS.

A Physiology Congress has many facets. We shall all strive to learn what others know while we are in fact telling our peers what we know. This reflects the sociology of our science and the greatest value of such congresses: that we feel as part of a community where there certainly is fierce competition for priority and recognition of achievement, where there is scholarship and pride, fascination and joy, and sometimes hardship and disappointment. But where there is also a deep solidarity which blends the whole of physiological scientists into one world-wide community right across all borders.

This sense of community across borders was the prime motive for choosing, in 1989, St. Petersburg as the site for the 33rd International Congress of Physiological Sciences,

at the time when the tightest wall dividing this world into two parts was opened, and this peacefully by the will of the Russian people for freedom of speech and movement. This achievement was a unique chance for the world to become one again and we physiologists wished to make a contribution to this process.

\* \* \*

Physiology is an old science. In St. Petersburg it is fair to remember particularly Ivan Pavlov and his eminent contributions. There are many more we could mention to recount the history of our science, but I would rather ask:

What is the future of the physiological sciences? To ask this question is indeed appropriate. Over the re

(Continued on page 4)

## INSIDE

<i>The Future of Physiology..</i>	1
<i>Minutes of the 6th FAOPS Council Meeting..</i>	2
<i>Meeting Calendar.....</i>	5
<i>IUPS Fellowships.....</i>	6
<i>News from Member Societies.....</i>	8
<i>Physiological Science in New Zealand.....</i>	9



Members of FAOPS Council at the St. Petersburg Hotel.  
From left: Drs. Nayar, Motamedi, Lee, Phopramool, Kemm, Yang, Chai, Young, Cragg, Ito.

**Minutes of the 6th FAOPS  
Executive Committee Meeting  
June 29, 1997  
St. Petersburg Hotel, St. Petersburg, Russia**

The meeting was called open at 14.00 hrs.

Presence at the meeting were M. Ito, X. L. Yang, J. A. Young, C. Y. Chai and C. Pholpramool.

**Agenda 1: Greeting by the President**

President Ito welcomed all members of the Executive Committee and set the agenda of the meeting.

**Agenda 2: Approval of the minutes of the 5th Executive Committee meeting**

The minutes was accepted.

**Agenda 3: Reports from the Secretary and the Treasurer**

The Secretary reported that;  
1) The Society of the Animal Morphologists and Physiologists in India was interested in joining FAOPS, but formal application was not yet received.

2) Attempts had been made to persuade private companies to join as supporting members but were unsuccessful.

3) Prof. Chai was nominated to represent FAOPS at the General Assembly of IUPS in St. Petersburg.

4) FAOPS Newsletter vol. 5, No. 1, 1996 was just published and will be circulated soon. The delay was again due to the lack of information from adhering bodies. In addition, the costs of publication and mailing were increasing. However, recently, the ADInstrument Inc. in Sydney was interested in advertising its products in the newsletter. This would generate some income to partially support the costs of publication.

President Ito suggested that a Publication Committee, chaired by Prof. Pholpramool, be set up to help solving this problem. Prof. Young offered helps for the reproduction process from the camera ready originals or diskette supplied by Prof. Pholpramool, and the distributions of the newsletters.

The Treasurer had summarized the current status of member-

ship dues since 1990 and showed the balances of US\$24,567.11, at the Treasurer Office, and US\$ 4,345.60, at the Secretary Office as of June 20, 1997.

**Agenda 4: Revision of membership fees**

Due to the current constraint on the finance of FAOPS, a revision of membership dues was raised up for discussion. The committee agreed to propose to the Council that the new fee should be US\$1.20 per head and the minimum fee should be US\$150.

**Agenda 5: 4th FAOPS Congress in 1998**

The meeting was called open at 13.40 hrs.

Council members present were M. Ito, X. L. Yang, J. A. Young, C. Y. Chai, C. Pholpramool, S. H. Lee, F. Motamedi, and U. Nayyar.

Other attendances were E. McLachlan, D. J. Adams, P. A. Cragg and R. E. Kemm.

**Agenda 1: Greeting by the President**

President Ito welcomed and thanked those who came. Apologies were made to R. Pack, R. Rahamimoff and H. J. Singh, who could not come to the meeting. The President then set the agenda of the meeting.

**Agenda 2: Approval of the minutes of the 5th Council meeting**

The minutes was accepted with no revision.

**Agenda 3: Progress report on the 4th FAOPS Congress in 1998**

Prof. McLachlan and Adams, the key persons for the organization of the congress, were invited to inform the Council of their preparations. Much progress had been made so far. The first an-

Prof. Young briefly reported the progress on the preparation of the 4th FAOPS Congress in Brisbane. A major concern and discussion on the financial supports had been made. It was suggested that FAOPS should request each society member to provide support at least one of its young scientist to attend the Congress.

**Agenda 6: Other matters**

Future meetings were planned as followed;

- 7th Executive Committee and Council meetings in 1998, Brisbane

- 8th Executive Committee meeting in 1999, Kuala Lumpur

- 9th Executive Committee meeting in 2000, Kuala Lumpur

- 8th Council meeting in 2000, Kuala Lumpur

The meeting was closed at 17.00 hrs.

**Minutes of the 6th FAOPS Council Meeting  
July 1, 1997  
St. Petersburg Hotel, St. Petersburg, Russia**

The meeting was called open at 13.40 hrs.

Council members present were M. Ito, X. L. Yang, J. A. Young, C. Y. Chai, C. Pholpramool, S. H. Lee, F. Motamedi, and U. Nayyar.

Other attendances were E. McLachlan, D. J. Adams, P. A. Cragg and R. E. Kemm.

**Agenda 1: Greeting by the President**

President Ito welcomed and thanked those who came. Apologies were made to R. Pack, R. Rahamimoff and H. J. Singh, who could not come to the meeting. The President then set the agenda of the meeting.

**Agenda 2: Approval of the minutes of the 5th Council meeting**

The minutes was accepted with no revision.

**Agenda 3: Progress report on the 4th FAOPS Congress in 1998**

Prof. McLachlan and Adams, the key persons for the organization of the congress, were invited to inform the Council of their preparations. Much progress had been made so far. The first an-

nouncement of the congress was printed and will be circulated to adhering bodies soon, a Scientific Program Committee had been formed and the tentative program and list of speakers had been drafted. The major issue of discussion was the finance of the congress. The budget was set up at about A\$80,000. Of this, 15K may be obtained from the Australian Government, if not, the APPS will underwrite this amount. Partial support was expected from the IUPS in terms of supporting some symposia. The registration fee was proposed at US\$290 (US\$150 for students). It was calculated that 400 delegates paying full fees will break even for the budget. However, the organizer felt that the target number may not be met. Prof. Young planned to raise additional funds from the local private companies although this might be too optimistic. However, he shall make a list of the companies in Australia and requested that the Council members should ask the headquarters in his/her countries to facilitate the Australian agencies to support the congress. It was also agreed that each society should en-

*(Continued on next page)*

courage its young scientists to attend by providing financial support.

Dr. Kemm raised up the finance of the CAL workshop to be held before the congress. According to his budget plan, a short fall of about A\$30K was anticipated even a substantial support will be provided by FAOPS. After discussion at length, it was agreed that he will revise the budget so as to be self supported.

**Agenda 4: Report from the Secretary**

The Secretary reported that;  
1. The Society of the Animal Morphologists and Physiologists in India was interested in joining FAOPS, but formal application was not yet received.

2. Prof. Chai was nominated to represent FAOPS at the General Assembly of IUPS in St. Petersburg.

3. Attempts had been made to persuade private companies to join as supporting members but were unsuccessful.

4. The Secretary, in co-ordination with some FAOPS' adhering bodies, helped the IUPS in the selection of the applicants from Asia for the IUPS Fellowships to attend the St. Petersburg Congress. Sixty fellowships from more than 150 applications were recommended to the IUPS according to the guidelines set forth at the previous Council meeting in Pattaya. The fellowships were distributed as follows:-

- 1. China (20, \$1K each)
- 2. China, Taipei (4, \$2K each)
- 3. India (12, \$2K each)
- 4. Indonesia (2, \$2K each)
- 5. Iran (6, \$2K each)
- 6. Malaysia (1, \$2K each)
- 7. Pakistan (2, \$2K each)
- 8. Philippines (2, \$2K each)
- 9. Sri Lanka (1, \$2K each)
- 10. Thailand (5, \$2K each)
- 11. Turkey (2, \$2K each)
- 12. Vietnam (3, \$2K each)

5. FAOPS Newsletter vol. 5, No. 1, 1996 was just published and will be circulated soon. Sample copies were handed to council members in the meeting. The delay was again due to the lack of information from adhering bodies. In addition, the costs of reproduction and mailing were increasing. However, recently, the ADInstrument Inc. in Sydney was interested in advertising its products in the newsletter. This would generate income to partially support the costs of publication.

President Ito proposed that a Publication Committee should be

formed and chaired by Prof. Pholpramool. Members of the committee will be nominated by Prof. Pholpramool.

**Agenda 5: Report from the Treasurer**

The Treasurer circulated the balance sheet showing the finance of FAOPS as of June 20,1997 in which he showed that there was a balance of US\$24,567.11 in the Treasurer account and of US\$4,345.60 in the Secretary account. He had also summarized the current status of the membership dues from 1990 to 1997. Questions concerning the rate and the failure to pay by some societies were brought up for discussion.

**Agenda 6: Report from the Commission chairs**

1. Commission on Fund Raising;

Recently, Prof. Chai had successfully raised US\$5,000-, which was donated by the Chinese Physiological Society, Taipei. Prof. Motamedi had also brought with her US\$2,500-, from the Iranian Physiological Society, for the payment of membership dues from 1992 to 1997 (US\$600), and the donation to FAOPS (US\$1,900).

2. Commission on Research & Education;

The Commission had organized the Workshop on Immunoassay Technique in Kuala Lumpur between November 4-6, 1996. The workshop had trained 20 young scientists in the region, 12 trainees were fully supported by FAOPS. The detail of which was reported in the FAOPS Newsletter vol 5, 1996.

A reorganization of the commissions and committees was discussed and the followings were proposed:-

i) Commission on Research, presently chaired by Prof. J. A. Young

ii) Commission on Education, Dr. R. E. Kemm was proposed to chair

iii) Commission on Fund Raising, presently chaired by Prof. C. Y. Chai

iv) Publication Committee, Prof. C. Pholpramool was proposed to chair

**Agenda 7: Revision of membership fees**

In view of the unfavorable financial situation of FAOPS at present, the Council came to the

conclusion that membership fees should be raised, and the acceptable rate to most members was thought to be US\$2- per head or the minimum fee was US\$250- per each full member.

**Agenda 8: Revision of Constitution**

1. Composition of Council & Officers

According to the 5th Council meeting in Pattaya, a new position - the Past President - was proposed to be a member of Officers. The Secretary had therefore drafted the revised version of the Articles VI & VII of the FAOPS Constitution, and circulated the copies to the Council for perusal before submitting to the General Assembly (GA) in 1998. The draft was accepted.

2. Admission of new members

Currently FAOPS has 4 categories of members and the admission of all categories requires approval by the GA which will meet at an interval of 4 years. This delay may discourage the potential members especially supporting members. In order to facilitate and shorten the admission procedure the Secretary proposed to revise the Constitution so as to allow full authority for the Council to admit new members then report to the GA. This proposal was agreed by the Council.

Prof. Young was asked to help the Secretary to prepare final drafts for both (1) and (2) for the GA in 1998.

**Agenda 9: Nomination of new Council**

President Ito, who chairs the Nominating Committee, reported that members of the committee were being recruited and the list of candidates for new Council will be ready for circulation to the adhering bodies by March 1998.

**Agenda 10: Other matters**

The rate of membership fees for supporting members was raised for discussion. It was proposed that the fees should be flexible between US\$500 - 2,000-.

Initiation of named lectureship(s) sponsored by private enterprises or supporting members at the FAOPS Congress in Brisbane was proposed. Prof. Young will explore the possibility.

The meeting was closed at 16.10 hrs.

cent years we have seen that physiology has lost important and exciting battle grounds on at least two fronts:

- on the one hand, what one could call the "defection" of Neurophysiology to the Neurosciences, a new field which derives its attractiveness from its main feature of integrating different approaches to nervous system function from molecular biology and cell biology all the way to systems analysis;
- on the other hand, the mounting prevalence of reductionistic research led by the strong trend towards molecular biology as the overriding and seemingly only valid modern approach to biological problems.

We must certainly admit that in recent years the cutting edge of biological research lay in these two areas — and it is highly interesting that they appear to reflect opposite trends: reductionism and integrationism.

So where was physiology in all this? Its traditional approach appeared worn out, antiquated, not directed to the most burning problems, and this to a point where decision makers would begin to give our field low priority. Grant proposals had a reduced chance of being funded and some Physiology Departments were closed down, others were given new, seemingly more attractive, labels. Perhaps some of this was due to the fact that physiologists also had adopted the trend towards increasing reductionism, striving to dig deeper on an ever narrower front, thus forgetting the "big picture" that physiology is about, the inner logic of life.

Is there hence no future for Physiology? A very serious question to which Council of IUPS has given a great deal of thought over the past four years, because evidently the future of IUPS was also at stake. What change is needed to bring physiology back to the battle field? We have come to the conclusion that the keyword that may achieve this was "Integrative Physiology"

Integrative Physiology is in fact physiology in the sense of Walter Cannon, it is the search for the "wisdom of the body" — so it is physiology at its best. If properly understood and performed it has the potential to bring physiological research back to the cutting edge of biomedical research. It would allow to put the fascinatingly detailed information that resulted from molecular research into the perspective of an organism with its inner logic and balance. It would allow to explore a new the "wisdom of the body", but now starting with superbly characterized building blocks.

So this was the goal we set ourselves for this congress and for the years to come. And we believed we had to lead a battle of conviction to bring a turn-around. But over the past year or so we have observed an interesting development, mainly in molecular genetics related to the large Human Genome Project, that comes to our encounter. There surfaces, in fact, a strong call for complementing the rich genetic information gained with physiological research into the functional meaning of genes. So it appears that with our plea for integrative physiology we may in part try to push open doors with force that are indeed at least ajar, if not open already.

In this perspective we have good reasons to believe that the future of physiological sciences can be bright and exciting. But only if we ourselves make a very special effort to bring the progress of modern biology to fruition in a concerted action to understand the logic of life from first principles. Future physiology — maybe we should dare to call it "new physiology" — must be different from what most of us have been used to do. It must make full use of the enormous wealth that modern biology presents, but it must carry knowledge beyond molecular cell biology to the higher level of organization that characterizes the body and its response to its environment.

It has been said that appropriate un-

derstanding needs explanation at the appropriate level. To understand the workings of an organism it does not suffice to assemble knowledge on all of the molecules of which it is made up, nor to assemble their genetic programs. From this type of knowledge we have no way to predict or even conclude how these molecules will perform their function in the inner world of the cell, and even less in that of an organ or of the body. Complexity has its own laws. Our challenge is the study of the integration of the elements as they interact to make a whole that is more than the sum of its parts, as one likes to say. This challenge is to discover the laws of complexity that determine the coordinated function of the body's parts and the new qualities that emerge from this integrated function.

This is demanding research that must be carried out by active physiologists, but it will to a very large extent depend on collaboration between scientists offering different skills and specialized knowledge, including scientists from outside physiology. IUPS is determined to stimulate this type of collaboration and has therefore decided to reinforce the role of its operating arm, its commissions, by forming two new commissions specifically dedicated to promote this type of collaboration: one on "Genome and Physiology" and one in the large field of modelling and quantitative systems physiology with the mandate to exploit the new tools of informatics to the benefit of physiology.

So let us begin here at this last Congress of the Millenium to recast physiology as a new science — distinct in its approach, unique in its strategy, but directed to the common goal of understanding the logic of life in all its facets. I am convinced that in four years, at the first IUPS Congress of the new Millenium, physiology will be different — not because of the turn of the century, but because of the enormous dynamics in the development of the biological sciences that we begin to see. Let us take up this challenge and join all together in this new endeavour.



# MEETING CALENDAR

## September, 1997

- 4-6 Genetic of Male Fertility,  
Collioure, France  
For further details;  
Secretariat  
Helen Moutaffian  
Laboratoire de FIV,  
CHU la Grave, 31052  
Toulouse,  
Cedex, France  
Tel: 33-6177-7858  
Fax: 33-6159-2483  
E-mail: parinaud@cict.fr
- 7-11 International Congress  
on Chronobiology, Paris,  
France For further details;  
Yvan Toutou  
Service de Biochimie  
Medicale  
91 boulevard de 1-  
Hopital, 75634  
Paris Cedex 13, France  
Tel: 33-01-4077-9663  
Fax: 33-01-4077-9665  
E-mail:  
toutou@ccr. jussieu. fr
- 14-20 First International  
Congress of the Inter-  
national Society for  
Autonomic Neuro-  
science, Cairns,  
Australia  
For further details;  
Joel Bornstein  
University of  
Melbourne  
Parkville Vic 3052,  
Australia  
Fax: 61-3-9344-5818  
E-mail:joel@plexus.  
physiol.unimelb.edu.au
- 16-20 The Fifth Interna-  
tional Symposium on  
Comparative Mammalian  
Reproduction, The Kruger  
National Park,  
South Africa  
For further details;  
Prof. J.D. Skinner  
The Mammal Research  
Institute University of  
Pretoria,  
Pretoria, South Africa  
Tel: 27-12-420-2066  
Fax: 27-12-420-2534

E-mail: jskinner@  
scientia.up.ac.za

- 19-21 7th Conference on  
Modeling and Control  
of Ventilation,  
Huntsville, Ontario,  
Canada  
For further details;  
Betty Bax  
Department of  
Kinesiology  
University of Waterloo  
Waterloo,  
Ontario N2L 3G1,  
Canada  
Fax: 519-746-6776  
E-mail: bax@healthy.  
uwaterloo.ca  
Internet:  
http://www.ahs.  
uwaterloo.ca/cmccv
- 21-25 Workshop on  
"Neuroscience: Theory  
and Practice  
The Aga Khan University,  
Karachi, Pakistan  
For further details;  
Khalid M. Khan, Ph. D.  
Department of  
Anatomy  
Tel: 9221-493-0051  
ext. 2154  
Fax: 9221-493-4294  
E-mail: kmkhan@akuc.edu
- 28-1 Oct. International  
Symposium on  
Angiotensin I, London,UK  
For further details;  
The Secretariat  
Hampton Medical  
Conferences Ltd.,  
Hofer House,  
185 Uxbridge Rd.,  
Hampton, Middlesex  
TW12 iBN, UK  
Tel: 0181-783-0810  
Fax: 0181-783-0292

## October, 1997

- 13-16 9th International  
Conference  
on Occupational  
Respiratory  
Diseases, Kyoto, Japan

For further details;  
9th ICORD Secretariat  
c/o Japan Industrial  
Safety and Health  
Association  
5-35-1, Shiba, Minato-ku  
Tokyo 108, Japan  
Tel: 81-3-3452-6841  
ext. 525 or 526  
Fax: 81-3-3453-803

- 20-22 The Third Asian  
Congress for  
Microcirculation,  
Bangkok, Thailand  
For further details;  
Suthiluk Pathumraj, Ph.D.  
The Secretariat ACM' 97  
The Physiological  
Society of Thailand  
Dept. of Physiology,  
Faculty of Medicine  
Chulalongkorn University  
Bangkok 10330, Thailand  
Tel: 662-252-7854,  
662-256-4267  
Fax: 662-252-7854,  
662-252-4963
- 21-24 2nd International  
Congress of the African  
Association of  
Physiological Sciences,  
Durban, South Africa  
For further details;  
The Congress Secretariat  
Prof. P. Gathiram  
Dept. of Human Physiology  
& Physiological Chemistry  
University of Durban-  
Westville Private BagX  
54001, Durban 4000,  
South Africa  
Tel: 27-31-204-4312  
Fax: 27-31-204-4132  
E-mail: gathiram@  
pixie.udw.ac.za

- 21-24 4th International  
Symposium on Insulin-like  
Growth Factors,  
Tokyo, Japan  
For further details;  
Prof. Kazue Takano  
Dept. of Medicine,  
Institute of Clinical  
Endocrinology  
Tokyo Women's Medical

(Continued on page 7)

# IUPS Fellowships for Asian Countries

**F**or the first time IUPS has provided a large number of fellowships to young scientists from all continents to attend at the recent XXXIII IUPS Congress in St. Petersburg, Russia, during June 30-July 5, 1997, and the Workshop on Physiology Teaching in Repino between July 6-13, 1997.

An amount of US\$100,000 was raised by Prof. M. Ito from Brain Science Foundation in Tokyo for the IUPS to support applicants from Asia. A guideline for qualification and the number of fellowships for FAOPS member countries were formulated by the FAOPS Council at the meeting in Pattaya in October 1996. The main criteria for fellowships were based on the ability to obtain local supports, age, and research activities of the applicants. The number of fellowships, US\$2,000 each, allocated to various FAOPS members are shown in Table 1. Prof. C. Pholpramool, who serves as a liaison to FAOPS in the IUPS Council, was asked to screen for the qualified applications and recommend to the IUPS provided that the number of applications did not exceed the "quota" for each country. On the other hand, each country would prepare its own list if the applications were more than the quota. More than 150 applications from Asia were received through the IUPS Secretariat, Mrs. Susan Orsini, in Paris. Of these, sixty applicants were recommended for the fellowships with different amount of supports (Table 2). It is noteworthy that applications from some FAOPS countries such as China, India and Iran were far more than the quota. The final lists from these countries were then prepared by their societies. On the other hand, none were received from Israel, Jordan, Korea and Myanmar. The remaining quota were therefore allocated to other Asian countries. The summary of the total number of fellowships awarded is illustrated in Table 3.

**Table 1. Allocation of the IUPS Fellowships to Asian countries by the FAOPS Council**

Country	No. of fellowship*	Amount (US\$)
China	10	20,000
China (Taipei)	4	8,000
India	10	20,000
Iran	6	12,000
Israel	1	2,000
Jordan	2	4,000
Korea	2	4,000
Malaysia	4	8,000
Myanmar	1	2,000
Sri Lanka	1	2,000
Thailand	5	10,000
Vietnam	3	6,000
Total	59	Total 98,000

\* The remaining fellowship (\$2,000) is available for other non FAOPS Asian countries.

**Table 2. IUPS Fellowships Awardees: Asian Countries**

Name	Country	Amount (US\$)
CHAI, Qiang	China	1,000
CHEN, Ming	China	1,000
CUI, Sheng	China	1,000
FU, Shi-Gan	China	1,000
HONG, Xin	China	1,000
KE, Zun-Ji	China	1,000
LI, Dong-Feng	China	1,000
LIANG, Pei-Ji	China	1,000
LUO, Fei	China	1,000
QI, Bao-Shen	China	1,000
REN, Wei	China	1,000
WANG, Hong-Wei	China	1,000
WANG, Qin-wen	China	1,000
WANG, Shi-Qiang	China	1,000
XIA, Qiang	China	1,000
XU, Guang-Yin	China	1,000
ZHANG, Dao-Qi	China	1,000
ZHANG, Xue-Lian	China	1,000
ZHAO, Xue	China	1,000
ZHU, Bing-Gen	China	1,000
CHIEN, Chiang-Ting	China (Taipei)	2,000
DOONG, Ming-Luen	China (Taipei)	2,000
HUANG, Yi-Tsan	China (Taipei)	2,000
KAU, Mei-Mei	China (Taipei)	2,000
BHARDWAJ, Shalini	India	2,000
JOHN, Joshi	India	2,000
KAUSHAL, Navita	India	2,000
MOHAN KUMAR, V.	India	2,000
NAYAK, Prasunpriya	India	2,000
PAUL, Goutam	India	2,000
ROY, Prasun Kumar	India	2,000
SATHYAVELU REDDY, K.	India	2,000
SETH, Pallab	India	2,000
SINGH, Shashi Bala	India	2,000
SINGHAL, Usha	India	2,000
VIJAY, Ramesh	India	2,000
MOELOEK, Dangsina	Indonesia	2,000
SURJADHANA, Adrianta	Indonesia	2,000
BADAVI, Mohammad	Iran	2,000
DIANAT, Mahim	Iran	2,000
HAGHPARAST, Abbas	Iran	2,000
HAJIZADEH, Sohrab	Iran	2,000
RASHIDY-POUR, Ali	Iran	2,000
SARIHI, Abdoirahman	Iran	2,000
CHENG, Hwae-Ming	Malaysia	2,000
SHAHAB, Muhammed	Pakistan	2,000

Name	Country	Amount (US\$)
SIDDIQUI, Arif	Pakistan	2,000
BARENG, Juliet V.	Philippines	2,000
TIGNO, Xenia	Philippines	2,000
GOONEWARDENE, I. P.	Sri Lanka	2,000
CHERDRUNGS, Pipat	Thailand	2,000
JANSAKUL, Chaweewan	Thailand	2,000
KUKONGVIRIYAPAN, Upa	Thailand	2,000
PIYACHATURAWAT, Pawinee	Thailand	2,000
RATREE, Sudsuang	Thailand	2,000
TEMIZ, Aysegul	Turkey	2,000
HOANG, Thi Bich	Vietnam	2,000
TO, Thanh Thuy	Vietnam	2,000
TRINH, Hue Hang	Vietnam	2,000

**Table 3. Summary of the IUPS Fellowships awarded**

Country	No. of fellowships	Amount (US\$)
China	20	20,000
China (Taipei)	4	8,000
India	12	24,000
Indonesia	2	4,000
Iran	6	12,000
Malaysia	1	2,000
Pakistan	2	4,000
Philippines	2	4,000
Sri Lanka	1	2,000
Thailand	5	10,000
Turkey	2	4,000
Vietnam	3	6,000
Total	60	Total 100,000

## MEETING CALENDAR (From Page 5)

College 8-1 Kawada-cho,  
Shinjuku-ku,  
Tokyo 162, Japan  
Fax: 81-3-3350-5929

9650 Rockville Pike,  
Bethesda,  
MD 20814-3991, USA  
Fax: 301-571-8313

### 29-1 Nov. 1997

American Physiological Society Conference: The Physiology and Functional Diversity of Amiloride-Sensitive Na<sup>+</sup> Channels: A New Gene Superfamily, Park City, UT, USA  
For further details; The APS Conference Office The American Physiological Society 9650 Rockville Pike, Bethesda, MD 20814-3991, USA  
Fax: 301-571-8313

### April, 1998

18-22 Experimental Biology '98, San Francisco, CA, USA  
For further details; The APS Conference Office The American Physiological Society

### May, 1998

9-13 4th European Congress of Endocrinology, Sevilla, Spain  
For further details; Organizing Agency ion Sevilla: Sayco c/Turia 19, 41011 Sevilla, Spain  
Tel: 34-5-428-0688  
Fax: 34-5-428-1137  
E Mail:sayco@svq.servicom.es

### June, 1998

24-27 80th Annual Meeting of the Endocrine Society, New Orleans, LA, USA  
For further details; Cathy Huck The Endocrine Society 4350 East West Highway, Suite 500 Bethesda, MD 20814-4410, USA  
Tel: 1-301-941-0255  
Fax: 1-301-941-0259

28-3 July III International Congress of Pathophysiology, Lahti, Finland  
For further details; ISP98 Secretariat Congrex Attn: Jussi Saari BLUE & WHITE CONFERENCES OY P.O. Box 35 (Street: Oltermannintie 8) Fin-00621, Helsinki, Finland  
Tel: 358-9-752-3611  
Fax: 358-9-752-0899  
E-Mail: congrex@bluewhiteconferences.fi

### July, 1998

23-25 1st IUPHAR Conference on Receptor Mechanisms: Principles of Agonism, Merano, Italy  
For further details; E-Mail: d.girdlestone@kcl.ac.uk

26-31 XIIIth International Congress of Pharmacology, Munich, Germany  
For further details; INTERPLAN Convention and Visitor Service Sophienstrasse 1, D-80333 Munich, Germany  
Tel: 49-89-54-82-340  
Fax: 49-89-54-82-34-44  
E-Mail: info@i-plan.de

### August, 1998

2-7 Ultrathin IX, Society for Ultrastructural Pathology, Asheville, NC, USA  
For further details; J.D. Shelburne, M.D., Ph.D. Dept. of Pathology Box 3712, Duke University and V.A. Medical Center Durham, NC 27710, USA  
Tel: 919-286-6979, 919-286-6925  
Fax: 919-286-6818, 919-684-8689  
E-Mail: shelburne.jhon@forum.va.gov

17-22 8th International Symposium on Spermatology,

(Continued on next page)

Montreal, Canada  
For further details;  
Gerry Lou et Associes  
1224 Rue Stanley,  
Suite 311  
Montreal, Quebec,  
Canada H3B 2S7  
Tel: 514-878-2530  
Fax: 514-878-2532  
E-mail: cgagnon@  
is.rvh.mcgill.ca

#### September, 1998

16-19 1998 American Physiological Society Conference: Endothelial Regulation of Vascular Tone: Molecular to Integrative Physiology, Augusta, GA, USA  
For further details;  
The APS Conference Office  
The American Physiological Society  
650 Rockville Pike,  
Bethesda,  
MD 20814-3991, USA  
Fax: 301-571-8313

#### October, 1998

27-1 Oct. Brisbane '98 : joint meeting of  
FAOPS, FAONS & APPS,  
Brisbane, Australia  
For further details:  
Brisbane Secretariat  
I.C.M.S, GPO Box 2609,  
Sydney, NSW 2001,  
Australia  
Fax: 61-2-9251-3552  
E-mail: reply @ icms  
austcom . au

#### November, 1998

30-3 Dec. 13th  
ASIAN GAMES Scientific  
Congress, Bangkok,  
Thailand  
For further details;  
Secretariat,  
13th ASIAN GAMES  
Scientific Congress  
9th Floor,  
F.B.T. Sport Complex,  
2357 Ramkhamhang Rd.,  
Bangkapi Bangkok 10240,  
Thailand.  
Fax : 66-2-319-3884,  
66-2-319-1337  
E-Mail : Usst @ ku.ac. th

## News from Societies

### ISRAEL

The Israel Physiological and Pharmacological Society is one of the founding member that joined FAOPS since 1990. This society has recently changed its officers after the general assembly, which is effective since 1996. The followings are the current officers:

#### President

Prof. David Lichtstein  
Department of Physiology  
The Hebrew University-  
Hadassah Medical School  
P.O. Box 12272,  
Jerusalem 91120, Israel  
Tel.: 972-2-758522  
Fax: 972-2-439736

#### Secretary

Prof. Israel Ringel  
Department of  
Pharmacology  
The Hebrew University-  
Hadassah Medical School  
P.O. Box 12272,  
Jerusalem 91120, Israel  
Tel.: 972-2-758736  
Fax : 972-2-431094

#### Treasurer

Prof. Ephraim Bar-Yishay  
Institute of Pulmonology  
Hadassah University  
Hospital  
P.O. Box 12000,  
Jerusalem 91120, Israel  
Tel.: 972-2-777793  
Fax : 972-2-435897

### Myanmar

The Physiology and Biochemistry Section of the Myanmar Medical Association has been an associate member of FAOPS since 1990. This society has approximately 25 individual members. Recently, the new Executive Committee has been

elected for the term 1996 and 1997. The Executive Committees are:

#### President:

Prof. Nyunt Wai  
Head, Department  
of Physiology,  
Institute of Medicine  
1, Pyay Road 11041,  
Yangon,  
Tel.: 095-01-530955

#### Vice President 1

Dr. Win May  
Principal, Institute  
of Nursing, Yangon

#### Vice President 2

Professor Dr. Htay Htay  
Head, Physiology  
Department,  
Institute of Medicine  
2, Yangon

#### General Secretary

Dr. Ye Win Lecturer,  
Physiology Department,  
Institute of Medicine  
1, Yangon

#### Joint Secretary

Dr. Zin Thet Khine  
Lecturer, Physiology  
Department,  
Institute of Medicine  
1, Yangon

### Japan

Due to the unexpected and tragic death of Professor Hisao Iwane, President of the Japanese Society for Physical Fitness and Sports Medicine, the society has nominated Professor Yoshiki Umazume as new President. His address is:

Prof. Yoshiki Umazume, Department of Physiology, The Jikei University, School of Medicine, 25-8, Nishi-Shimbashi 3 chome, Minato-ku, Tokyo 105, Japan.



By: - Rodger J. Pack\* and Patricia A. Cragg #  
 Department of Physiology and Anatomy,  
 Massey University, Private Bag 11-222,  
 Palmerston North, New Zealand. # Department  
 of Physiology, The University of Otago  
 Medical School, P.O. Box 913, Dunedin, New  
 Zealand.

# Physiological Science in New Zealand : Past Present and Future

## Background:

Organised physiological science probably began in New Zealand in 1874 with the establishment of the first Medical School at the University of Otago in Dunedin. However, the Department of Physiology itself was not formed until 1905. From that time forward Otago remained the main academic centre for physiology in New Zealand until the 1960s. In 1962 The Faculty of Veterinary Science was formed at Massey Agricultural College (now Massey University) and, in 1963, its Department of Animal Biology was renamed the Department of Physiology and Anatomy. In the 1950s and 1960s there was an increasing amount of clinical physiological research in hospitals in Auckland. When the Auckland School of Medicine was opened in 1969 the Department of Physiology was one of the foundation departments.

Whilst medical physiology has a long history in New Zealand, the study of other species developed only in more recent times. Comparative animal physiology developed as a major discipline in Otago in the 1950s, Canterbury in the 1960s and later in Auckland. Emphasis has been placed on the physiology of aquatic animals and on terrestrial species unique to New Zealand. Included amongst the latter are the tuatara (*Sphenodon punctatum*), the only living species of the primitive order Rhynchocephalia, and many species of birds. Unfortunately, many of these species are either nearing extinction or considered a threatened species and considerable research effort is directed at attempts to ensure their survival.

Throughout its history New Zealand Physiological Science has had a continuing input into the world knowledge database. For those of us interested in the neurosciences, probably the most important single ad-

vance in physiology made in New Zealand was the first ever recording of trans-membrane (intracellular) potentials in the central nervous system carried out by Professor J.C. Eccles and associates in Dunedin. This study was first reported in a local forum (1); although it has been noted that the authors felt that publication in this medium possibly restricted the international exposure of the work (2). Eccles was eventually awarded a Nobel Prize in 1963 for his contribution to our understanding of synaptic transmission in the central nervous system. Much of the work for which he received this prize was carried out in New Zealand.

The work of Eccles and associates was not the only physiological research carried out in New Zealand to have had a major international impact. Research on the control of arterial pressure performed at Otago in the 1940s by Smirk (3) is considered by some as seminal. More recently, Liggins' work in Auckland on the regulation of parturition has had a major influence in both medical science and the pastoral animal industry (4). Important contributions in Veterinary Physiology have also been made at Agricultural Research Centres in New Zealand. For example, growth hormone was first administered to animals in the 1950s by Brumby at Ruakura (5).

## Current Research Activities in New Zealand:

Physiology in New Zealand is concentrated in three main areas (i) Medical physiology in the university schools of medicine and associated hospitals i.e. Auckland and Otago including the latter's three schools

of medicine in Christchurch, Dunedin and Wellington (ii) Veterinary Physiology in the School of Veterinary Science at Massey University and at Government Research Institutes such as Ruakura, Wallaceville and Invermay, and at Lincoln and Waikato Universities (iii) Comparative Animal Physiology in all seven New Zealand Universities and in various government departments. In line with world trends, physiological research in New Zealand is increasingly carried out at a cellular or molecular level of investigation. Research into reproductive and developmental physiology has been a feature of New Zealand science for more than 30 years. This has been facilitated by a strong overlap of interests between medical and animal scientists in this area which is characteristic of New Zealand and reflects the maintained importance of the agricultural sector in the country. The comparative physiology of New Zealand's unique indigenous species and those of its offshore islands and Antarctic jurisdiction is obviously another distinct New Zealand knowledge base.

## The Physiological Society of New Zealand:

The Physiological Society of New Zealand was founded in 1972, three years after the establishment of the second medical school in Auckland. It was the brainchild of, the late, Professor John Hubbard the then head of the Physiology Department in Otago and Professor Jack Sinclair then head of the Physiology Department in Auckland. By the time of the first annual general meeting in 1973 The Society boasted 82 members. However, it has remained a

(Continued on next page)

small Society with, currently, 185 members (about 50% of the New Zealand physiological community). It does not have a president as such but the (academic) secretary of the Society acts as both secretary and president. It has both a general and scientific meeting once a year, traditionally in May but recently moved to August to accommodate the introduction of a semester system in New Zealand tertiary education. Since 1981 the abstracts from the meetings, together with occasional longer review articles have been published in 'The Proceedings of the Physiological Society of New Zealand'.

For many years the Society has offered a student prize for the best presentation at its annual meeting. Recently, this has been renamed 'The Mary Bullivant Student Prize' in honour of her contribution to physiology, both in New Zealand and world wide. A second competitive prize, 'The John Hubbard Memorial Prize' is also offered to PhD students near the end of their studies or in their immediate post-doctoral period for work contributing towards their PhD. The Society also presents every three years a gold medal for ongoing contribution to research by middlecareer New Zealand physiologists. Recent winners are Associate Professor John Montgomery (1995) for his immaculate studies on the sensory nuclei of fishes (6) and Associate Professor Bruce Smaill (1992) for his technically brilliant, and visually stunning, work on the mammalian heart (7) carried out in collaboration with Peter Hunter and others. Comparison of these two projects illustrates the wide diversity of the New Zealand physiological community.

#### **The Future of Physiology in New Zealand - Towards 2001:**

Probably the most important recent development for physiology in New Zealand was the successful bid to host the XXXIV International Congress of Physiological Sciences that was made in Glasgow in 1993 and ratified in St Petersburg this year. This, the first International Congress of Physiological Sciences of the new millennium, will provide a unique opportunity to review the physiological knowledge base obtained up to the year 2,000 AD and, perhaps, reflect on where our physiological understanding is likely to

take us in the next 100 years. The meeting will embody the best features of previous congresses and will make extensive use of contemporary communication technologies before, during and after the meeting in a way fitting to the beginning of the third millennium.

The congress will have as its main motif "From Molecule to Malady". It will feature Review Lectures, Symposia and more informal communications. In addition, there will be a series of major congress themes, or subject areas, which will run throughout the week, bringing together scientists, ranging from molecular biologists to systems pathophysiologicals and practising clinicians, to present the contributions of their various sub-disciplines of physiology to the particular subject area. These sessions will be designed to appeal to scientific researchers, teachers from tertiary institutions and for health science professionals. The use of major congress themes under the general motif of "From Molecule to Malady" will allow delegates to gain exposure to the contribution of sub-disciplines other than their own to their field of interest. With the explosive growth in knowledge, it is not practical to contain all of the detailed discussions that delegates will seek within the single week of the main congress. For this reason, it has been decided to include satellite meetings as a part of the Congress activities. These will be held in attractive locations in both Australia, New Zealand and also, it is hoped, in South East Asia and the Pacific. These will occur both before and after but not during the main congress and will not pre-empt the content of the main congress. Registration for the Satellites and the main congress will be linked as it is contrary to the aims of the IUPS for delegates to attend a satellite in isolation from the congress. Satellites will provide opportunities for specialist symposia and workshops and for small groups to spend time holding in depth discussions of circumscribed research areas. At least one of the satellites will be dedicated to Workshops on teaching, with emphasis not only on the 'main stream' teaching of physiology but also on the problems encountered by physiologists teaching in developing countries.

Planning for the forthcoming IUPS meeting started after the successful bid in Glasgow in 1993 and, therefore, has already been underway for four years. We expect organising and preparing for the meeting will occupy much of our free time over the next four years. However, we feel that it will be a major world showcase not only for New Zealand physiology but for physiological activities throughout the Pacific.

#### **Acknowledgements:**

Sections of this article were taken from a report on physiology in New Zealand prepared for the New Zealand Ministry of Research, Science and Technology by Associate Professor Bruce Smaill, (Auckland) and Professor Tony Macknight (Otago). Their contribution to the article is acknowledged.

#### **References:**

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2. Hubbard, J.I. (1984) Action potentials of motoneurons with intracellular electrode revisited. *Proc. Univ. Otago Med. Sch.* 62; 9 - 12
3. Smirk, F.H. (1949) The pathogenesis of essential hypertension. *Brit. Med. J.* ii, 791 - 799.
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5. Brumby, P.J. (1959) The influence of growth hormone on growth in young cattle. *N.Z.J. Agric. Res.* 2 683 - 689
6. Montgomery, J.C. (1995) Function of mammalian dorsal cochlear nucleus: Clues from the study of similar structures in fish brains. *Proc. Physiol. Soc. N.Z.* 14; 3 - 13
7. Smaill, B (1992) The analysis of cardiac function: A continuum mechanics approach. *Proc. Physiol. Soc. N.Z.* 12; 2 - 16

# BRISBANE '98

## A JOINT MEETING OF:

- The Federation of the Asian and Oceanian Physiological Societies
- The Federation of Asian-Oceanian Neuroscience Societies
- The Physiological Society of New Zealand
- The Australian Physiological and Pharmacological Society

in Hilton Hotel, Brisbane, Queensland, Australia  
Sunday 27th September to Thursday 1st October, 1998.

The meeting, set in the salubrious surrounds of sunny Queensland, will consist of a rich scientific program of plenary lectures, "new perspectives" lectures, thematic symposia, oral communications and poster presentations reflecting the diverse scientific interests of the various societies. More information can be obtained from Brisbane '98 Conference Secretariat, GPO Box 2609, Sydney 2001, Australia; Telephone (+61 2) 9241 1478; Facsimile (+61 20 9251 3552; Email: FAOPS/FAONS @ icmsaust.com.au

## 13th ASIAN GAMES SCIENTIFIC CONGRESS NOVEMBER 30-DECEMBER 3, 1998 BANGKOK, THAILAND "MODERN WAY OF SPORTS"

The congress will be held just prior to the main event of the 13th ASIAN GAMES in Bangkok, Thailand. Various topics of current interest in different areas in sport sciences will be highlighted in the plenary sessions and discussed in depth in the corresponding symposia by world renowned scientists. The areas to be covered include sport medicine, sport physiology, sport nutrition, sport psychology, sport biomechanics, sport sociology etc. Oral communications and poster presentations reflecting the diverse interests of exercise and sports scientists are planned. A limited number of fellowships for young scientists in Asia will be provided to enable them to join the meeting.

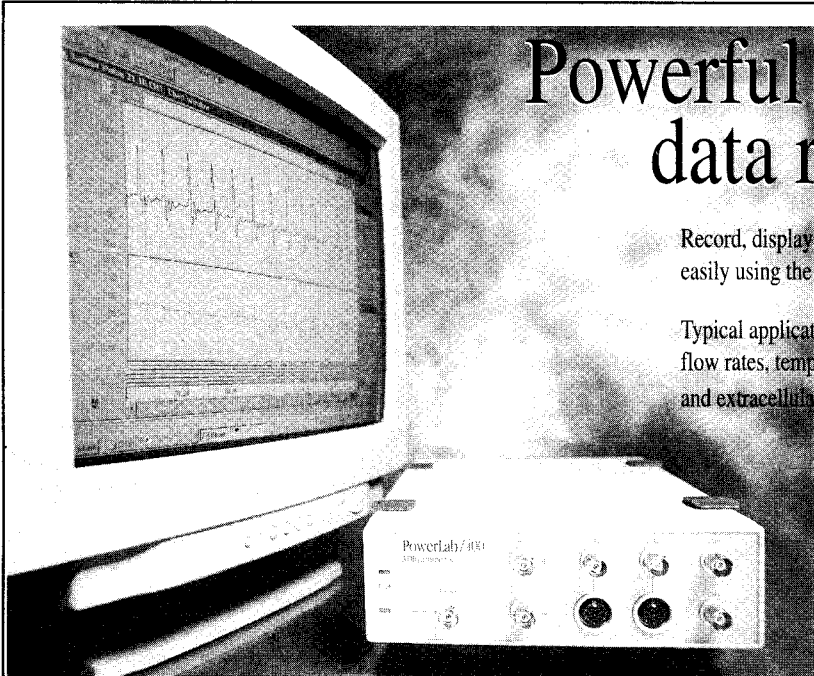
For further information please contact:

The Secretariat  
13th ASIAN GAMES Scientific Congress  
9th Floor, F.B.T. Sport Complex  
2375 Ramkhamhaeng Road, Bangapi,  
Bangkok 10240, Thailand.  
FAX : 66-2-319-3884, 319-7337  
E-mail : usst@ku.ac.th

## "FROM MOLECULE TO MALADY" XXXIV INTERNATIONAL CONGRESS OF PHYSIOLOGICAL SCIENCES CHRISTCHURCH, NEW ZEALAND 26 August to 1 September, 2001

The organisers invite physiologists, clinicians, and potential commercial exhibitors to register their interest in this, the first International Congress to Physiological Sciences of the new millennium. The theme of the Congress signals a strong emphasis on pathophysiology and the excitement of modern molecular approaches to integrative biology. The Congress will be structured so that all registrants will have opportunities for active scientific participation. It will make extensive use of new communication technologies.

Register your interest now by accessing our WEB site,  
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P.O.Box 90-040, Auckland, New Zealand.

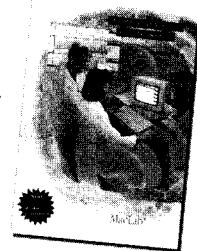


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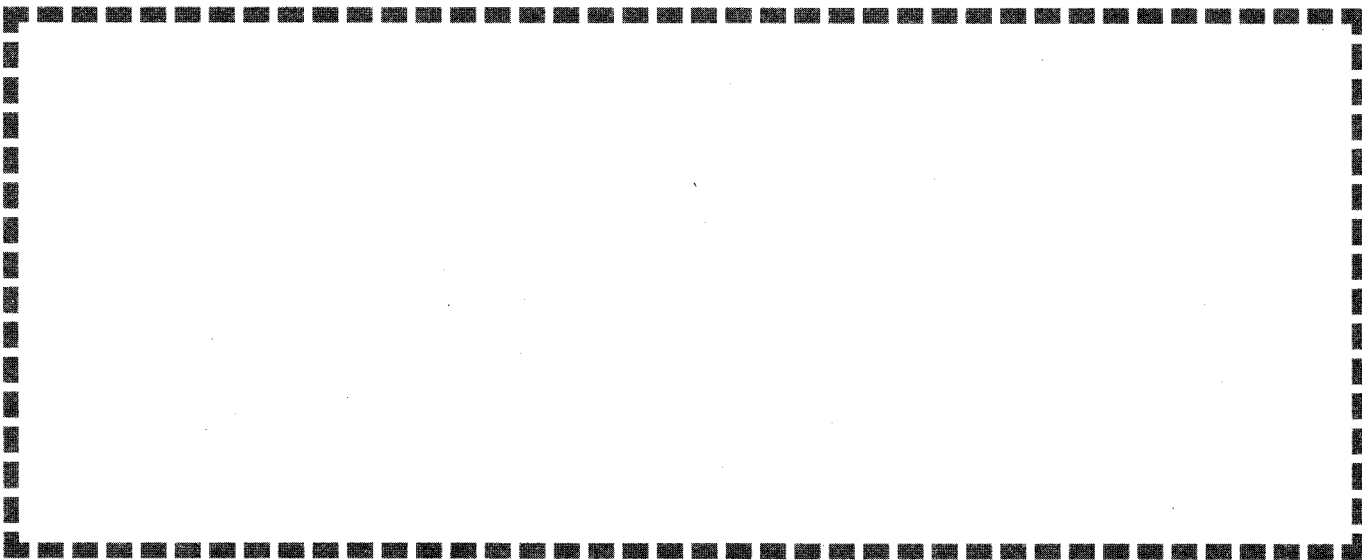
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