

INSIDE THIS ISSUE:

President's note	1-4
Update on 9 th FAOPS Congress 2019	5-7
Interview: Prof. F. Motamedi	8-11
The Federation of Indi- an Physiological Socie- ties (FIPS)	12-13
The Physiological Society of India (PSI)	14-16
95 th Annual Meeting of the Physiological Soci- ety of Japan	17-21
Introducing a Journal: Physiology and Pharmacology	22
Introducing a book: Defining Physiology	23-24



Editor Saeed Semnanian *Editorial board* Hossein Azizi Masoumeh Ghaemi Seyed Hossein Marashi

FAOPS NEWS LETTER

President's note

Dear colleagues of FAOPS,

I am very delighted to note that the 23rd Vol. of FAOPS newsletter came out. Thanks a lot to Prof. Saeed Semnanian (Editor of FAOPS newsletter) and Dr. Hossein Azizi (Executive director of FAOPS newsletter) who did their effort for it and made the contribution.

In the past 2 years, FAOPS has mainly done a few things as following:

• Actively planning and the FAOPS continue to grow:

The 17th FAOPS Council Meetings were separately held in Beijing, China on Sept. 25, 2016 and also in Takamatsu, Japan on Mar. 30, 2018. At the meetings, council members discussed how to further promote the construction and development of FAOPS. Pakistan Physiology Society joined the federation later, and more recently the Physiology and Biochemistry Subsection of Myanmar Medical Association and the Physiological Society of Sri Lanka have joined too. The Physiology Society of Nepal, the Physiology Society of Uzbekistan, and the Physiology Group of the United Arab Emirates are associate members now.

• Rebuilding FAOPS website:

The FAOPS website has been out of business for several years for various reasons, influencing communication between FAOPS members and the outside world. In order to solve this problem, FAOPS Secretary-General, Prof. Dr. Harbindar Jeet



Singh from Faculty of Medicine, Universiti Teknologi MARA, Malaysia and his colleagues have been self-financing and team building. After a year of hard work, the new FAOPS website has reopened. I must thank you for your contribution. Please visit: http://www.faops.org.my from now on, for news and information on FAOPS. I sincerely hope that members of different physiology societies and our colleagues in each group can provide a brief introduction of their respective societies, Member Society News and biographies of renowned physiologists, so that we can work together to improve the FAOPS website and enhance the influence of FAOPS.

• Preparation for celebrating the 30th anniversary of FAOPS:

As you know, the Federation of Asian and Oceanian Physiological Societies (FAOPS) was officially formed in New Delhi in 1990. The founding president is Prof. M. Ito, a famous neurophysiological scientist across the globe. 2020 will be the 30th anniversary of FAOPS. Given that the FAOPS Conference is held every four years, the 9th FAOPS Congress will be held in Kobe, Japan in March 28-31, 2019 (for more information visit: http:// www.nips.ac.jp/faops2019/), so FAOPS Council Meeting has decided to hold the celebration dur-

ing this event. The founding member of FAOPS, Prof. Chumpol Pholpramool, Faculty of Science, Mahidol University, Thailand has been invited by FAOPS Council Meeting as the editor-in-chief to start editing the book "Review of FAOPS". FAOPS will also issue "lifetime contribution awards" and certificates to those who have made outstanding contributions to the construction and development of the Federation. In addition, FAOPS will hold Prof. M. Ito Memorial Lecture in the 9th FAOPS Congress.



17th FAOPS Council Meeting, Beijing, September 25, 2016

 Promoting physiology teaching:

The International Medical Schools Quiz Physiology (IMSPQ), a FAOPS independent activity that was initiated by the Department of Physiology, University Malaya, Malaysia more than two decades ago, has helped promoting interest in physiology in the region, if not the world, significantly. Such quizzes are now also being held in a number of FAOPS member countries. Under the leadership and promotion of Prof. Cheng Hwee Ming



IUPS council member in the 38th World Congress, Rio, August 1, 2017

from Universiti Malaya and the other specialists such as Prof Walter Boron from Case Western Reserve University, USA, 14th and 15th IMSPQ have taken place In Kuala Lumpur, Malaysia during the last 2 years. The 16th IMSPQ will be soon. Some Regional Physiological Quiz have been hosted by Australia, China, Indonesia, Japan, Mongolia, Sri Lanka and other countries. These event provide a platform to promote physiology teaching and education among medical universities in the region and beyond. It provides channels for exchanges between young students and faculty members in all aspects of physiology teaching (mentorship, communication and research). No doubt, these events have enhanced Physiology learning and teaching in these countries. So, I would like to take this opportunity to express my admiration and thanks to Prof. Cheng Hwee Ming and colleagues again.

• Active participation in IUPS activities:

The 2017 IUPS Congress was held in Rio de Janeiro, Brazil. In August, 1-5, 2017. Prof. Julie Chan from Taiwan, was elected as the President of IUPS. Prof. Katsuhiko Mikoshiba from Japan (Neurobiology committee), Prof. Kubo Yoshihiro from Japan (Molecular and Cellular committee), Prof. Yang-Sook Chun from Korea (Genomics and Biodiversity committee), Prof. Ashima Anand from India (Ethics Committee), and Prof. Xiaomin Wang from China (Regional Representative, Asia/ Oceana) were elected as the Council members of IUPS 2017-2021 by

General Assembly at the 38th World Congress of IUPS. 20 members form the Executive Committee and Council 2017-2021, 6 of which are from Asia/ Oceana. This means that the influence of FAOPS on IUPS has gradually increased.

At the closing ceremony of 38th World Congress of IUPS, the President of the Chinese Association for Physiological Sciences (CAPS), Prof. Xiaomin Wang reported on the preparation of the 39th World Congress of IUPS, that will be held in Beijing, China in October,15-19, 2021. Afterwards, Prof. Xiaomin Wang took over the IUPS flag from the Brazilian Society of Physiology. This indicates that the 39th World Congress of IUPS journey to Beijing is officially under way. Finally, I must thank the Japan Society of Physiology for their unremitting efforts in preparing for the 9th FAOPS Congress! Let's meet in Kobe, Japan in March 28-31, 2019. I do believe the 9th FAOPS Congress will be a wonderful and successful Congress!

The President, FAOPS Prof. Dr. Xiaomin Wang July 2018 Capital Medical University, Beijing 100096, China E-mail: xmwang@ccmu.edu.cn

Timmin Mang



Closing ceremony of the 38th World Congress of IUPS, Rio, August 5, 2017



17th FAOPS Council Meeting, Takamatsu, March 30, 2018



The 9th Congress of Federation of the Asian and Oceanian Physiological Societies (FAOPS 2019)

The 9th congress of Federation of the Asian and Oceanian Physiological Societies (FAOPS2019) will be held in Kobe International Conference Center, Kobe, Japan on March 28-31, 2019 in conjunction with the 95th Annual Meeting of Physiological Society of Japan.

FAOPS was established in order to facilitate the development of physiological science in the Asian and Oceanian countries about 30 years ago, and currently consists of 14 regular members and 6 associate members in the area. The 1st congress of the antecedent association, ASOPS was held in Bangkok in 1986, and the formal FAOPS started with the first president of Dr. Masao Ito (A professor of Tokyo University at that time) in 1990.

The purposes of FAOPS are

1. to encourage the advancement of the physiological Sciences,

2. to facilitate the exchange and dissemination of knowledge in the field of physiological sciences and related fields,

3. to foster and encourage research in the field of physiological sciences in Asia and Oceania,

4. to promote the Congress of the Federation of the Asian and Oceanian Physiological Societies (FAOPS Congress),

5. to promote such other measures as will contribute to the development of physiological sciences in Asia and Oceania.

The congress is held every four years and FAOPS2019 is the first FAOPS congress held in Japan.

Outline of the congress

• Term: March 28-31, 2019

- Venue: Kobe International Conference Center, Kobe, Japan (https://kobe-cc.jp/ja/facilities/ conference-center/)
- Theme: Philosophy of Life: Function and Mechanisms
- ♦ President:

FAOPS2019---Junichi Nabekura (National Institute for Physiological Sciences)

the 95th Annual Meeting of Physiological Society of Japan---Makoto Tominaga (National Institute for Physiological Sciences)

http://www.nips.ac.jp/faops2019/

Registration (through web site)

◆ Term: Aug. 1, 2018~Feb. 28, 2019

♦ Fee:

Early registration (~Oct. 31, 2018)

JPY25,000 (regular), JPY15,000 (graduate student), JPY10,000 (undergraduate student)

Norma registration (Nov. 1~Dec. 20, 2018)

JPY30,000 (regular), JPY20,000 (graduate student), JPY10,000 (undergraduate student)

Late registration (Dec. 21, 2018~Feb. 28, 2019)

JPY35,000 (regular), JPY25,000 (graduate student), JPY10,000 (undergraduate student)

Abstract submission (through website)

Aug. 1~Oct. 2, 2018

Plenary Lectures

• Prof. Yoshinori Ohsumi (Frontier Research Center, Tokyo Institute of Technology, Japan), "Mechanisms for Autophagy"

• Prof. Linda B. Buck (Division of Basic Science, Fred Hutchinson Cancer Research Center, USA) "Olfactory system"

• Prof. David Julius (Department of Physiology, University of California, San Francisco, USA)

"Molecular mechanisms for nociception and thermosensation through TRP channels"

Special Lectures

Prof. Heping (Peace) Cheng (Peking University, China)
Prof. Julie YH. Chan (Kaohsiung Chang Gung Hospital, Taiwan)
Prof. Uhtaek Oh (Korea Institute of Technology, Korea)
Prof. Laura Bennet (The University of Auckland, New Zealand)
Prof. Graham D. Lamb (La Trobe University, Australia)
Prof. Hossein Esteky (Institute for Research in Fundamental Sciences, Iran)
Prof. Robert G. Carroll (East Carolina University, USA)
Prof. Yasushi Miyashita (RIKEN Center for Brain Science, Japan)
Prof. Hideyuki Okano (Keio University, Japan)
Prof. Masashi Yanagisawa (University of Tsukuba, Japan)

Local Scientific Program Committee Symposiums

1. Advances in understanding cerebellar LTD and motor learning: A celebration of Masao Ito

- 2. Molecular mechanisms of aging
- 3. Thermal biology: A new world of life science
- 4. Inter-tissue communications underlying metabolic and feeding control
- 5. Cutting-edge research topics on skeletal muscle plasticity in health and diseases
- 6. Teaching physiology; International perspectives
- 7. Primate researches in Asian regions
- 8. Frontiers in pain physiology from detection to the survival behavior
- 9. Toward understanding the neural basis of memory

International Scientific ProgramCommittee Symposiums

- 1. Maternal influences on offspring development (Australia)
- 2. From synaptic and network plasticity to behavior (China)
- 3. Gastrointestinal Control of Energy Metabolism (China)
- 4. Advances in the role of adipocyte in health and disease (Taiwan)
- 5. Gastrointestinal microbiome and immunophysiology (Taiwan)
- 6. Cutting-edge approaches to long-lasting questions and novel aspects of inward rectifier K+ channels
- -- A quarter-century anniversary of cDNA isolation (Israel)
- 7. Leveraging novel techniques to research and translate synaptic transmission and plasticity (Iran)
- 8. Neurobiology of reward system in the Brain (Iran)
- 9. Mitochondrial Physiology and Pathophysiology (Korea)
- 10. Physiome for organ function (Korea)
- 11. The consequences of preterm birth, intrauterine growth restriction and hypoxia-ischemia (New Zealand)
- 12. Metabolic syndrome and bone metabolism (Thailand)

Satellite meeting on education (in Kobe) and Training course (in Okazaki) are planned before and after FAOPS2019, respectively.

"We are looking forward to seeing you and your colleagues in Kobe, Japan for FAOPS2019!"



Group photo of FAOPS council members and FAOPS2019 steering team members (taken at the time of The 95th Annual Meeting of the Physiological Society of Japan in Takamatsu, March 28-30,2018). Front row from the left: Dr. Mei-Ling Tsai (CPS), Dr Junichi Nabekura, Dr. Xiaomin Wang (CAPS), Dr Yoshinori Marunaka, Ms. Singh. Back row from the left: Dr. Makoto Tominaga, Dr. Noriyuki Koibuchi, Dr. Fusao Kato, Dr. Suchinda Malaivijitnond (TPS), Dr. Chumpol Pholpramool (TPS), Dr. Chae Hun Leem (KPS), Dr. Harbindar Jeet Singh (MSPP), Dr. Yasushi Okamura, Dr. Yoshihiro

Interview: Prof. F. Motamedi



From zero to hero, professor Motamedi has seen the rise of Iran regional neuroscience as а champion from the days where it only had a single setup. Nowadays, neuroscience in Iran is young, ambitious. and ever-expanding. Defined as kind, determined, and innovative, she came back to Iran after graduating from the USA to contribute to her country's academia. She can now proudly look back at her past and the great intelligentsia she has helped build. Many of the prominent physiologists in Iran are a product of her training. Read this volume's FAOPS interview with Prof. Fereshteh Motamedi:

Q) An introduction of yourself?

My name is Fereshteh Motamedi. I am a PhD graduate in physiology from the University of Columbia, Missouri, USA and I am currently professor of physiology at faculty of Medicine, and director of the Neuroscience Research Center (NRC) Shahid Beheshti at University of medical sciences in Tehran and a member of the Iranian Academy of Medical Sciences.

While in the States, I worked on the basal ganglia and Parkinson's

disease. Back in Iran, I first started with pain studies. Later I shifted towards learning and memory, and now I do cellular and molecular and behavioral studies on learning and memory in Alzheimer's disease.

Since returning from the States, I have had several sabbaticals, one of DAAD which was Germany research grant. I received the grant, and went to the neurophysiology clinic of the Alfred Krupp hospital and worked on patients with disorders movement like Parkinson's. I visited the hospital for a few consecutive summers. Also I have been a visiting professor at the department of pharmacology, University College London (UCL), where I did Patch clamp recording with Prof. Alasdair Gibb.

Q) How has your family influenced your scientific work and how have they been influenced by it?

As for my family, my husband is a university professor. He supported me everywhere. None of this would have been possible without him, whether in the the States or Iran. My daughter is also a medical doctor now. She was my own student at the medical school. I guess you can say we are a family of academics.

Q) Could you please describe, in brief, your laboratory and research center including the environment, the staff, and the students regarding their degrees?

I'm now based at the Neuroscience Research Center (NRC) which is a multidisciplinary research center, so we have tried to take in researchers from all disciplines as our faculty



Council meeting in New Delhi, 1990. From left: X.L. Yang, J.I. Hubbard, H.J. Singh, S.K. Manchanda, F. Motamedi, M. Ito, R. Rahamimoff, J.A. Young, and C. Pholpramool



Members of FAOPS Council, Shanghai, December 1994; From left: C. Pholpramool, M. Ito, F. Motamedi, S.K. Manchanda, X.L. Yang, H.J. Singh, C.Y. Chai, S.H. Lee

member. These include physiologists, anatomists, pharmacologists, molecular biologists, geneticists, histologists, and biochemists.

We have neuroscience PhD program, and accept four PhD candidates every year, but we also attract MSc. and PhD. students from other fields, including physiology, medicine, and pharmacology as well, who come here and conduct their research. We have at least fifty to sixty active students working here right now. Also in collaboration with Tarbiat Modares University, we organize different workshops for electrophysiology, molecular and behavioral techniques, thus disseminating this knowledge to anyone interested throughout the country. Everyone is welcome to our workshops.

We have been chosen by the Ministry of Health as a central hub for neuroscience. We are connected to neuroscientists all around the country. We also collect information on what's being done, what kind of research, in order to prevent repeated research. We have always been among the top five biomedical research centers in the country, as assessed by the Ministry of Health and Medical Education.

Q) How and when did your affiliation with FAOPS start?

I was elected as one of the council members of FAOPS in New Delhi

to represent Iran. I had this position for some time, then I became FAOPS vice president for 4 years and in the mean time I was the editor of the FAOPS newsletter.

In addition, I have been one of the founders of the Federation of Asian Oceanic Neuroscience Societies (FAONS) that has been initiated by Prof. Masao Ito. FAONS is affiliated with the International Brain Research Organization (IBRO) and works in Parallel with FAOPS and has done a remarkable work by giving grants, performing workshops. and encouraging neuroscience in the Oceania and Asia region.

Q) When and in what area of study did you start your career?

When I started at Shahid Beheshti University, the facilities we had were for electrophysiology, and it might have been the only setup we had in the entire country at the time. I recorded from the frog sciatic nerve, which made me very interned in electrophysiology, and my supervisor, Dr. Shokoohinejad was



Council meeting in Kuala Lumpur, 2000. From left: P.S.G. Wang, X.L. Yang, A. Kaneko, J.A. Young, F. Motamedi, K.W. Kim, H.S. Cheah, R. Rahamimoff, and T. Glinsukon

very influential.

In addition, one thing that makes neurophysiology so attractive to me is that it is so challenging. The brain is like a black box and there's so much one can explore. I don't see the same opportunities that one can have with the brain in other fields.

Q) You were involved in the growth of physiology and neuroscience in Iran almost from the beginning. Can you briefly explain how that happened?

I am glad to say that the first PhD students in physiology in Iran were my students. I was their thesis supervisor. Now they are prominent professors at different universities and I am proud of them. One reason why physiology and neuroscience has turned out to be so successful in Iran goes back to the 9th Iranian congress of Physiology and Pharmacology, which I was its

general secretary. That's where it all started. I had invited Prof. Masao Ito and Prof Manchanda, Prof. Ito was very impressed with the improvement in Iran's academia. Yet, we were mostly involved in systemic approaches and behavioral tests. He advised us to shift our research to cellular and molecular aspects in the field of physiology and we seriously welcomed his advice and through FAOPS, we sent students to other countries, which were ahead of us in the field. to learn the new setups and come back to establish it here. Much of our success is owed to Prof. Ito who was so kind and so helpful during this time. I have to mention that FAOPS has really helped the development of physiology in the Oceania and Asia region.



Patch clamp workshop in Tehran, 2003. From left: A. Heidarianpour, M. Elahdadi Salmani, J. Mirnajafizadeh, A. Gibb, F. Motamedi, H. Azizi, S. Semnanian

Q) When did the idea of becoming a scientist come to your mind for the first time?

I was interested in research myself from the very beginning. It gives me calmness. This is one of the features I'm very satisfied about, that I gain so much serenity from research.

Q) How can we establish better links between basic and clinical sciences?

Here in Iran we have a national program called clinician scientist, where clinicians are trained to also do research as a PhD student in science. We are active in this field too and have two such students right now. We mostly work with the department of neurology and neuropsychiatry, and neurosurgery. That said, I understand that there is some criticism by some students about why we focus on expanding basic science so much. I want them to know this:

It depends. Science is our job, to expand the limits of science. So this science must be translated to clinic, which can be partly done, but not entirely. One of my fields of research is ion channels, but to turn this into applicable clinical knowledge is extremely hard. We are basic scientists. A bridge must be built between basic sciences and clinics, but that's not always possible.

Q) How much do you work throughout the day and how do you organize your day?

Oh, well, I can't put a number. When I was younger, I worked throughout the day. My whole life, all seven days, has been dedicated



Council meeting in Shanghai, 1994. From left: S.H. Lee, H.J. Singh, C.Y. Chai, C. Pholpramool, M. Ito, X.L. Yang, S.K. Manchanda, F. Motamedi, and R. Rahamimoff

to my job. I don't normally take vacations, but when I do I'm still busy doing my job. There is so much to do. I dedicate the weekends to articles. Of course, since I'm a bit older now I can't work like I was young.

Q) What do you consider as your most important contribution to physiology?

My biggest contribution is that the first PhD graduates in Iran were my students. They then went off to train their own PhD students and that's how PhD proliferated in our field of study. When I returned to Iran, there were very few neuroscientists here. We started training students and graduating them. Now, neuroscience is one of the most powerful fields of physiology in It's being researched Iran. everywhere in all sorts of fields. I'm very happy that I could contribute like that to my country's academia. I could have stayed in America, I had opportunities like post-doc positions, but I decided to return.

I'm very happy I did, because there, I was one person among many in America, but here I was much more influential and made a difference in the physiology community in Iran.

According to some of my students I'm the Mother of Physiology in Iran I guess!

Q) Is there anything else you would have liked me to ask?

Yes, the role of women in science. I've won prizes and been a member of boards and committees in my life. At my time, I was the only lady at the FAOPS committee. Why is it so? Most of my female students disappear after their graduation. It's mostly my male students who go on to flourish as great scientists. I want to address the ladies. Get out, do your job, achieve what you must achieve, for you deserve it. There must be more women actively engaged in the academia. I did it, I showed that women can rise to the peaks so you can too. I want to strongly ask the educated ladies out there,

or those who are still wondering whether to continue studying or opt out, to go ahead and make a difference. Make yourselves useful, because you can and you deserve it.

The Federation of Indian Physiological Societies (FIPS)



1. Genesis of the Society

A meeting of some physiologists including the office bearers of different Physiological Societies of India was held in the Seminar room of the Department of Physiology, All India Institute of Medical Sciences, New Delhi-110029 on 26th October 1990. The meeting was attended by Dr SK Manchanda (Convener of the BK Meeting). Dr An and (representing **INSA** National Committee of IUPS), Dr M Habibulla (representing

ML 1SCAP), Dr Madan (Representing SAPI), Dr Usha Nayar and BK Karpoor (representing APPI), Dr V Mohan Kumar (representing AOPS). Though the PSI representatives could attend the meeting on that day, they extended their full support to its decision. The meeting, presided over by Prof. BK Anand, emphasized the necessity of having a Federation of Indian Physiological Societies which would facilitate the scientific interaction between Indian Physiologists and foreign scientists. The meeting also recognized that it would be advantageous to have a unified approach to various problems of physiological sciences in the country.

It was further pointed out that, that a Federation of Asian and Oceania Physiological Societies is likely to be formed during the Second Congress of Asian and Oceania Physiological Societies (AOPS) during November 1990, and that the Indian Federation can be the adhering organization for the same.

All members present unanimously agreed about the need to form a Federation of Indian Societies of Physiological and Allied Sciences. Everyone felt that the Federation should be of such a nature as to allow the independent working of each Society that will affiliate with the Federation. All members contributed their views on preparing a draft of the constitution of the proposed Federation. It was agreed that this constitution will have to be approved by the different adhering Indian Societies.

The Office Bearers of different Physiological Societies of India met again on 22nd and 27th May 1991, at the Department of Physiology, AIIMS, New Delhi to review the progress. By then the constitution and its philosophy had been approved by the executive bodies of the Association of Physiologists and Pharmacologists of India. The Physiological Society of India, Society of Animal Physiologists of Indian and Indian Society for Comparative Animal Physiology. An ad hoc Executive Council of the Federation of Indian Physiological Societies (FIPS) was formed. The council entrusted its President with the responsibility of getting the Federation registered with the Registrar of Society in Delhi. On 20th September, 1991 the Federation of Indian Physiological Societies was registered under Societies Registration Act XXI of 1860 with S/22214 of 1991 as its registration number with explicit an understanding that the office of the Federation shall remain in the union territory of Delhi.

Aims & Objectives:

The purpose of the Federation is exclusively scientific, academic and literary and no other. It is for the furtherance of these purposes that specific businesses andthe objective of this federation shall be: a) To encourage the Advancement of the Physiological Sciences in India. b) To promote all such measures as will contribute to the Development of Physiological Science in India (for example publication, arranging lectures etc.)

c) To foster and encourage research in the Physiological Sciences in India.

2. When and how FIPS joined FAOPS

Federation of Asian and Oceania Physiological Societies (FAOPS) was formed during the Second Congress of Asian and Oceania Physiological Societies (AOPS) in November 1990, and at that time Indian Federation (FIPS) joined as the adhering organization for the same.

3. Current Activities

FIPS organizes Annual Conferences at an interval of 2-3 years. In 2013 FIPS organized its 5th Congress in the Zoology. Department of Sri Venkateswara University, Tirupati, India during 26th -28th September, 2013 in collaboration with Indian Society for Comparative Animal Physiology (ISCAP), 6th Congress of FIPS in the Department of Physiology, University of Calcutta during 7-9th November, 2016, Kolkata collaboration in with the Physiological Society of India (PSI) and 7th Congress in Defence Institute of Physiology and Allied Sciences (DIPAS), New Delhi during 7-9th November. 2017 in collaboration with Physiological Society of India (PSI). The next Congress likely to be held in collaboration with Physiological and Pharmacological Society of India (APPI) possibly in Guwahati, Assam in 2019. In each FIPS Congress there are Inaugural Session, Key Note Addresses, Plenary Lectures, Invited Lectures. Seminars. Oral

Presentations, Poster Presentation, Young Scientist Awards, etc., followed by Valedictory Session in presence of different eminent and young physiologists of diverse background from the country and abroad. The duration of the Congress generally consisted of three days.

Further in each FIPS Congress there is prestigious FIPS ORATION

Nobel Laureate Prof Sir A.F. Huxley delivered the first FIPS oration on 16th March 1991. The second, third and fourth orations were delivered by Prof. Y. Oomura, Prof Masao Ito and Prof A. S. Paintal. On 9th Nov 1998. FIPS Executive Council decided to rename the FIPS Oration as "S.K. Manchanda Memorial FIPS Oration" to honour Late Prof S.K. Manchanda for his contributions to Physiological Sciences in India and FIPS in particular. The meeting decided on the following rules for the oration: "S.K. Manchanda Memorial FIPS Oration" will be the most prestigious award given by the Federation of Indian Physiological Societies. It would be awarded to distinguished scientists in the field of Physiology. The award would be given to one Indian and one foreign scientist, working in any branch/discipline of Physiology during the FIPS Congress which normally takes place once in three years. The award is given in the form of a plaque. In all the Congresses FIPS Orations are delivered by one eminent foreign scientist and one India scientist.

4. Important Achievements As mentioned.

5. Contribution to physiology in the region

FIPS allow the independent working of its affiliated societies (PSI, APPI, SAPI, ISCAP) for the promotion of overall development of Physiology in the country. FIPS organizes pre- and post- Congress workshop, general workshop in different venues on different topics with hands –ontraining on recent developmental physiology for the young physiologists.

6. Contribution to FAOPS

FIPS is a regular member of FAOPS and therefore there remains representation from FIPS in each FAOPS Congress.



The Physiological Society of India (PSI)



Brief history on the formation of the society

The Physiological Society of India is the pioneer organization of the Physiologists of India. The Society was established on July 13, 1934 by group of eminent persons like Sir Nilratan Sarkar, Sir Kedar Nath Das, Sir Upendra Nath Brahmachari, Dr. Bidhan Chnadra Roy, who were the well-known Physicians in Calcutta, some along with renowned Physiologists and Biochemists like Prof. Subodh Chandra Mahalanobis, Prof. Narendra Mohan Basu, Bijoli Behari Sarkar, Prof. Parimal Bikas Sen, Prof. J. N. Moitra, Prof. D.N. Mullick, Prof. Biresh Chandra Guha etc. The first President of the Society was Prof. Subodh Chandra Mahalanbish. the pioneer Physiologist, who also became the first Professor of Physiology in India under the Science Faculty in the Presidency College in Calcutta, a constituent College of University of Calcutta.

The first two Secretaries of theSociety were Prof Nibaran ChandraBhattacharyaandProf. Narendra Mohan Basu. The firstTreasurer and first Assistant SecretaryoftheSociety

were Prof. Bijoli Behari Sarkar and Dr. P. M. Brahmachari respectively. The Society first started functioning in Calcutta. But in course of time it became an All India organization of Physiologists, Pharmacologists, Biochemists, medical students and teachers. The Physiological Society of India first registered under Act XXI of 1860. The office of Society is situated in Physiology Department, University College of Science & Technology, University of Calcutta, Calcutta -700 009 for more than fifty years. There are 700 life members of Society now. Some of the reputed Honorary Members of the Society are Prof Sir John Eccles, Nobel Laureate, Prof. D Whitteridge, Prof. A. S. Paintal, Prof. A. V. Hill, Prof. University College of Science and Technology, University of Calcutta, India Kolkata, Sacchidananda Banerjee and Prof. Sukhamov Lahiri, Prof. B. K. Anand, Prof. S Dey, Prof. J. C McGrath Ian, Prof. Orchad Clive, Prof. H Ole Peterson etc. The Physiological Society of India adhered to the International Union of Physiological Science (IUPS). The Society is also a member of Federation of Asian and Oceanian Physiological Sciences (FAOPS) and

Federation of Indian Physiological Sciences (FIPS) and newly formed South Asian Association of Physiologists (SAAP). The society has attained its 75 years in July 13, 2009. Platinum Jubilee Celebration was organized in Science City, Kolkata held during Nov. 12-14, 2009 where in participants of the different parts of the country and abroad including Bangladesh, Nepal, Srilanka, USA, UK and Canada participated.

2. When and how you joined FAOPS

The Physiological Society of India joined Federation of Asian and Oceanian Physiological Sciences (FAOPS) since its inception. The first Annual Conference of FAOPS has been organized in New Delhi in 1991 organized by Federation of Indian Physiological Sciences (FIPS). PSI is a regular member of FIPS and FIPS is also a regular member of FAOPS.

3. Executive Committee

The general management of the Society is vested on the Executive Committee which ordinarily consists of the following President – One

- i. Vice Presidents- five (at least two of which from outside the Head Quarters).
- ii. Honorary General Secretary- One
- iii. Honorary Assistant General Secretaries- Three (One to help publications, one to help office administration, and one to help looking after collection of subscription and funds).
- iv. Honorary Treasurer- One (Exofficio Secretary of the Finance Committee).
- v. Members Eleven (of which six from outside the Head Quarters).
- vi. Nominated members- Three
- a) One from Corporation of Calcutta

b) One from University of Calcutta or Government of West Bengal.

c) Director of Public Instruction or any representative of Department of Education, Government of West Bengal. The outgoing President would be an Ex-officio member, if not otherwise elected. All these excepting the nominated and exofficio members are elected in a manner laid down in the constitution of the Society. Of these the first eleven are the office bearers.

3.1. Official year

The official year of the Society is from the 1st day of April to 31st day of March of the following year. In addition to Executive Committees there are following sub-committees to run the Society activities smoothly

- a) Scientific Committee
- b) Journal & Publication Committee
- c) Finance Committee
- d) Building Committee.

4. Current activities

- 4.1. Activities
- 4.1.1. Annual Conferences

The Society organized Conferences, scientific meeting, seminars, and

invited lectures etc. regularly every year since its inception in 1934. But the Annual Conferences were designated serially from 1989. Accordingly twenty nine (29) Annual Conferences have been organized in different places of India since 1989 till date. The first such designated conference was held in the Department of Physiology, Calcutta University in 1989. Not only several Symposia or Seminars were organized in those annual conferences but also several Invited Lectures and Memorial Orations have been delivered by many distinguished speakers from India and abroad. The XXXth such designated Annual Conferences will be held at Serampore College (A Post- Graduate College under Calcutta University) during November 2018.

- 4.2. Publications
- 4.2.1. Indian Journal of Physiology and Allied Science

The Society publishes regularly its official organ, Indian Journal of Physiology and Allied Sciences from January 1947. It is a quarterly journal published in the month of January, April, July, and October of every year. Volume 70, No.4 (Oct. 2016) issue has already been published. The first editors of the journal were Dr. Narendra Mohan Basu, Prof. Bijali Behari Sarkar and Dr. Nagendra Nath Das. The first issue of the journal contained forty five pages and includes five original papers and an encouraging letter from the renowned scientist Prof. A. V. Hill, the then secretary of the Royal Society of England, UK. The Golden Jubilee issue of the journal was published in 1997-98. The issue contained ninety three pages included ten invited articles from some outstanding

scientists and researchers, working in India and abroad like Prof. Amiya K Baneriee (USA), Prof. John Widdicombe (UK), Prof. Sukhamoy Lahiri (USA), Dr. Sankar N Kayal (USA), Prof. Т Ramasarma (India), Prof. P Åstrand etc. The ISSN No. of the journal is ISSN 0367-8350. The journal is published under the declaration No. 23/74 dated 12.02.1974 and the Registration No. of the journal is S/678/1965- 66 dated August 31. 1965 as issued by Ministry of information and broadcasting, Government of India. The journal is now indexed in Ind Med (http:// indmed.mic.in), though it was indexed elsewhere also earlier.

4.2.2. Laboratory Note Books

The Society used to publish Laboratory Note books in Biochemistry, Histology and Experimental Physiology Practical for the Undergraduate Degree Course (Pass/General/Honours) from 1963 onwards. These laboratory note books have been written, revised and updated by the experienced professors, researchers in Physiology and members of the Society. Different Universities of West Bengal in India have recommended these laboratory Note Books for the students of the undergraduate course of the college affiliated to those Universities, where Physiology is taught under the Basic Science Faculty.

4.3. Memorial Orations/ Orations

The Society has instituted twelve (12) Orations. The orations are delivered in Annual Conferences of Society, Indian Science Congress Sessions [Physiology/ Medical Sciences (Physiology Section] or in a special function by the distinguished physiologists, scientists, and researchers of India and abroad. These Orations are as follows:

- i. Prof. S. C. Mahalanobis Memorial Oration
- ii. Prof. B. B. Sarkar Memorial Oration
- iii. Prof. P. B. Sen Memorial Oration
- iv. Prof. S. R. Maitra Memorial Oration
- v. Prof. J. N. Maitra Memorial Oration
- vi. Prof. A. K. Mukherjee Memorial Oration
- vii. Prof. Ramndra Sundar Sinha Memorial Oration
- viii. Sm. Subha Mukherjee Memorial Oration
- ix. Sm. Shakuntala Dasgupta Memorial Oration
- x. Dr. Chitralekha Mukherjee Memorial Oration
- xi. Prof. K Raghottama Rao Oration
- xii. Dr. Siddhartha Debnath Memorial Oration

4.4. Young Scientists Award/ Prize

The Society has instituted four Young Scientist Awards/ Prizes to encourage the young Researchers in Physiology and allied sciences. These Young Scientist award/prize are as follows: i. Prof. B. B. Sarkar Memorial

Research Prize

ii. Prof. P. B. Sen Memorial Research Prize

iii. Prof. Sacchidananda Banerjee Memorial Research Award

4.5. Post Graduate Students Award/Prize

The society has instituted **four graduate students award/ prize** to encourage the postgraduate students in Physiology and allied sciences. These post-graduate students Award/ Prize are as follows:

i. Prof. S. R. Maitra Memorial Prize for post-graduate students with Work Physiology and Ergonomics Special paper in Physiology of University of Calcutta who received highest marks of the year in the Special paper.

- Mrs. Shakuntala Dasgupta Memorial Prize for post Graduate students with Nutrition Special Paper in Physiology in University of Calcutta who received highest marks of the year in the Special paper.
- iii. Prof. A. K. Mukherjee Memorial Prize for post-graduate students with Biophysics and Electrophysiology Special Paper in Physiology in University of Calcutta who received highest marks of the year in the Special paper.
- iv. Dr. Sanjukta Mukhopadhyay Memorial Prize for postgraduate students with Endocrinology and Reproductive Physiology Special Paper in Physiology in University of Calcutta who received highest marks of the year in the Special paper.
- v. Dr. D. N. Mullick Research Award for post Graduate Students who got highest marks in final year M.Sc. Examination of the year.

4.6. Scientific Meetings

Scientific meetings are organized in every year by the Society either independently or jointly with the other organization like Physiology Department of University of Calcutta.

4.7. Foundation day celebration

The Society was established on July 13, 1934. The Society now celebrates foundation day on the last Saturday in the month of June every year followed by the Annual General Meeting of the Society.

4.8. Others

The Society performs other activities for the advancement of Physiology teaching in the life science curriculum of Secondary Schools of West Bengals, affiliated to the Board of Secondary Education, West Bengal and also in Biological Sciences curriculum of Higher Secondary Schools of West Bengal, affiliated to the Council of Higher Secondary Education, West Bengal. The Society also functions for the advancement of research in basic science faculty in West Bengal and other states of India as and when required.

5. Important achievements

As mentioned.

6. Contributions to physiology in this region

As mentioned.

7. Contributions to FAOPS

As representative of FIPS, PSI Executive Committee members regularly participate in FAOPS Conference.



Prepared by:

Dr. Amar K Chandra ,Emeritus Professor, Department of Physiology, University of Calcutta,& President –The Physiological Society of India.

the 95th Annual Meeting of the Physiological Society of Japan

The Presidents of the 95th Annual Meeting of the Physiological Society of Japan: Masaaki Tokuda¹ and Katsuya Hirano²

¹Department of Cell Physiology and 2 Department of Cardiovascular Physiology, Faculty of Medicine, Kagawa University

1750-1 Ikenobe, Miki-cho, Kita-gun, Kagawa 761-0793, Japan

The 95th Annual Meeting of the Physiological Society of Japan (PSJ2018) was held from March 28-30, 2018 in Takamatsu City, Kagawa, Japan, with Sun-port Hall Takamatsu and Takamatsu Symbol Tower as the main venues. Thanks to the beautiful weather and warmer March than usual, full-bloom cherry blossoms welcomed all participants from Japan and abroad (Figure 1). We planned the PSJ2018 in part as an important step leading to the 9th Federation of the Asian and Oceanian Physiological Societies Congress (FAOPS2019), which will be held in Kobe, Japan, in March 2019.

It has been 24 years since the 71th annual meeting was held on Shikoku Island in 1994, also in Takamatsu City. For the PSJ2018, we obtained profound and encouraging support from the members of the Shikoku District of the PSJ. Shikoku is well known for the Shikoku pilgrimage "Henro" in Buddhism. Like the pilgrim "Ohenro-san", we physiologists proceed toward the truth of science after step-by-step explorations and long struggles. The main theme of our meeting was therefore set as "Comprehensive Journey through Physiological Sciences, for a Leap to the Future".

Highlights of our challenges in the PSJ2018

- Revival of oral presentation sessions in addition to symposiums.
- Participation of graduate and undergraduate students in academic sessions.
- Invitation of elementary and junior and senior high school students to the meeting and a poster presentation session by junior and senior high school students.

• A well-designed public seminar for citizens with a special target on the youth.

Introduction to local culture, including a free service of Sanuki-Udon noodle.

A total of 1,603 participants from Japan and abroad

The total number of the attendees was 1,603, including 80 attendees from 17 countries abroad, such as Thailand (25 attendees) and Korea (19 attendees) (Tables 1, 2). We offered travel grant awards to 5 young scientists in the Asian-Oceanian region after a fair review of 20 applications by the members of the Committee for International Relations of the PSJ.

Academic programs with a total of 881 presentations

There were 881 presentations at the meeting. Table 3 summarizes the numbers of presentation by category.

For the academic programs, we organized not only general presentations by the participants but also special lectures by eminent scientists from both Japan and abroad. Three speakers from abroad, including two from Asia, were invited: Prof. Xiaomin Wang, the current president of FAOPS, at Capital Medical University, China; Prof. Nipon Chattipakorn at Chiang Mai University, Thailand; Prof. Peter Friedl at Radboud University, the Netherlands. Prof. Wang delivered a plenary lecture entitled, "The role and mechanism of traditional Chinese medicine in the prevention and treatment of Parkinson's disease". Prof. Chattipakorn and Prof. Friedl delivered special lectures entitled, "Obese-insulin resistance and acute myocardial infarction: Roles of cardiac mitochondrial alterations" and "Plasticity of cancer cell invasion and metastasis: cell-tissue interplays across scale", respectively.

Seven lectures delivered by the domestic speakers were as follows: "Dynamics of function and regulation of the endoplasmic reticulum" by Prof. Kazutoshi Mori (Kyoto University) and "Functional diversity of macrophage/monocyte subsets" by Prof. Shizuo Akira (Osaka University) in the plenary lecture; "The autonomic regulation of the heart" by Prof. Yoshihiro Ishikawa (Yokohama City University) and "Toward the mysteries of sleep" by Prof. Masashi Yanagisawa (University of Tsukuba) in the memorial lectures; and "A scientific journey from the protein therapy to BNCT (boron neutron capture therapy)" by Prof. Hideki Matsui (Okayama University), "RARE SUGARS: functional sweeteners to change our life style" by Prof. Masaaki Tokuda (Kagawa University) and "Animal movements affected by physical conditions: Introduction of inverse problem approach into bio-logging science" by Prof. Katsufumi Sato (University of Tokyo) in the special lectures.

Twenty-seven symposiums were planned and organized by the organizing committees in line with the theme of the meeting, and 32 symposiums were organized by the society members. Among the committee-planned symposiums, the Committees of International Relationship of the PSJ, chaired by Prof. Yoshihiro Kubo at the National Institute for Physiological Sciences, organized four joint symposiums, to promote academic interaction and collaboration between Japan and China, Japan and Australia, Japan and Taiwan, and Japan and Korea in the interest of the upcoming FAOPS2019.

In the general presentation category, in order to encourage young scientists, the oral presentation session was revived after its absence from the recent annual meetings. During these oral presentations, a "student session" was also organized to promote the scientific activities of undergraduate students. A total 29 presentations from students, including 7 from abroad, were allocated to 6 sessions. One presentation from each session was awarded the Best Presentation Awards.

We helped the Education Committee of the PSJ organize four educational sessions to promote our skills as educators of physiology.

Out-reach programs targeting elementary and junior and senior high school students

One of the outstanding features of the PSJ2018 was that we offered out-reach programs for the general public, with a special focus on elementary and junior and senior high schoolers, who are anticipated to be future scientists. We offered the students free-access to all academic programs of the PSJ2018. We provided junior and senior high school students with the opportunity to deliver poster presentations. In addition, we organized a program for students to interact and communicate with scientists from abroad in English and also established a symposium entitled, "Cooperation between high schools and universities: We can go beyond the fence" to discuss seamless connections and effective cooperation between high schools and university from the perspective of science education. The high school/university connection is currently under hot debate as a new direction for the reformation of the educational system in Japan, as proposed by the Ministry of Education. One hundred and eleven students and their teachers and parents participated in the out-reach programs (Table 1), and 21 posters were presented by the senior high school students. We allocated the poster session to the room shared with the general poster presentation, thereby promoting intimate interaction between current active scientists and prospective future scientists (Figure 2). Three presentations were awarded the Excellent Future Scientist Awards. The PSJ2018 marked the first annual meeting in the history of the PSJ, in which the high school students delivered poster presentations.

We also held a public lecture session regarding bio-logging science, a cutting-edge field of animal ecophysiology, on the day after the annual meeting ended. We received 858 entries for the lecture session, which was far beyond our expectation and exceeded the capacity of the initially planned venue. We amended the initial plan and prepared an extra venue. Even so, we were only able to accept 454 entries. The lectures were therefore videotaped and are now publically open on the following website: http:// www.kms.ac.jp/~yakubutu/shiminkouza2018.html (lectures are in Japanese).

Social events full of Kagawa's foods and spirits

Kagawa prefecture is well-known for its dishes of udon, a Japanese soup noodle. We opened an udon stand in the rest area and provided 500 bowls of udon for free every day, which allowed many attendees to enjoy the soul food of the Kagawa people. We held an evening welcome mixer with snack foods and Kagawa's sake and wine on the second day of the meeting. The hall was crowded and the participants enjoyed a pleasant evening, exchanging scientific conversations as well as friendship.

The PSJ2018 was held mostly owing to the efforts of the members of three laboratories of physiology at Kagawa University: Cell Physiology, Cardiovascular Physiology and Pharmaco-Bio-Informatics. We made every possible effort to make our meeting fruitful and satisfying to the participants. We hope that the PSJ2018 was fulfilling, enjoyable and memorable for all participants. We would like to express our sincere gratitude to the FAOPS members for their generous assistance and heartfelt support for the PSJ2018.

See you again soon at the FAOPS2019 in Kobe!

	Pre-registration		On-site registration				
Category	domestic	abroad	sum	domestic	abroad	sum	Total
Members	735	10	745	131	6	137	882
Non-members general attendance	50	11	61	99	6	105	166
symposium chairpersons and speakers	90	14	104	-	-	-	104
Graduate students (doctoral course)	108	12	120	13	4	17	137
Graduate students (master course)	49	6	55	12	2	14	69
Undergraduate students	68	0	68	41	1	42	110
Invited speakers	6	3	9	-	-	-	9
Guest attendees	-	-	-	10	5	15	15
Attendees from elementary and junior and senior high school for outreach programs	111	-	111	-	-	-	111
Total	1,217	56	1,273	306	24	330	1,603

Table 1. Total attendees of the meeting (persons)

 Table 2. Attendees from abroad (persons)

Country	Pre-registration	On-site registration	Total	
Australia	1	3	4	
Brunei	-	2	2	
Canada	1	-	1	
China	3	4	7	
Denmark	1	-	1	
Germany	-	1	1	
India	-	1	1	
Kenya	-	1	1	
Korea	15	4	19	
Malaysia	1	1	2	
Netherland	1	-	1	
Poland	1	1	2	
Taiwan	3	2	5	
Thailand	23	2	25	
UK	3	1	4	
USA	3	-	3	
Vietnam	-	1		
Total	56	24	80	
		1		

Table 5. Numbers of presentation			
Presentation category	domestic	abroad	Total
Plenary lecture	2	1	3
Special lecture	3	2	5
Memorial lecture	2		2
Symposium			
Committee-planned (27sessions)	109	5	114
Member-organized (32 sessions)	134	7	141
Lunchtime seminar	1	-	1
Oral presentation in general category	69	18	87
Oral presentation in student session	22	7	29
Poster presentation in general category	425	33	458
Poster presentation by awardees of the society awards	8	0	8
Educational programs (4 sessions)	12	_	12
Poster presentation by senior high school students	21	<u> </u>	21
Total	808	73	881





Sun-Port Hall Takamatsu and Takamatsu Symbol Tower, the main venues of the 95th Annual Meeting of the Physiological Society of Japan, with full-bloom cherry blossoms.

Poster presentation session by junior and senior high school students



WWW.FOAPS.ORG.MY

Introducing a journal: Physiology and Pharmacology



Physiology and Pharmacology is the official publication of the Iranian Society of Physiology and Pharmacology in English.

The journal publishes full-length original articles, invited reviews, and letter to editor in the field of physiology, pharmacology and related subjects. The aim of this journal is to provide a medium of scientific communication for investigators in the field of Physiology and Pharmacology.

Physiology and Pharmacology is an open access journal which means that all contents is freely available without charge to the user or his/her institution. Currently, there is no processing and publication fee.

We are pleased to announce to our readers, authors specially the FAOPS member that **Physiology and Pharmacology** has been indexed in Web of Science- Emerging Sources Citation Index (ESCI), Scopus, DOAJ and EMBASE.

The journal is freely available at: http://www.phypha.ir/ppj/





-Introducing a book: Defining Physiology: Principles, Themes, Concepts



This book will provide the reader with an overview of the essential meanings of key words in the physiology of various organ systems. This book is linked to a Question and Answer book on these organ systems that was published previously by Springer and will focus on cardiovascular, pulmonary and renal physiology.

Each physiology system will be organized in to five different sections, covering the main areas of interest and each section will contain at least ten clear definitions of the main topics in this area.

This book will present an easy reference guide for those just starting out in the area of physiology and for those who are interested in clear and succinct definitions of key terms. Prof. Cheng Hwee Ming Academic degree and the year obtained: PhD 1983 Major: Physiology, Immunology Affiliation: University Malaya, Kuala Lumpur Current position: Professor Field of study: Antioxidant, Immunophysiology, How Students learn Physiology

Professor Cheng Hwee Ming, attained his PhD in the field of Human Immunology and Physiology from the University of Liverpool, UK in 1983. Joining the department of Physiology at the Faculty of Medicine of the University of Malaya (UM) in the year 1985, he continued his research in immunology, focusing primarily on physiologic autoantibodies. While his research in physiologic autoantibodies was thriving and was well received, Dr. Cheng had also began tapping on his passion for physiology education. He enjoyed interacting with students, helping them consolidate their understanding in physiology, while debunking common misconceptions in the subject. This passion for instilling deep knowledge of physiology, has culminated in almost 20 books in physiology education in his last 33 years in academia. A medical academic, always full of creative ideas, it was not surprising that in 2003, the Inter-Medical School Physiology Quiz (IMSPQ) was birthed. The 15th IMSPO was held in August 2017 in the University Malaya, with over 100 teams from 20 countries. His most recently published book, Defining Physiology: Principles, Themes and Concepts: Cardiovascular, Respiratory and Renal, is a witness to his approach in physiology education that is to break down physiology concepts into simple definition of the major principles, followed by elaborating themes and relevant core concepts while debunking common misconceptions amongst students.

Dr. Felicita Fedelis Jusof

Academic degree and the year obtained: *PhD 2015* Major: *Physiology, Immunology* Affiliation: *University Malaya, Kuala Lumpur* Current position: *Senior Lecturer* Field of study: *Immune regulation, Kynurenine pathway, Physiology Education*

Dr. Felicita Jusof graduated with a PhD in Medicine, majoring in immunology and physiology from the University of Sydney in 2015. Her current research interest focus is immunoregulation in both physiologic pregnancy as well as pathological conditions such as viral infections and autoimmune diseases. A former undergraduate student of Prof. Cheng in 2006, she was always intrigued and inspired by the passion that he would bring to his physiology classes. Almost ten years on, Dr. Felicita returned to work in the Department of Physiology, UM in 2015, this time as a colleague. Having served as a tutor in the department prior to her pursuing her PhD, Dr. Felicita started delving into the area of physiology education from the year 2010 onwards, recognizing the common struggles amongst students in attaining deep understanding in physiology. Combining her encounters with students and her own not-so-distant experience as a physiology student, she strives to make easy major physiological concepts for students while encouraging them to see the 'big picture' consisting of multi-organ integration in play. With the publication of the book Defining Physiology: Principles, Themes and Concepts: Cardiovascular, Respiratory and Renal, co-authored with Prof. Cheng, Dr. Felicita, hopes to continue contributing to Physiology Education in simple but significant ways.

Hwee Ming Cheng · Felicita Jusof

Defining Physiology: Principles, Themes, Concepts

Cardiovascular, Respiratory and Renal Physiology

Deringer



- Provides definitions of essential key words with conceptual elaborations
- Offers figures to enhance each definition
- Is a useful companion to the "Physiology-Question Based Learning" titles







Philosophy of life: Function and Mechanisms

in conjunction with The 96th Annual Meeting of the Physiological Society of Japan

March 28-31, 2019 **Kobe Convention Center** KOBE, JAPAN

Registration started on Aug. 1st Congress website: http://www.nips.ac.jp/faops2019/

Key Speakers



David Julius

Yoshinori Ohsumi

Linda B. Buck



Nao Kodaira

President of FAOPS2019: Junichi Nabekura M.D., Ph.D. Secretariat Office: Japan Convention Service, Inc. E mail: faops2019@convention.co.jp Congress Website: http://www.nips.ac.jp/faops2019/ Secretary General: Noriyuki Koibuchi M.D., Ph.D.

Facebook : https://www.facebook.com/faops2(Twitter : https://twitter.com/FAOPS2019_KOBE



Special Talk

nedalist in women's 500m speed skating gChang 2018 Winter Olympic Games

FAOPS e-newsletter

Dept. of Physiology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran

Email: faopsletter@gmail.com ssemnan@modares.ac.ir

