The Physiological Society of Sri Lanka

NEWSLETTER

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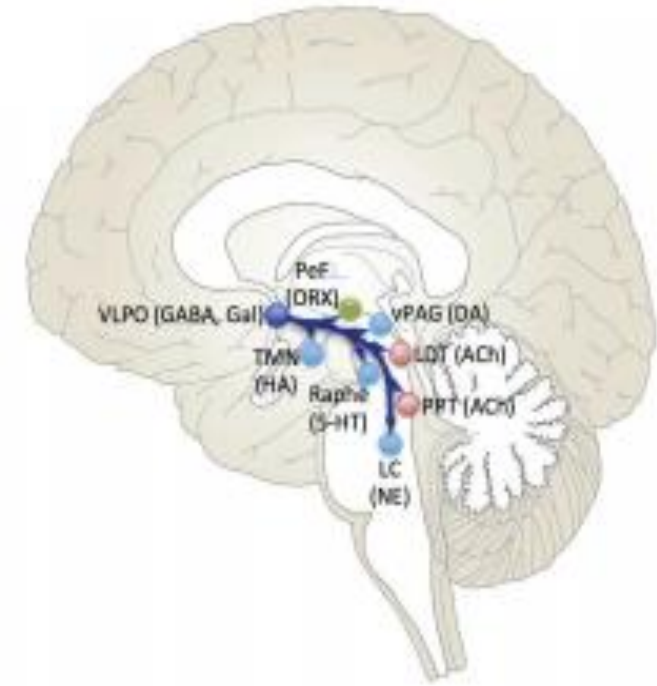

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Description of front page picture

Brain networks regulating sleep and wakefulness. This shows pathways arising from the hypothalamus that inactivate the ascending arousal system during sleep. ACh, acetylcholine; DA, dopamine; GABA, gamma amino-butyric acid; Gal, galanin; HA, histamine; LDT, laterodorsal tegmentum; NE, norepinephrine; ORX, orexin; PeF, perifornical region; PPT, pedunculopontine tegmentum; TMN, tuberomammillary nucleus; vPAG, ventral periaqueductal gray matter; 5-HT, 5-hydroxytryptamine.

Editorial

Dear Members,

I have completed my task as editor PSSL for the year 2018 and this will be final communication for the year. As I conclude my term of office, I would like to recall the many activities the PSSL carried out for the year 2018. The year began with the regional meeting of the PSSL where we all travelled to Galle and spent an enjoyable day with academic activity in the morning followed by fellowship with our colleagues in the afternoon.

The second event in the calendar was the Annual Inter Medical Faculty Physiology Quiz which was held in April 2018. It was a day of friendly competition whilst reinforcing many social ties amongst the staff and students of the eight medical faculties in the country.

The Pre conference workshop was held at the Faculty of Medicine, University of Kelaniya where our physiologists were privileged to learn regression analysis from an expert statistician. It was a great pleasure to participate in the interactive workshop held in an informal atmosphere.

The most popular event in the calendar, the annual academic sessions of the PSSL was held on 16th and 17th of November 2018. This newsletter will bring back memories of another eventful day of academic activity celebrating the 31st anniversary of the PSSL.

This issue provides an update on the activities of the South Asian Association of Physiologists Conference (SAAP) VI which was held in conjunction with the 16th Biennial Pakistan Physiological Society (PPS) conference in December 2018. Prof. Sharine Fernando was the key note speaker at the conference and an extended abstract of her speech is included in this edition. I provide a bird's eye view of the proceedings to inform those who missed an opportunity to meet fellow physiologists in the region at the beautiful faculty complex of the University of Lahore, Pakistan.

This newsletter gives information on obstructive sleep apnoea to update us physiologists on its importance. The cover page highlights the descending neural pathways from the hypothalamus that are active during sleep. These pathways inactivate the ascending arousal system during sleep.

The 4th place winners, of the Inter-Medical School Physiology Quiz, the team from the Faculty of Medicine, University of Jaffna were felicitated by the faculty. I bring you photo memories of the event. Finally, the upcoming events, from the journals and achievements of members are highlighted. I am happy to update the members on these academic aspects and hope you continue your endeavors to Teach, Search and Serve in the coming years.

Prof. Savithri W. Wimalasekera,

Editor,

PSSL.

The PSSL is 31 Years Old and Young!

The most popular event in the calendar of Physiology in the country is the annual academic sessions of the PSSL. This year marks the 31st Anniversary of the society and it was a time of academics, camaraderie and happy memories.

The inauguration of the sessions was held on the 16th November at the Faculty of Medicine, University of Colombo. The Chief Guest at the sessions was Prof. Surangi Yasawardene, Dean Fauclty of Medical Sciences of the University of Sri Jayewardenepura. The guest of Honor was Dr. S. D. Jayarathne, retired professor of Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, and a past president of the Ceylon College of Physicians.

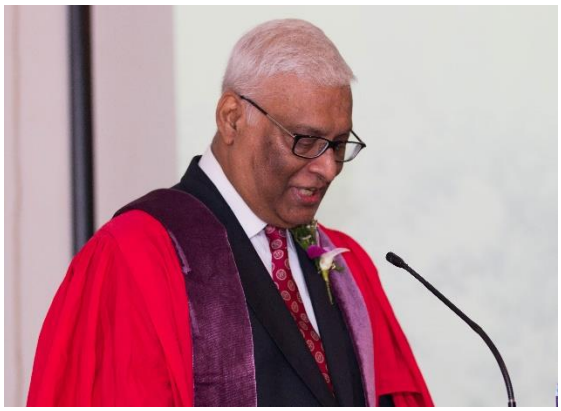
The commencement of Proceedings with lighting of the traditional oil lamp

The welcome speech by Prof Priyadarshika Hettiarachchi, President PSSL

Mr. Nihal Seneviratne the brother of the late Prof. K. N. Seneviratne, and the family of the late professor Seneviratne graced the inauguration ceremony.

At the inauguration, the Prof. K. N. Seneviratne memorial research award for 2018 was awarded to Dr. Chanika Alahakoon from the Department of Physiology, Faculty of Medicine, University of Peradeniya for the research paper titled "Prediction of organophosphorus insecticide-induced intermediate syndrome with stimulated concentric needle single fiber electromyography".

The ceremonial procession enters the hall



Dr. S. D. Jayaratne, the guest of Honor speaks to the invitees

Address by the chief guest Prof. S. Yasawardene

Mr. Nihal Seneviratne the brother of the late Prof. K. N. Seneviratne presenting the K. N. Senevirathne memorial award

The K. N. Seneviratne Memorial Award for Physiology is awarded to the best student in Physiology of the faculty of Medicine Colombo. This year the cash award of Rs. 50,000.00 was awarded to K. A. H. Piyatissa, who obtained the highest marks for physiology at the Integrated basic sciences stream final examination held at the Faculty of Medicine, University of Colombo.

Dr. Charunika Alahakoon recieves the Prof. K. N. Seneviratne memorial research award, 2018

The main academic programme was held on the 17th of November with 2 free paper sessions for oral presentations. The academic programme consisted of a "symposium on aging", a plenary lecture on "the physiology of Happiness". Presentation by the winner of the Prof. K. N. Seneviratne research award 2017 and two orations were the highlights.

Congratulations to Dr. Piyusha Atapattu for delivering the plenary lecture on physiology of happiness

Dr. Dulani Kottahachchi delivering the vote of thanks

Awards were given to the best oral presentation, best poster presentation and winners of the physiology arts competition.

PSSL annual orations

Prof. Yoshihiro Ishikawa delivering the Prof. K. N. Senevirathne memorial oration

The 31st Prof. K. N. Seneviratne memorial oration 2018, was delivered by Prof. Yoshihiro Ishikawa, Professor and Chair, Cardiovascular Research Institute, Yokohama City University School of Medicine, Japan, at the inauguration of the Annual Scientific Sessions on the 16th November 2018. It was titled "Development and failure of human artery". Prof. Ishikawa is a very senior researcher and scientist from Japan, a past president of the Physiological Society of Japan with over 200 publications. The oration was well received and the PSSL was honored to have an eminent researcher from the Asian region to address the audience.

The fifth Prof. Valentine Basnayake memorial Oration was delivered by Prof. Susirith Mendis, Senior Professor of Physiology, General Sir John Kotelawala Defense University on 17th November 2018. Prof. Susirith Mendis is Emeritus professor of Physiology of Faculty of Medicine, University of Ruhuna and Senior professor and Head of division of Physiology, Kotelawela Defense University Ratmalana. The title, of the oration, "Music as Metaphor in the Practice of Medicine" was aptly selected to honor the late Prof. Basnayake, a musician and a world renowned pianist. The oration was well received and the PSSL members greatly appreciated the reminiscent references to a great humanitarian professor of Physiology from the Faculty of Medicine, Peradeniya, the founder father of the Physiological Society of Sri Lanka.

Prof. Susirith Mendis delivering the Valantine Basnayake oration

The 31st Prof. A. C. E. Koch memorial oration 2018 was delivered by Prof. Savithri Wimalasekera, Department of Physiology, Faculty of Medical Sciences, University of Sri Jayewardenepura titled "Air and lungs; in health and disease" at the Annual Scientific sessions on the 17th November 2018.

Prof. S. W. Wimalasekera delivering the Prof. A. C. E. Koch oration

Prof. Carlo Fonseka graced the occasion

The annual academic sessions were held at the auditorium of the Faculty of Medical Sciences, University of Sri Jayewardenepura, Nugegoda.

Dr. Piyusha Atapattu delivered the planery lecture on "Physiology of Happiness", a complex aspect dealt very effectively generating happiness.

Dr. Piyusha Atapattu delivering the planery lecture

The recipient of the Prof. K. N. Seneviratne memorial research award 2017, Dr. Taniya Warnakulasooriya spoke on "frequency of micronuclei among persons resident in the vicinity of a mineral sand processing factory in Pulmoddai, Sri Lanka".

The recipient of the Prof. K. N. Seneviratne memorial research award 2017, Dr. Taniya Warnakulasooriya

The Symposium on aging was delivered by three experts. Dr. Chandana Hewage spoke on "physiology of healthy aging". Prof. Shehan Williams spoke on "improving cognition in aging" and Dr. Priyankara Jayewardana spoke on "improving physical health in aging". The lectures were novel and well received. The academic sessions further included nine oral presentations and five poster presentations in the free paper category.

Dr. Chandana Hewage, Prof. Shehan Williams and Dr. Priyanaka Jayawardana at the symposium on aging

Winner of Phyz arts competition, 2018

Awards were given to best oral paper, best poster presentation and physiology arts competition winners.

Update on the 6th South Asian Association of Physiologists Conference (SAAP VI) & 16th Biennial Pakistan Physiological Society Conference (PPS 16)

The South Asian Association of Physiologists Conference (SAAP VI) & 16th Biennial Pakistan Physiological Society conference (PPS 16) was held from the 12th – 15th December 2018, at the Faculty of Medicine, University of Lahore, Pakistan. The conference was based on the theme of "Enhancing Academic and Research Collaboration in South Asia".

The organizing Secretary for the pre-conference workshop and the conference was Prof. Samina Malik, Professor of Physiology, Faculty of Medicine, University of Lahore, Pakistan. An international panel of resource persons contributed to the workshops. The Pre-conference workshop on teaching Physiology was held on 12th December 2018. The highlights of the workshop were the plenary lecture conducted by Dr. Mei Ling Tsai Co-chair, International Union of Physiological Sciences (IUPS), and Council member in Federation of Asian and Oceania Physiological Societies (FAOPS) from Taiwan on "Teaching and Learning in 21st century". The other plenary lectures were by Dr. M. Tariq, Director Medical Education from Aga Khan University on "Flipped Classroom: a blended learning instructional strategy to enhance student engagement". Hands on parallel workshop sessions were conducted on "Lecturing at a Higher Cognitive Level, involving Critical Thinking and Digital storytelling"; "The Use of Digital Story Telling in Physiology Teaching and the blended classroom".

President of IUPS, Dr. Julie Chan from Taiwan addressed the delegates by a video conference talk. She congratulated the organizers of SAAP

SAAP Flag holding Ceremony with national anthem: Dr. Mohammad Nizamuddin (S.I.), *Left to right: Prof. Samina Malik Organizing Secretary SAAP VI, Chairman Punjab Higher Education Commission Prof. Arif Siddiqui Chair SAAP VI, Rector UOL, Prof. Rita Khadka, President SAAP V, Chief guest, Dr. Zafar Tanveer President PPS 15, Prof. M. Ayub, Chairman PPS 16, Pro-Rector UOL & Dr. Danish Islam*

VI and University of Lahore for hosting the academic activity to promote research and education in South Asia. She highlighted the importance of the subject of Physiology by the lack of boundaries between Physiology with other fields such as molecular and cell biology, biochemistry, immunology and bacteriology. She further emphasized the need to highlight integrated research in Physiology and biomedical fields through academic fora.

The founder members of the South Asian Association of Physiologists, were nostalgic with the return of the SAAP conference back to Pakistan in 2018.

The opportunity to host the conference rotated amongst the five South Asian Association of Regional Cooperation (SAARC) member nations, to return back to Pakistan after 10 years of completing its first rotation. At the inauguration of the conference the members of Pakistan Physiological Society joined with the chief guest in the SAAP Flag holding Ceremony and the national anthem.

Panel discussion on "Evaluating Physiology Curriculum to meet future challenges"

Right to Left: Dr. HumeraWyne, Dr. Adnan Kanpurwala (moderator), Dr. M. JabranJavaid Sidhu (postgraduate student), Dr. M. Tariq (Karachi), Dr. Savithri Wimalsekera (Sri Lanka), Dr.Jyotsna Rimal (Nepal), Dr. M. Ayub (Muzaffarabad), Dr. Mehrun Nisa (Lahore), Dr. HamayunIkram (Multan) and Dr. Chaman Nasrullah (postgraduate student).

Dr. Arif Siddiqui, the newly nominated President SAAP2018-2020 highlighted the need of ethical teaching by a Physiology Educator. He stated that ethical underpinnings of professional activities appropriately cover many faculty activities i.e. research, publication and clinical ethics. As teachers are the greatest assets of any education system, they have a role to play in the interface of transition of knowledge, skills and attitudes.

Dr. Arif Siddiqui

Dr. Rita Khadka (Nepal), President SAAP, elaborated on the role of SAAP by declaring it as a unique platform for interaction and sharing of knowledge and skills among national and international scientists/ physiologists/ educationists. She outlined the need for the advancement of physiological research and medical education in the region. She delivered the plenary lecture on "cardiovascular & respiratory adjustments in high altitude dwellers". She expressed that more than 140 million people in the world live who live at high altitude are affected with the above physiological adjustments.

Dr. Rita Khadka

Prof. Sharaine Fernando, the keynote speaker, spoke on the effects of environmental pollution on human reproduction. She discussed the effects of environmental toxicants on selected aspects of reproduction and the possible sources of exposure to toxicants. She elaborated by saying that

physiologists in the region should champion environmental justice meaning fair treatment and meaningful involvement of all, in development, implementation and enforcement of laws, regulations and policies related to exposure to toxicants.

Prof. Sharaine Fernando

Dr. Bishnu Hari Paudel, from B. P. Koirala Institute of Health Sciences, Nepal shared his research study in the domain of neurophysiology, on "Establishing electroencephalographic Cognitive Marker N400 as a Diagnostic Tool". He demonstrated significant event related potential amplitudes in students in response to incongruous sentence reading.

A plenary lecture by Dr. M. Arslan, IMBB, University of Lahore, highlighted the role of genetics in the current dilemma of obesity. His research has led to the discovery of ADCY3, a novel gene in Pakistani population, responsible for obesity. The research work has been published in the prestigious journal "Nature".

The academic sessions were well received by the audience and it was based on a wide range of topics.

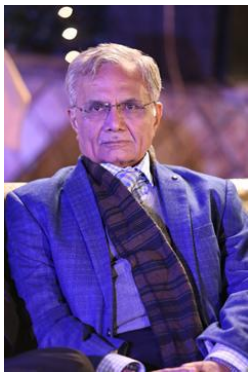
The academic sessions comprised of 2 days of lectures and symposia on a variety of topics with representation from the South Asian region. The countries of India, Sri Lanka, Nepal and Bhutan were represented and the Pakistani physiologists hosted the visitors and interacted with their regional colleagues. The academic programme was informative and well planned. The guest speakers spoke on many topics ranging from molecular signaling to applications of pharmacology and genetics.

The academic sessions featured 25 plenary talks from foreign and national invited speakers.

There were 47 oral papers presented on 8 scientific themes (in 3 parallel sessions) and 75 poster presentations (distributed over 3 consecutive days) that were selected by double-blind review (out of more than 150 submitted abstracts) conducted by Scientific Committee under the chairperson Dr. Rehana Rehman, Vice Chair Research and Graduate Sciences, Aga Khan University. Presentations were evaluated and winners were announced. Best oral papers were awarded for each theme and the winners included Dr. L. S. Kaththiriarachchi from University of Sri Jayewardenepura, Nugegoda, Sri Lanka (session on MSK / Special Senses, Renal & Other).

Dr. L. S. Kathriarachchi was awarded at the conference for a best oral presentation

Panel Discussion on Experimental Physiology.
From right: Dr. Samina Malik (concluding discussant), Dr. QasimJanjua (moderator), Dr. AmbreenAsad (Islamabad), Dr. Sharaine Fernando (Sri-Lanka), Dr. Abdul Azeem (Karachi), Dr. Rita Khadka(Nepal) and Dr. Urooj Bhatti (Jamshoro)



Life-time achievement award was given to 3 eminent Physiologists from Pakistan
Dr. Arif Siddiqui, Dr. HR Ahmad and Dr. Mumtaz Ali Memon (Left to Right)
Patron

Closing ceremony of SAAP VI & PPS 16.
From right: Dr. Samina Malik (Organizing secretary SAAP VI), Dr. M Aslam (Co-chair SAAP VI), Dr. Shahid Malik (Patron SAAP VI), Dr. JavedAkram (chief guest), Dr. Salma Kundi(distinguished guest) and Dr. Farrukh Iqbal (Principal, University College of Medicine, UOL)

Executive Committee of SAAP for the years 2018 – 2020

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Treasurer : Dr. Himansu Waidyasekera

Joint Secretary : Prof. Mangala Gunatilake

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Prof. Amar K Chandra

Prof. Sharaine Fernando

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1. Prof. Priyadharshika Hettiarchchi
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Environmental Pollution, Human Reproduction and the Physiologists

Synopsis of the Keynote Address at South Asian Association of Physiologists conference, Lahore, Pakistan, 13th December, 2018

Prof. Sharaine Fernando, MBBS, Ph.D.

Professor of Physiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Former president SAAP (2012 -2014) and member advisory Council SAAP.

Environmental pollution is a serious problem facing humanity and other life forms on our planet today. It is common to both developed and developing countries. Environmental pollution has been defined as "the contamination of the physical and biological components of the earth/atmosphere to such an extent that normal environmental processes are adversely affected".

Pollution of the environment is a by-product of man's actions caused by direct or indirect effects on the changes in energy pattern, radiation levels, chemical and physical constitution of the environment and on organisms. This leads to loss of vegetation and biological diversity, excessive amounts of harmful chemicals in the air, water and food, growing risks of natural disasters and threats to life support systems.

Pollutants are the substances that cause pollution and are released intentionally or inadvertently into the environment with actual or potential adverse, harmful, unpleasant, or inconvenient effects. These undesirable effects may directly or indirectly affect man.

Reproduction is one of such processes that is adversely affected by any type of environmental pollution. Reproduction is the biological process by which an offspring is produced from the parents. In human reproduction the offspring is another individual. "*The reproduction of mankind is a great marvel and mystery*" - *Martin Luther King* and pollutants are known to have harmful effects on most if not all aspects of this mysterious process of reproduction. There is convincing evidence from my own research and research that has been published worldwide.

Toxic chemicals are ubiquitous and exposure during pregnancy and lactation is almost inevitable. Effects of exposure may be heightened during "critical" and "sensitive" periods of development like foetal life, neonatal period, adolescence and pregnancy. Babies are born "pre polluted" and the effects may last up to four generations.

The effects of reproductive toxicants differ on the stages of life when exposed. Exposures during foetal life, i.e. in mother, are thought to be irreversible, while the direct exposures are known to cause reversible effects. Testicular germ cell cancer, testicular dysgenesis that are seen in increasing numbers now are thought to be due to maternal exposures.

Individuals and communities vary in their vulnerability and the risk to exposures. Low socioeconomic groups are thought to be at greater risk. Other factors include Health status, concomitant exposures, presence of other stressors and genes. The National research council USA states that any level of exposure is harmful and there is no "safe dose".

Ladies and gentleman, lets pause for a minute to ask what we can do as physiologists. Let me now discuss some future directions.

The International Federation of Gynecologists and Obstetricians has proposed four major tasks to prevent exposure to toxic chemicals and its effects on human reproduction. I will take each of them and discuss how we as physiologists could modify them to take action.

Advocate policies to prevent exposure.

We need to engage in formulating policies related to safety of food, air, water, consumer products and waste management. This can be strengthened by conducting research on epidemiology, health impact, disease/economic burden of exposure to toxins.

Ensure healthy food system for all

We need to innovate methods of healthy food production, preservation and promotion. Research on traditional spices/herbs/plants which can neutralize/chelate toxins will be invaluable. Cutting edge research to synthesize biomolecules to detoxify or remove toxicants will help to alleviate at least some of the harmful effects.

The third recommendation is to **make environmental health part of health care**. As health professionals we need to educate the public on, sources of exposure to chemicals, potential harms, vulnerability and prevention. The public should be encouraged to report hazards to relevant authorities. Health care providers and institutions should advocate "health care without harm" by adhering to Clean energy, proper waste disposal & waste management procedures.

Finally, we should **champion environmental justice which means fair treatment & meaningful involvement of all** in, development, implementation and enforcement of laws, regulations and policies related to exposure to toxicants.

Ladies and gentleman, I hope I have convinced you that exposure to toxic environmental chemicals has become a feature of everyday life and it affects healthy human reproduction. This is a dynamic model of action. To an audience where there are clinicians who see patients daily and academics of varying interests engaged in research and who can influence policy making and implementation I am sure this is a feasible model.

To the new council of SAAP I propose that we take the first step under the leadership of Pakistan to have a centre conducting research on different aspects of environmental pollution and its effects on human reproduction. The evidence generated could be the tool to educate public and for advocacy. I am sure the new council will energize us to keep the dynamism. We, as an academic and a scientific community need to act without procrastination. We owe it to our future generations.

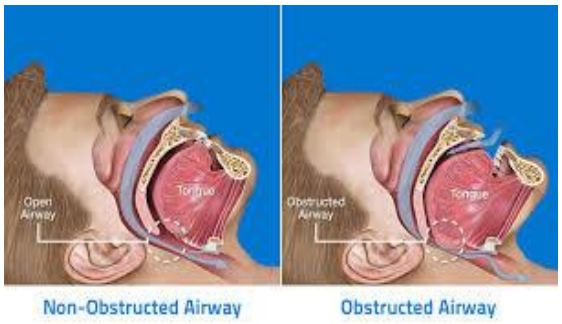
Ladies and gentleman I would like to conclude with the words taken from the book of Genesis in the Bible. "*Prosper! Reproduce! Fill the Earth! Take charge! Be responsible for fish in the sea and birds in the air, for every living thing that moves on the face of Earth"*. Genesis 1: 28

It is a noble calling to all of us. It is our responsibility to make the next generations live and live healthily. Thank you

Obstructive Sleep Apnoea

Dr. Chandimani Undugodage, MBBS, MD, MRCP, FRCP
Senior Lecturer, Faculty of Medical Sciences, University of Sri Jayewardenepura, Nugegoda.

Obstructive Sleep Apnoea syndrome (OSAS) is a common cause of morbidity and mortality worldwide. It affects 2-4% of the adult population.[1] With the increase in awareness and diagnostic facilities more patients with OSAS are recognized in Sri Lanka.



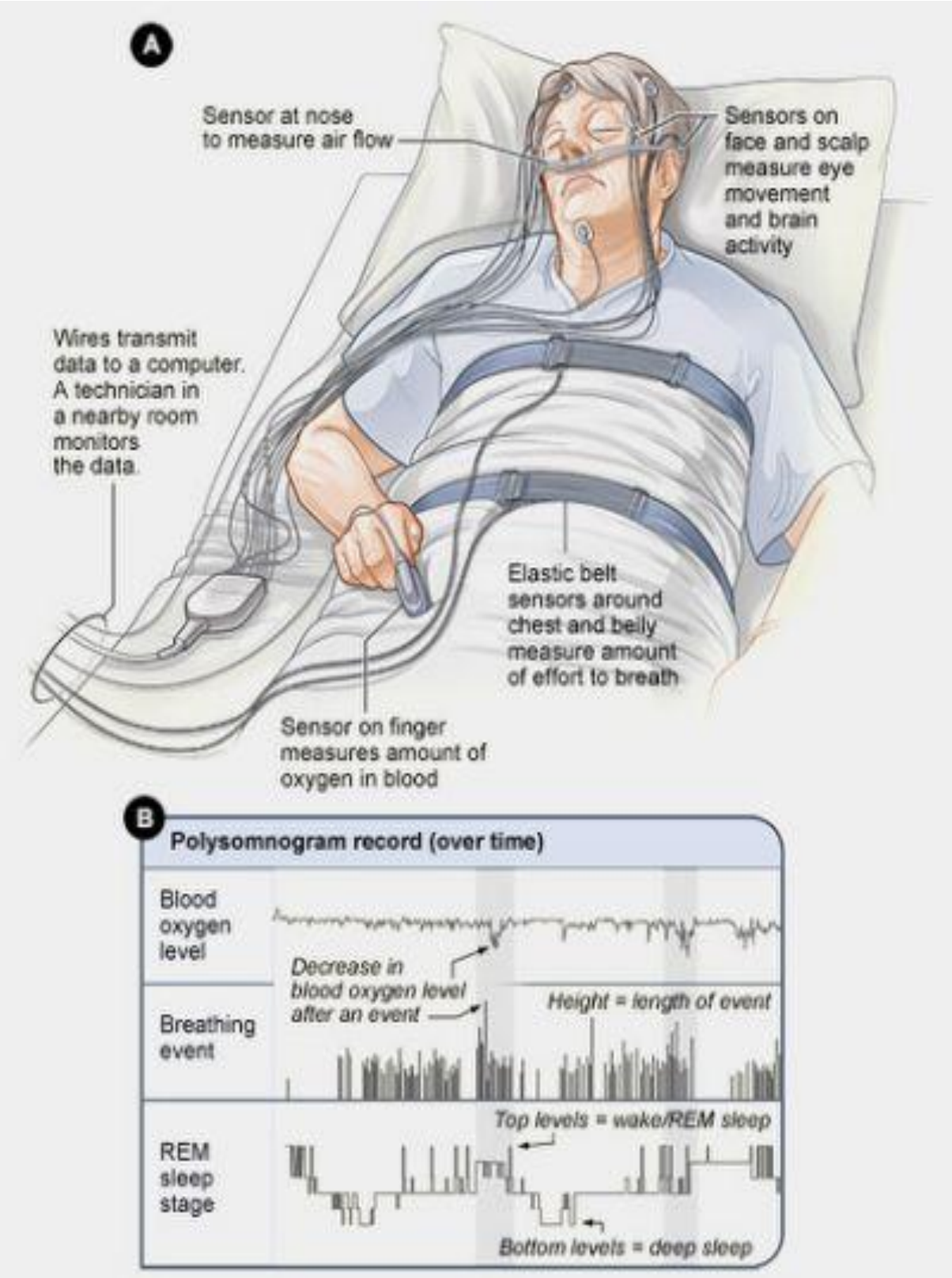
The commonest risk factor for OSA is obesity. In addition, craniofacial abnormalities, muscle hypotonia can give rise to OSAS. The important anatomical abnormality is the narrow pharynx. In OSAS the already narrow pharynx closes during sleep leading to apnoea. This is usually associated with reduction in oxygen saturation. These repeated anoxic and re-oxygenation events lead to neuro-hormonal changes with increased secretion of cortisol and epinephrine. This would lead to metabolic and cardiovascular events associated with OSA. The consequences are poor sleep, daytime somnolence and reduced productivity. These patients also have a high risk of developing ischemic heart disease, stroke, refractory hypertension, diabetes mellitus, arrhythmias, impotence etc.

The cardinal features of OSA are Snoring, Somnolence (daytime) and Sleep apneas (3 S's).

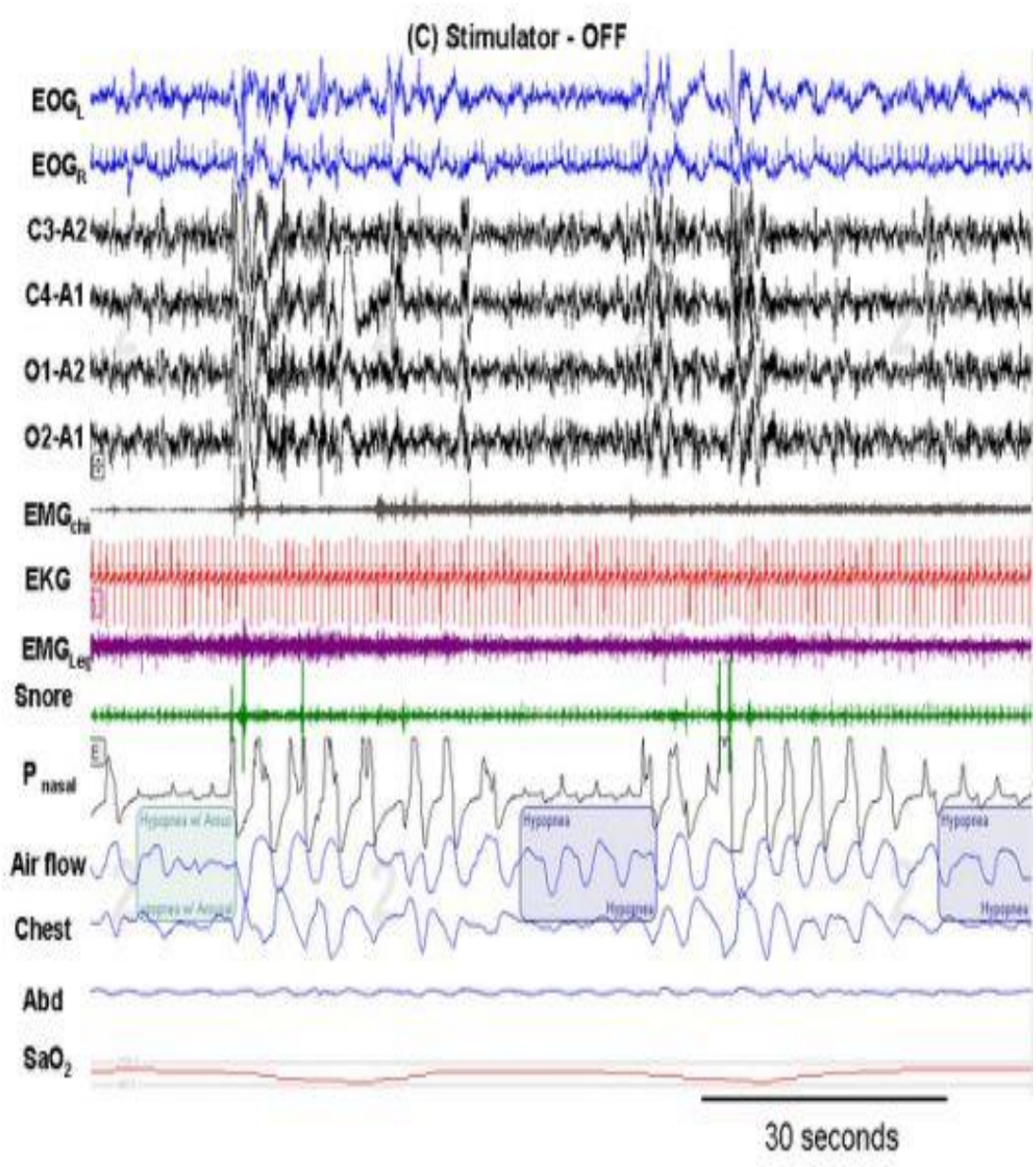
OSA can be diagnosed by an overnight polysomnography by looking at the number of apneas and hypopnoeas. Apnea in adults is scored when there is a drop in the peak signal excursion by 90% of pre-event baseline using an oronasal thermal sensor or an alternative apnea sensor, for 10 seconds. Hypopnea is scored when the peak signal excursions drop by >=30% of pre-event baseline measuring nasal pressure or an alternative sensor, for >=10 seconds in association with either >=3% arterial oxygen desaturation or an arousal.

The Apnoea Hypopnoea Index (AHI), which is the number of apnoeas/hypopnoeas per hour is used to categorize OSA as mild (AHI 5-15), moderate (AHI 15-30), and severe AHI (>30) The gold standard of therapy is CPAP. (Continuous Positive Air Way Pressure). CPAP is administered via a machine while the patient is asleep; the continuous jet of air keeps the pharynx open thereby alleviating apnoeas. Sleep surgery is also a main form of treatment. There are non- surgical options such as weight reduction, positional therapies, mandibular advancement devices, tongue retaining devices, pharyngeal muscle strengthening for treatment of OSA.

A CPAP Machine

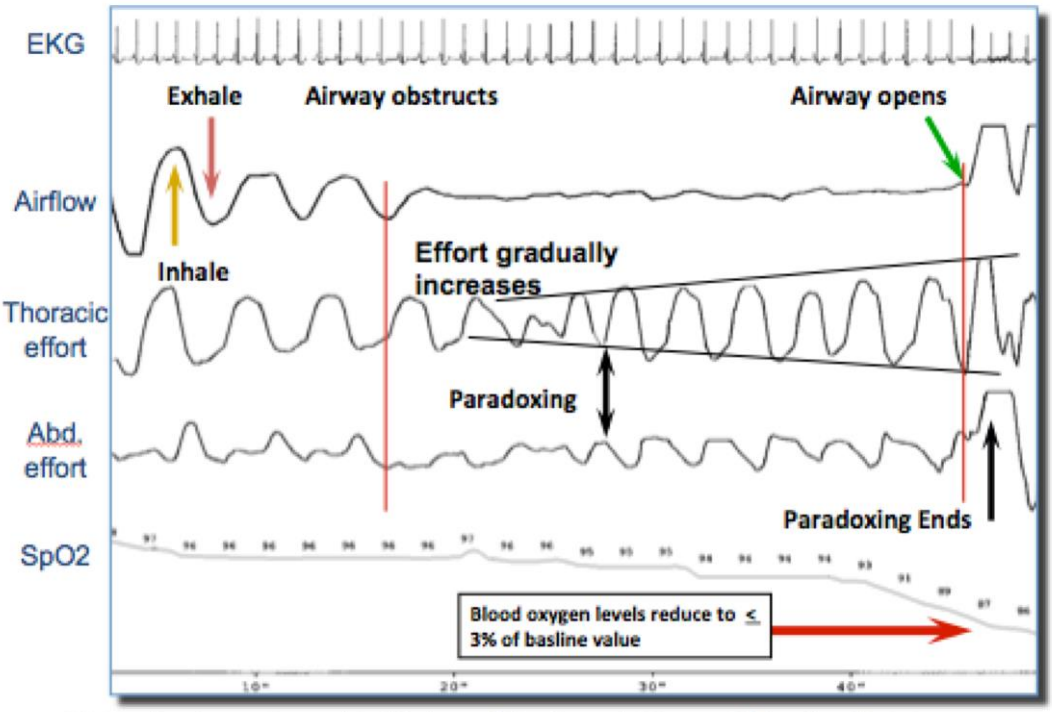


An image of a patient undergoing a polysomnography



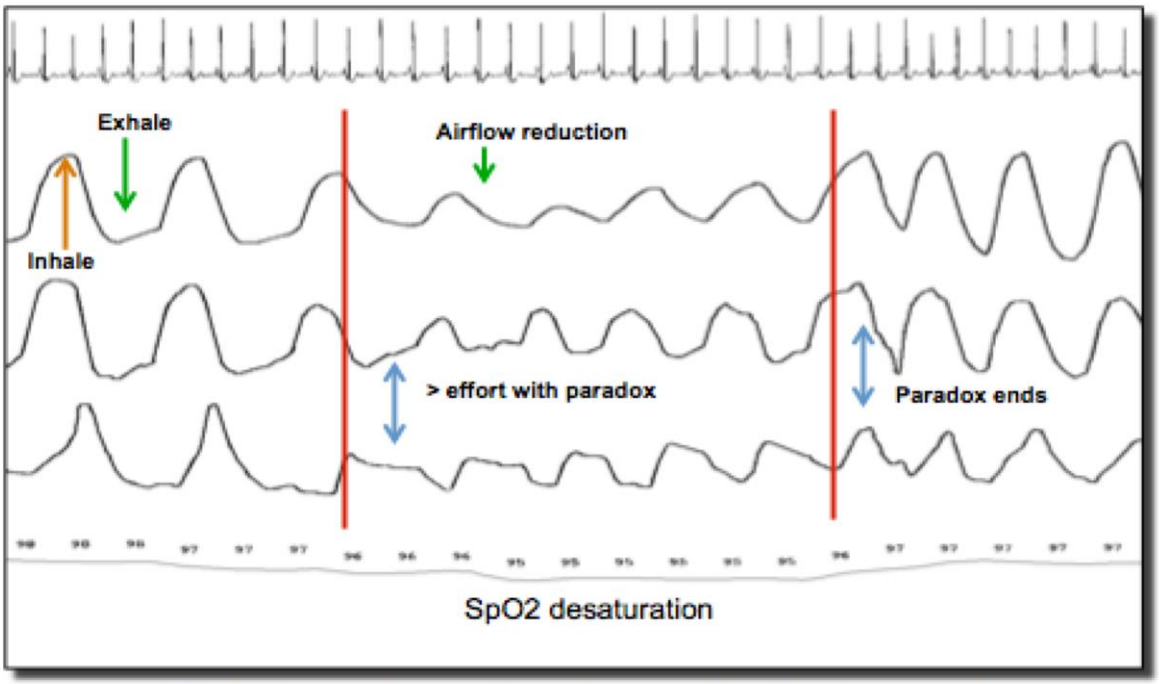
A snap shot view - a polysomonogram recording

Parameters recorded included EEG, EMG $_{chin\ and\ leg}$ ECG Snoring, chest movements, abdominal movements, air flow, Oxygen saturation



Obstructive Apnea A complete blockage of the airway (>10 seconds) despite efforts to breath. Notice the effort gradually increasing ending in airway opening.

3/7/19



Hypopnea: This is a hypopneic event. The airflow signal is reduced by approximately>= 30% during this event for at least 10 seconds. Desaturation >=3% (aasm criteria)

Please contact the author if you would like more information about this area via:
chandimanin@yahoo.com

NEWS

Pre conference workshop of the Physiological Society of Sri Lanka

The pre-congress workshop on "Applied Statistics in Medical Research: Regression Analysis" was held on the 30th of October 2018 at the Faculty of Medicine Ragama. It was a great success with over 40 participants obtaining hands on training. The resource person, Prof. Tharaka Dassanayake skillfully delivered complex statistical analysis concepts in an easy to understand manner. The PSSL thanks Prof Dassanayake for the excellent academic activity conducted in a stress free environment

Statistics in Action

Preconference workshop participants

President PSSL thanks the resource person Prof. Tharaka Dassanayake for all the hard work

Winners of the Phyz Arts Competition 2018

The novel concept of physiology through art "Phyz art" was a new feature in the annual academic sessions, 2018. Undergraduate students of all state medical faculties were invited to participate by art displaying a physiological concept. The picture above shows the winners with their winning art.

1st Place - Miss. Pavithra Lakmini Perera, Faculty of Medicine University of Kelaniya

2nd Place - Miss. N. G. P. G. Kumariharmy, Faculty of Medicine, Eastern University

3rd Place - Miss. A. L. Susana, Faculty of Medicine, Eastern University

Felicitation of Students Placed 4th at the International Medical School Physiology Quiz 2018 Conducted in Malaysia.

A team of medical students from the 38th batch of the Faculty of Medicine, University of Jaffna comprising Mr. Thanabalasingam Gohulan, Mr. Kathirgamanathan Sithaparanathan and Mr. Velmurugu Keerththanan participated in the Intermedical School quiz held in Malaysia in 2018. They achieved 4th place at the quiz and were awarded prizes as they came within the first five in an international competition.

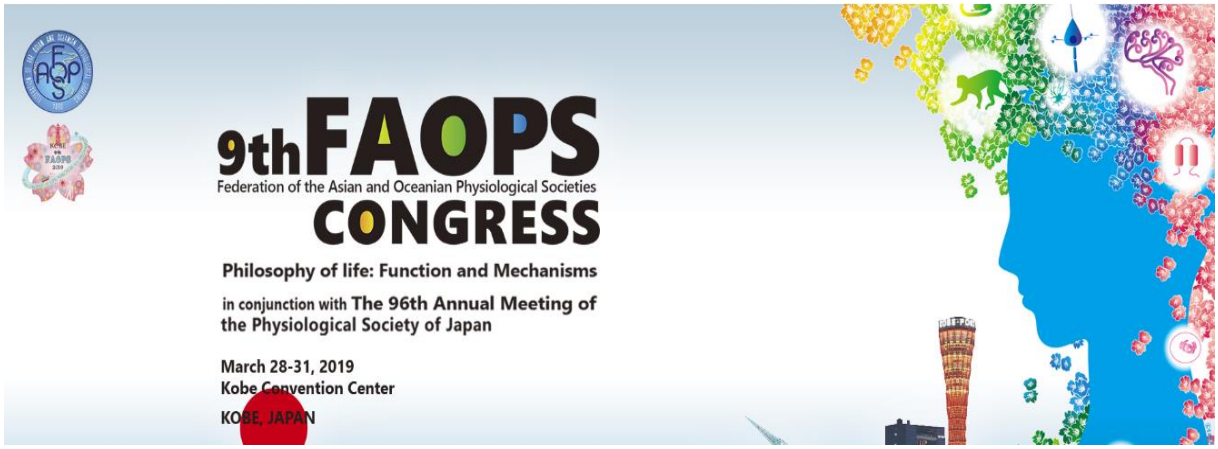
The Dean and academic staff of the Medical Faculty Board invited the above students to its 343rd meeting held on 19.09.2018 and felicitated them. The photos taken at the Faculty Board and at Malaysia are attached.

The Faculty Photo has Dr. S. Ravirag (Dean), Dr. K. Sivapalan (Physiology) and Mr. G. Vikunthan (President of the Medical Students Union)

Prof. Chang along with the with the team from faculty of Medicine, University of Jaffna

Upcoming Events

- **9th FAOPS (Federation of Asian and Oceanian Physiological Societies) Congress**



Further details at: *http://www.nips.ac.jp/faops2019/*

The Physiological Society

Extreme Environmental Physiology: Life at the Limits
University of Portsmouth, UK

Registration is now open for Extreme Environmental Physiology: Life at the Limits on **2–4 September 2019**. This conference will explore what happens to our physiology in extreme environments such as high altitudes and freezing waters. Register before the early bird deadline to save £50!

Highlights:

- An excellent programme put together by organiser Mike Tipton with speakers from the world of extreme physiology including Kevin Fong and Chris Imray.
- Public lecture given by US astronaut James Pawelczyk about his experience of living in the NASA STS-90 space shuttle.
- The opportunity to hear the latest research and network with others in the field.
- An exciting social programme including a complimentary drinks reception in the Spinnaker Tower.

Early bird registration deadline: 31 July 2019

- **American Society of Physiology Annual Meetings calendar**

Further details at: *http://www.the-aps.org/mm/Conferences/APS-Conferences/2019-Conferences*

- **APS Annual Meeting at Experimental Biology 2019**
  April 6–9, 2019
  Orlando, FL
  #ExBio

- **APS/ASN Conference: Control of Renal Function in Health and Disease**
  Formerly the Renal Hemodynamics Summer Research Conference
  June 23–27, 2019
  Charlottesville, VA

- **APS Interface of Mathematical Models and Experimental Biology: Role of the Microvasculature**
  September 11–14, 2019
  Scottsdale, AZ

- **9th Annual International Conference of Aldosterone and ENaC in Health and Disease: The Kidney and Beyond**
  October 2–6, 2019
  Estes Park, CO

Further details at: http://www.ibro2019.org/index.php?gt=about/about01#

Snippets in Physiology

As a new feature…. a few interesting findings of interest to physiologists!!

Soft Drinks + Hard Work + Hot Weather = Possible Kidney Disease Risk

Soda caused dehydration and kidney disease markers in simulated manual labor

further details at:

http://www.the-aps.org/mm/hp/Audiences/Public-Press/2019/2.html

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Exercise Following Weight Loss May Reduce Colorectal Cancer Risk, Study Finds

Physically activity + weight reduction could lessen chances of tumor development in high-risk individuals

further details at:

http://www.the-aps.org/mm/hp/Audiences/Public-Press/2018/76.html

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Sex Differences in 'Body Clock' May Benefit Women's Heart Health

Female mice still regulate blood pressure properly, even with lack of a circadian clock gene

further details at:

http://www.the-aps.org/mm/hp/Audiences/Public-Press/2019/1.html

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Achievements

It is a pleasure to announce that following members of the PSSL have received promotions as Professors in their respective departments.

- **Professor of Physiology**

Professor Sudarshini Wasalathanthri, Department of Physiology, Faculty of Medicine, University of Colombo.

Newsletter compiled and edited by

Prof. S. W. Wimalasekera

Editor

Physiological Society of Sri Lanka

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