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Message from the President

I am happy to send this message to the Newsletter of the Physiology Society of Sri Lanka (PSSL) which is now published biannually. On the eve of celebrating the 25th anniversary of our society I consider it my duty to inform the membership of some of the activities planned during 2011 and 2012.

As an initial gesture the committee thought it was apt to felicitate its Founder President Prof. Valentine Basnayaka. His vision gave birth to the society. The commitment and dedication of successive Presidents and the councils have made it possible for the Physiological society of Sri Lanka to come of age and reach adulthood.

In conjunction with the Silver Jubilee celebrations we will be hosting the 3rd South Asian Association of Physiologists (SAAP 3) conference in Sri Lanka in November 2012. The different conference committees have already started the ground work and more members are encouraged to contribute to make SAAP 3 a success. Some joint activities with the SLMA and other colleges are planned. We should also strive to increase the membership of our society. I specially appeal to those members in universities to encourage academics from other departments to join the PSSL.

I believe with a stronger membership we will be able to TEACH SEARCH SERVE better and more effectively.

Professor Sharaine Fernando
President PSSL

Editorial

Uplifting Physiology Research in Sri Lankan Universities

Sri Lankan medical schools have seen giants in physiology research just before the turn of the century. History of the Colombo Medical Faculty is adorned with ground breaking research on physiology of excitable tissue by Professor K N Seneviratne. Professor Colvin Goonaratna, another acclaimed researcher and medical writer, still continues to engage in research and encourage young researchers. Professor Valentine Basanayake, who will be felicitated in the near future, has been instrumental in inculcating and shaping up the 'research culture' among Peradeniya physiologists.

However, over the last 15 to 10 years, physiology research in most Sri Lankan medical schools seems to have suffered a severe blow. After struggling and grappling for many years to start research in their own specialties, many physiologists have taken up research in areas not strictly their business. No one can blame them. We work within a system where the development of one's career depends mainly on research and not on teaching or service.

Pure physiology research in the universities does not seem to be happening any more. For one thing, the borders between physiology as a basic science and other specialties such as molecular biology, pharmacology, genetics, and clinical medicine so on are getting blurred. So it is inevitable that there is considerable overlap among research of all the related disciplines. Being the cornerstone of most applied medical sciences, physiology has the greatest potential of linking up with many such sciences. Most would look at this trend as a positive turn of events.

Other reasons as to why pure physiology research has sustained a downfall cannot be visualized with such optimism. In the developed countries, physiological research has progressed in leaps and bounds with the help of cutting edge technology. In contrast, the young physiology PhD graduates who return home to serve their country find themselves in a scenario with shockingly inadequate infrastructure, lackadaisical attitude of authorities and virtually impossible acquisition of grants to carry out the most mundane research. The titles of symposia of FAOPS 2012 give me shivers. Can we ever rub shoulders with them?

May be things are not as hopeless as they look. It is reassuring that some of the reputed, international physiology journals still publish and give due recognition to simple, straightforward physiology research as long as the reasons for doing it are robustly justified. The European Journal of Applied Physiology, volume 107, No 6, December 2009 carries an original paper titled "*Blood pressure and thermal responses to repeated whole body cold exposure:*

effect of winter clothing."

At this point, I would like to quote Panduka Karunanyake in his recent article titled '*Promoting research in universities*'. He talks about 'scholarship', one of the many ingredients in the recipe of a good research. "*How does an environment produce good quality research? By encouraging robust, vigorous scholarly discourse (also known as scholarship) and by providing the setting for experimentation hence the compound term, scholarship and research. Scholarship requires large repositories of current knowledge (libraries, archives, museums, galleries, exhibitions, art centers etc), the free and ready access to them, and the opportunity to meet each other and talk, argue, debate and essentially critique each other and share with each other both locally and globally.*"

Where does the PSSL come in here? Getting a typical research project into practice has arguably six phases; finding an idea, shaping it into a workable design, obtaining financial and technical support, getting ethical clearance, collecting data and analyzing them. Most of the physiologists are good at finding ideas. May be PSSL could have an expert panel to help shaping them up. This is where 'scholarship' of the existing PSSL membership could be utilized to the maximum. While engaging the existing membership in such scholarly disclosure, we must expand our horizons to embrace the academics who would thrive in a symbiotic environment feeding on and sharing scholarship.

It is promising that we have been confident enough to host the SAAP 3 in 2011. We should look at this event as a major opportunity for the local physiologists to secure places for training in research and obtain funding. It is even more encouraging that the committee, led by the current president of the PSSL is reaching out to the other professional colleges for collaboration. Again, we are fortunate to be followers of a discipline that has so many links to a multitude of sciences.

Collaborating with and seeking support from within the region seems to be the right thing to do. As a region, we share similar problems. We might as well share the quest for finding answers.

Dr. Dinithi Fernando

Achievements and awards

Hiran Tillakeratne Special Award for Research (in the field of Medicine) 2007-2009 awarded to Dr. Niranga M. Devanarayana, Faculty of Medicine, University of Kelaniya

K.N. Seneviratne research award for 2010 awarded to Dr. Dilshani Dissanayake, Faculty of Medicine, Colombo

The Vice Chancellor award for the most outstanding young researcher 2010, Faculty of Medicine, University of Kelaniya awarded to Dr. Niranga M. Devanarayana

Dr. Piyusha Atapattu, Faculty of Medicine, Colombo obtained MSc in Medical Education from Cardiff University

Sensory gating for selective attention

W.D.N.Dissanayake, Department of Physiology, Faculty of Medicine, University of Colombo, Sri Lanka.

Sensory gating, a process by which the central nervous system filters incoming sensory stimuli and prevents 'flooding' of the brain with irrelevant or repetitive information, is crucial for efficient information processing. Sensory gating allows the brain to focus on important stimuli while paying less attention to the irrelevant stimuli, i.e. selective attention.

Sensory gating can be measured reliably by examining the stimuli-evoked brain responses using electrophysiology. The auditory conditioning-test paradigm, an index of sensory gating, measures the reduction in the auditory-evoked response (AER) produced by a test stimulus following an initial conditioning stimulus.

Sensory gating is altered in neuro-psychiatric disorders such as schizophrenia, in which sensory gating deficit is considered as a biological marker. Studying sensory gating may lead to a better understanding of the mechanisms by which the brain filters, prioritises and processes relentless information received via all the senses. Moreover, it is possible that sensory gating may eventually be used as a diagnostic tool by psychiatrists and assist in new discoveries relating to the pathogenesis and treatment of schizophrenia.

To examine the mechanisms of sensory gating and to test possible treatment regimens, it would be desirable to reproduce the phenomenon in laboratory animal models which will assist in examining neural substrates of these mechanisms even at cellular level and allow pharmacological interventions.

References

Dissanayake WDN (2008) Sensory gating in the hippocampus and the medial prefrontal cortex. PhD thesis. University of Nottingham, UK

Dissanayake WDN, Zachariou, M, Marsden CA, & Mason, R (2009) Effects of phencyclidine on auditory gating in the rat hippocampus and the medial prefrontal cortex. *Brain Research* **1298**:153-160.

Dissanayake WDN, Zachariou, M, Marsden CA, & Mason, R (2008) Auditory gating in rat hippocampus and medial prefrontal cortex: Effect of the cannabinoid agonist WIN55,212-2 *Neuropharmacology* **55**: 1397-1404.

Promotions and appointments

Peradeniya

Professor Vajira Weerasinghe to Professor of Physiology and Chair

Colombo

Dr Mangala Gunatilake to Associate Professor in Physiology

Sri Jayawardenapura

Dr. Sharaine Fernando to Professor in Physiology

Dr. Roshini Peiris John to Professor in Physiology

Dr. Priyadharshika Hettiarachchi to Associate professor in physiology

Ruhuna

Dr Sampath Gunawardena to Dean, Faculty of Medicine, University of Ruhuna

PSSL 2010

Annual sessions of the PSSL 2010 were held in the medical faculty, Colombo on the 20th November 2010. The sessions were presided over by Professor Mangala Gunatilake, President of the PSSL 2010. The invited guest lecture was delivered by Dr. Dilshani Dissanayake on *sensory gating for selective attention*. Dr. Dilshani Dissanayake was awarded the KN Seneviratne research award for 2010 for her research on *sensory gating in hippocampal & medial prefrontal cortex*. Official website of the PSSL was launched by emeritus professor Carlo Fonseka. Professor Valentine Basnayake endowment lecture on *student research projects* was delivered by Dr. Sharaine Fernando. Eight oral communications were presented at the sessions. The sessions closed following the annual general meeting and election of the new committee for the year 2011.



Professor KN Seneviratne memorial oration was held on the same day, with Professor Harshalal Seneviratne delivering the oration on *physiological challenges of polycystic ovarian disease*.

Dates to remember

Regional meeting

Regional meeting of PSSL **8th July 2011**,
Rajarata Medical Faculty

Annual sessions of PSSL 2011

19th November 2011
University of Sri Jayawardenepura

FAOPS

7th Congress of the FAOPS, **11 -14 September**, National Taiwan University Hospital,
International Convention Centre, Taipei, Taiwan

- * **30th April 2011**- Listing of scientific programme on the website
- * **10th June 2011**- Deadline for late registration

Malasia quiz

9th Inter medical school Physiology Quiz. **22nd and 23rd July**.
University of Malaya ,Kuala Lumpur, Malaysia

Felicitation for emeritus Professor Valentine Basnayake- **10th June 2011 at 6 p.m.**
Faculty Board Room of the Faculty of Medicine, Colombo

Silver Jubilee celebrations of PSSL
and
3rd South Asian Association of Physiologists' Conference
(SAAP 3)

December 2012