Neuroscience Symposium and Workshop on SAAPCON-2016, Nepal

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Keywords

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Abstract

Physiological Society of Nepal, with support from the South Asian Association of Physiologists (SAAP), organized the 5th Biennial Conference of the South Asian Association of Physiologists in conjunction with the 2nd Annual Conference of Physiological Society of Nepal. The purpose of this conference is to bring the scientists, researchers, and students from the South Asian countries in one platform to share and discuss the recent advances and achievements in the field of physiology. Since physiology is the backbone of medical science which deals with the functions of the human body, the theme of the conference was given as “Redefining health in nature.” Giving the emphasis on this theme, the conference was organized on November 10–14, 2016, in Kathmandu University, Dhulikhel, Nepal. A total of 300 participants from 15 countries including the South Asian Association of Regional Cooperation (SAARC) and Non-SAARC countries participated in the conference. The scientific program of main conference, which ran for 2 days, was divided into 7 symposia – neuroscience, cardiopulmonary physiology, cellular

and integrative physiology, health and lifestyle, role of physiology and medical education, endocrine and reproductive physiology, and high altitude and respiratory physiology – to highlight the latest progresses made in the field of physiology around the globe. Neuroscience symposium held on the second day consisted of 7 advance lectures and 3 young scientist presentations and poster session. Post-conference workshop on system neuroscience was held in BP Koirala Institute of Health Sciences, Dharan, Nepal.

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Speakers and participants were from 15 countries, including the South Asian Association of Regional Coop-

eration (SAARC) and Non-SAARC countries. Out of 300 participants, 50 were symposia speakers, 11 were oral presenters, and 58 were poster presenters. The whole conference was divided into pre-conference workshop, main conference-scientific program, and post-conference workshop. The scientific program of main conference, which ran for 2 days, was divided into 7 symposia – neuroscience, cardiopulmonary physiology, cellular and integrative physiology, health and lifestyle, role of physiology and medical education, endocrine and reproductive physiology, and high altitude and respiratory physiology symposia.

On the first day of the conference, the International Union of Physiological Sciences funded pre-conference teaching workshop with the theme “Learning in 21st Century” was conducted throughout the day. In between the pre-conference workshop, the event was inaugurated by the Vice-Chancellor of Kathmandu University, Prof. Ram Kantha Makaju.

The scientific session of the conference held on the second day was divided into 3 symposia, viz. neuroscience, cardiopulmonary physiology, and cellular and integrative physiology symposia.

On the first day of the scientific session, that is, November 11, 2016, 3 symposia, namely neuroscience, cardiopulmonary physiology, and cellular and integrative physiology symposia, were conducted. Each symposium was chaired and co-chaired by distinguished persons of the related field. This scientific session began with neuroscience symposium which was chaired and co-chaired by Dr. Ajaya Jang Kunwar, Vice President, Neuroscience Society of Nepal (NSN) from NAIHS, and Dr. Abhinav Dixit (India), respectively. During the neuroscience symposium, neuroscientists from Nepal, Japan, Pakistan, India, Sri Lanka, and Saudi Arabia shared their research findings. The first speaker, Dr. Laxmi Parajuli from The University of Tokyo, Japan, discussed the anatomical diversity of dendritic spines in the brain. He described that the different functions of different brain regions may depend upon the variation in structures of dendritic spines of the neurons in those regions. The next lecture was given by Dr. Touqeer Ahmed from National University of Sciences and Technology, Pakistan. He talked about the modulation of fear extinction learning by thalamic neurons. He used the wild-type mice and the mice deleted of phospholipase C- $\beta 4$ in mediodorsal thalamic neurons. He noticed the difference in tonic firing patterns of the mediodorsal thalamic neurons of wild-type mice and mutant mice during the extinction tone trials. After that, Prof. Tharaka Dassanayake from University of Peradeni-

ya, Sri Lanka, discussed about the changes in the pattern of poisoning from agrochemicals into pharmaceuticals and the challenges for the neurophysiologists and clinicians in South Asia due to this transformation. He emphasized on generating age-, sex-, and education-adjusted norms for the individual countries in the region to interpret the cognitive results of clinical population.

A lecture on “A call for analysis of yoga and its molecular effects on brain” was delivered by Dr. Akshay Anand from the Post Graduate Institute of Medical Education and Research, India. He highlighted the components and benefits of yoga and also emphasized the channeling of future research work toward yoga to assess the molecular, neuropsychological, and pathophysiological basis of yoga and its effects. Following this, Dr. Dileep Kumar Rohra from Alfaisal University, Saudi Arabia, talked about his research finding on hearing loss associated with chronic use of Carvedilol. He found significant hearing loss during audiometric test in the patients using Carvedilol (β -blocker) as compared to Carvedilol non-users. Next, Dr. Sunil Dhungel, President of NSN from NAIHS, Nepal, elucidated his work, which is regarding the role of oxytocin in sociosexual behavior in mice. The social interactions test in OTKO (knockout) mice and wild mice were done in terms of odor preference of opposite sex. The OTKO mice were socially amnesic toward the opposite sex. It was concluded that in both sexes oxytocin plays a significant role in controlling olfaction-related sociosexual behavior.

After this, 2 oral presentations were included, in which the first talk was given by Dr. HJH Madhushanthi from University of Ruhuna, Sri Lanka, on the “Association of nutritional status with neurocognitive functions of early female adolescents in Galle Municipal area.” She assessed and compared the nutritional status by body mass index (BMI) with neurocognitive function by Wechsler Intelligence Test for Children, Nonverbal Intelligence Test and Computerized Executive Functions Test. She found that an elevated BMI is negatively associated with processing speed and under-nutrition is a risk for reducing working memory performances of female adolescents. Then, Dr. Kariyawasam P.N. from University of Ruhuna, Sri Lanka, presented on “Validation of Mississippi Aphasia Screening Test (MAST)” to detect receptive and expressive aphasia among Sinhala-speaking patients. She concluded that the Sinhala version of MAST is a reliable and effective screening test to detect aphasia among stroke patients.

The International Brain Research Organization under visiting exchange lecturer program in union with NSN

supported this symposium. The neuroscience symposium was followed by cardiopulmonary physiology and cellular and integrative physiology symposia. During these symposia, scientists and researchers in the respective fields shared their experience and results of their work.

Poster sessions were conducted for 2 days, including 30 and 29 posters. Out of 59 posters, 11 posters were related to neuroscience. Among 8 awardees, 2 presenters were awarded the best presentations in neuroscience.

On the second day of the scientific program, that is, November 12, 2016, the remaining 4 symposia were conducted. Guest speakers and young scientists in the related fields presented their findings.

On November 14, 2016, post-conference workshop on assessment of somatic and autonomic nervous functions was held in BP Koirala Institute of Health Sciences (BPKIHS), Dharan, Nepal. The objective of this workshop was to enhance the hands-on skills of young scientists on system neuroscience. The hands-on skills included nerve conduction velocity test, electromyography, heart rate variability test, and autonomic functions test. The participants were divided into 4 groups and the groups were rotated to learn each skill mentioned above. During the workshop, the participants were guided, facilitated, and encouraged to learn the hands-on skills by the experts of the respective fields. The post-conference workshop was chaired by Dr. Rita Khadka, General Secretary of SAAPCON from BPKIHS,

and the workshop formally ended with the closing remarks of Prof. Balbhadra P. Das, Vice Chancellor of BPKIHS, Dharan.

Authorship Contributions

Prakash Limbu is one of the editors of SAAPCON and SAAPCON-Neuroscience and involved in preparation of the manuscript, editorial member of Abstract book, and Program book. Dr. Barun Mahat contributed for manuscript preparation and a member of SAAPCON-2016 committee. Dr. Bipin Kumar Shrestha, organizer of neurosymposium and involved in manuscript writing. Dr. Bikalp Thapa, editor of SAAPCON-2016 and involved in neuroscience symposium. Mr. Mukesh Kumar Jha, member of SAAPCON-2016 and SAAPCON-neuroscience symposium. Dr. Amrendra Jha, joint treasurer of SAAPCON-2016 and organizer of SAAPCON-neurosymposium. Dr. Tara Man Amatya, chairman of SAAPCON-2016 and actively involved in Neuroscience Symposium. Dr. Ajaya Jung Kunwar, chair the session of neuroscience symposium and manuscript preparation. Dr. Sunil Dhungel, treasurer of SAAPCON-2016, Editor in-chief of SAAPCON-2016 abstract book, program book, organizer of neuroscience symposium of SAAPCON-2016, prepared and corrected manuscript.

Disclosure Statement

The author of this manuscript declared that we have no pecuniary or other personal interest/no conflict – direct or indirect – in any matter that raises or may raise with this submitted manuscript as an corresponding author.