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6th International Conference on Multidisciplinary Approaches -2019

“Sustainability, Ethics & Governance through Multidisciplinary Research”

Organized by
Faculty of Graduate Studies
University of Sri Jayewardenepura
Nugegoda, Sri Lanka

26th & 27th November 2019

International Conference on Multidisciplinary Approaches – 2019

**“Sustainability, Ethics & Governance through Multidisciplinary
Research”**

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MESSAGE FROM THE VICE CHANCELLOR

It is my immense pleasure to provide a message for the 6th International Conference on Multidisciplinary Approaches (iCMA) – 2019, which is one of the flagship research events of the Faculty of Graduate Studies of University of Sri Jayewardenepura. I strongly believe that the theme selected for this year of the conference ‘Sustainability, Ethics & Governance through Multidisciplinary Research’ is very timely and of high significance. The University of Sri Jayewardenepura guided by its motto: ‘*Vijja Uthpata than Setta*’ (Among all that arise, knowledge is the greatest) as quoted from the Dhammapada which was written 2,500 years ago has long set its path to facilitate those who seek knowledge. The University passes an important milestone this year, having completed 60 years of its ycoman service to our Mother Nation as a university. However, its contribution to the education of this country can be traced back to its 145-year-old history when it was established by Most Venerable Rev. Hikkaduwe Sri Sumangala Thero as Vidyodaya Pirivena.

Within the University, research is being conducted in highly demanding and necessary areas such as Water, Cancer, Dengue, Nano Technology, Robotics, Herbal Products, etc. The University has collaborated with acclaimed local and foreign companies such as the British Council, Moody’s Analytics, Deloitte, Siddalepa, etc. We have also signed over 60 Memorandums of Understanding and other collaborations with over 60 world-class universities worldwide such as Oxford, Cambridge, Monash, etc. The University’s latest addition; the Invention Innovation and Venture Creation Council has taken measures to introduce some of the latest inventions to the country. Furthermore, the Council presently holds over 25 registered entrepreneurs. Thus, as a University, we have a key role to play in this endeavour to ensure quality leaders are available at correct places with adequate knowledge on multidisciplinary approaches who can drive the innovation in the country. In this context the iCMA 2019 is going to be a challenging but exciting experience.

The Faculty of Graduate Studies had taken a great effort in organizing this conference for the sixth consecutive time and is discharging a very important responsibility in uplifting the research culture and output of this nation. Thus, my sincere appreciation goes to the organizing committee of the iCMA 2019 for the untiring efforts by them in ensuring a successful event. I wish that the iCMA 2019 be a ground breaking event for the benefit of all participants and the country.

Snr. Prof. Sampath Amaratunge
Vice-Chancellor
University of Sri Jayewardenepura
Sri Lanka

MESSAGE FROM THE CONFERENCE CHAIR

As the Dean of Faculty of Graduate Studies of University of Sri Jayewardenepura and Chair of the Organizing Committee of the 6th International Conference on Multidisciplinary Approaches 2019, it is my immense pleasure to issue this message. The Faculty of Graduate Studies (FGS) of University of Sri Jayewardenepura since its establishment in 1996 had come a long way during a comparatively short period and is on the right track of achieving its mission is 'to produce high calibre professionals with knowledge and skills by designing and providing innovative courses, achieving excellence in teaching, research and scholarship through local and global partnerships for the wellbeing of the larger community'. Faculty of Graduate Studies (FGS) of the University of Sri Jayewardenepura is the official coordinating body for postgraduate academic and research activities. Our study programs stem from the strategic disposition of our University, which is thriving towards greater heights in a very modern technological environment but having a solid religious, cultural, traditional knowledge base. The rich natural resources in the country provide opportunities to both local and foreign students to get hands on experience of nature and learn how to manage them for long-term sustainability.

The FGS engineered *iCMA* conference as it is linked with nine Board of Studies covering all academics and research areas of the University (Board of Studies in Humanities, Social Sciences, Management & Commerce, Physical Sciences, Life Sciences, Medical Sciences, Engineering, Technology and Multidisciplinary). Thus, with its purview, FGS organizes International Conference on Multidisciplinary Approaches (*iCMA*) to provide a forum for academics and industry professionals engaged in multidisciplinary research and development. Accordingly, a platform is created for them to share knowledge and experiences towards national and global development. I am happy to note that this time *iCMA* 2019, the sixth consecutive international conference will be held with the theme of 'Sustainability, Ethics & Governance through Multidisciplinary Research'. I believe that this is a highly contemporary theme that encapsulates the main areas that is of high international and national significance.

Let me extend my heartfelt appreciation to the Chief Guest, Snr. Prof. Sampath Amaratunge, the Vice Chancellor, University of Sri Jayewardenepura for creating a new research culture within our University and providing all the infrastructure and facilities that helped us to organize this conference successfully. Furthermore, I convey my sincere appreciation to the Keynote Speaker Prof. Tom Buchanan from Department of Sociology & Anthropology, Mount Royal University, Canada, and the Guest of Honour, Dr A. M. Mubarak, Chairman, National Science Foundation, Sri Lanka for gracing the *iCMA* - 2019.

For this time's conference, we have received more than hundred and sixty abstracts of research studies and the accepted abstracts are hosted on Social Science Research Network (SSRN) and in the Elsevier web platform. 90 oral presentations in six distinct themes will be presented at the conference along with 28 posters. I strongly believe that the participation of internationally reputed personnel as well as paper presenters will increase the impetus of the Conference and make it a truly international one.

IMPACT OF A 6-MONTH AEROBIC EXERCISE REGIMEN ON TASTE PERCEPTION FOR SUCROSE IN TYPE 2 DIABETES MELLITUS

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Abstract

Regular exercise is a key element in the management of type 2 diabetes mellitus (T2DM). Although the importance of regular exercises on glycaemic control is studied extensively, its impact on sweet taste perception (i.e. supra-threshold intensity ratings and preference) in T2DM is less reported. The aim of this study was to assess the impact of regular aerobic exercises for six months on taste perception for sucrose in T2DM. A sample of 118 T2DM patients aged 35-60 years was recruited and assigned randomly into two groups, an exercise group (n=58) and a control group (n=60). A pre-tested questionnaire was used to obtain demographic data. A graded exercise protocol was introduced to the exercise group, i.e. brisk walking 30 minutes/day, 4-5 days/week for 6 months without changing diet and medications. Supra-threshold intensity ratings for sucrose were tested using 'General Labeled Magnitude Scale' and preference for sucrose was assessed by 'Monell 2-Series-Forced Choice Method' at 0 and 6 months. Data were analysed by using paired sample t-test. Significance was set at $p=0.05$ level. Exercise group showed increased supra-threshold intensity ratings for all solutions with statistically significant results for 0.64M (Mean difference; 7.79 ± 4.49 , $p=0.044$) when compared to their baseline values. Preference for sucrose was significantly reduced (Mean difference; 0.05 ± 0.1 , $p=0.014$) after 6 months in the exercise group. In contrast in the control group, the supra-threshold intensity ratings were reduced with statistically significant differences in the highest i.e. 2.02M (Mean difference; 7.96 ± 0.4 , $p=0.036$) and 0.64M (Mean difference; 8.98 ± 0.99 , $p=0.029$) concentrations. However, the preference for sucrose in the control group was unchanged. Taste sensitivity increases especially for higher sucrose concentrations and taste preference decreases in T2DM patients with regular aerobic exercises for a duration of 6 months in the study group compared to the control group.

Keywords: type 2 diabetes, exercise, taste sensitivity