

**6th International Conference on Movement, Health and Exercise (MoHE) and
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Associate Professor Dr. Ooi Foong Kiew,
Programme Chairman,
Exercise and Sports Science Programme,
School of Health Sciences,
Universiti Sains Malaysia,
16150 Kubang Kerian,
Kelantan, Malaysia.
Tel: +609 767 7809
e-mail: fkooi@usm.my

Associate Professor Dr. Ooi Foong Kiew is currently the programme chairman and lecturer in the Exercise and Sports Science Programme, School of Health Sciences, Universiti Sains Malaysia (USM). Dr. Ooi obtained her Bachelor of Education in Physical Education from Universiti Putra Malaysia in 1991, Masters of Science in Sports Science and Doctor of Philosophy in Sports Science from Universiti Sains Malaysia in 2001 and 2007 respectively. She has collaborated with other international universities as a visiting scholar since 2001. She was a research fellow in Hong Kong Institute of Education, Hong Kong in 2001. She had carried out collaboration on bone study with Chukyo University, Japan in 2003 and 2004. In 2009 and 2010, she also did collaborative bone analysis at the Department of Orthopaedic and Traumatology, Faculty of Medicine, Chinese University of Hong Kong, Hong Kong. She was a visiting research fellow in the University of Essex, England in 2014 and 2015. Her research interests include exercise physiology, nutritional supplementation and sports performance, combined effects of nutritional supplementation and exercise on bone health and selected physiological parameters, physiological profiles of athletes, and genetics and sports performance. She has been invited as a speaker in Malaysia, and international conferences held in Indonesia, Taiwan, India and Korea. Many of her research data have been published in international peer-reviewed journals.

INFLUENCE OF SPORTS PARTICIPATION, GENETIC FACTOR AND NUTRITIONAL SUPPLEMENTATION ON BONE HEALTH AND MUSCULAR PERFORMANCE

Sports participation by performing regular weight bearing exercise is believed could maintain or enhance bone health status and muscular performance. Genetic studies in the area of human physical performance reveal a strong heritability of key phenotypes of muscular performance. Sports nutrition is a body of knowledge that provides information regarding food or dietary ergogenic aids necessary for maintaining and enhancing health, growth, physical and sports performance. The importance of proper nutrition is of great interest to both athletes and exercisers for optimal performance and long term health benefits. Proper nutrition improves performance by improving bone health and body composition, which increases speed, mobility, and muscular strength. This invited lecture will firstly focus on the relationships between physical activity, bone physical and mechanical properties, and blood bone metabolism markers. Research findings of sports participation, bone health status and muscular strength and power in Malaysian young athletes with different types of sports will be presented. This lecture will also discuss on the comparisons of bone health status and muscular performance among British, Yunnan Chinese and Malaysian Malay athletes. Several selected genes and their associations with bone health status and muscular performance in Malay young male and female athletes will be discussed. In addition, this lecture will also cover the topics of effects of various types of nutritional supplementation on sports performance, as well as the combined effects of several types of exercise with different nutritional supplements on bone health and muscular performance in different age groups.