

**11th ISEI SYMPOSIUM, NEWCASTLE, AUSTRALIA, 9-12 September 2013**
Exercise Immunology: Prescriptions for Health**ABSTRACT FORM**

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These 2 pages have been provided separately to assist you with the submission of your Abstracts in Word format to the Conference Organising Committee and online to the **International Journal of Exercise Science** (IJES).

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ABSTRACT SUBMISSION – DEADLINE 10 May 2013

Title (up to 30 words, Arial, 11 pt, single line spaced, in sentence case. Like this:	<u>Gut microflora and health</u>	Formatted: Font: (Default) Arial, 11 pt Deleted: The title must be exactly the same as the on-line submission to the <i>International Journal of Exercise Science</i>
Authors (Underline the <u>presenting author</u>)	<u>R. Nagatomi</u>	Deleted: <u>M. Gleeson</u> , R Callister & DB Pyne Deleted: Must also be exactly as submitted on-line to <i>IJES</i>
Department, Institution, Country	<u>Tohoku University Graduate School of Biomedical Engineering</u>	Deleted: School of Biomedical Sciences, University of Newcastle, and Australian Institute of Sport, Australia
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Select Your Abstract Session Theme Category	<u>4. Exercise prescriptions for a healthy gut</u>	Deleted: Select one of the symposium session themes from the list in the table below: Advise number and theme here Deleted: e
Preferred Presentation Form	<input type="checkbox"/> Oral communication Note final decisions on format of presentation will be by the ISEI Scientific Committee	Deleted: <input type="checkbox"/> Poster ¶
Is the presenter eligible for the Early Career Researcher Awards (poster and oral awards)? (Previous winners are ineligible for same category)	<input type="checkbox"/> Yes <input type="checkbox"/> No Eligible persons are those studying for a higher degree – MSc, MPhil or PhD – or who have completed their PhD within the last 3 years as at 10th September 2013	Deleted: ¶ Deleted: ¶

Gut microflora and health

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ABSTRACT

Human gastrointestinal tract harbors a diverse population of microorganisms, the gut microbiota, the largest microbial community associated with human body, comprised of trillions of bacterial cells of over 1000 species. Although gut lumen is an extension of the external world for our organs and tissues, the interaction between human body and gut microbiota is highly mutual and reciprocal as if it is one of the internal organs. In animal experiments and human observational studies, gut microflora and its composition have been demonstrated to have significant roles in body fat accumulation, and consequently, insulin resistance and obesity. The metabolic activity of gut microbiota such as processing of non-digestive food components and the resulting metabolites are suggested to contribute to the regulation of energy storage. Low grade inflammation possibly elicited through recognition of bacterial components by gut associated immune system is considered as another factor contributing to the development of obesity and atherosclerosis. Based on the observations of the contribution of gut microbiota to human health, practical approaches to modify or improve gut microbial composition has been a center of interest in the field of health promotion for decades. Modification of dietary habit, administration of pre- and probiotics as well as regular exercise are suggested to potentially modify gut microbial components. The biggest issue, however, is that we still don't have an established or agreed method of characterizing composition of gut microorganisms, lacking the mechanistic link between the composition of microorganisms and the anticipated effect. This is largely due to its high diversity among species, human races and individuals. Recent advances in system biological approach, such as metabolomics and metagenomics may find a thread through the cosmic world of microbiome in our body.

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Deleted: This is my abstract introducing the interesting study I recently completed. Reference lists are not generally included. The text is limited to 400 words and must fit on a single page. See notes on figures and tables above. Remember to direct any questions you may have about this online submission process to Dr. Brian McFarlin (brian.mcfarlin@unt.edu) to ensure your abstract is formatted properly and submitted successfully.¶