PhD Exchange Report

Maastricht University (The Netherlands) to Newcastle University (United Kingdom)

Research Title : Interaction Between Dietary Inflammatory Index and CRP gene variants in relation to Obesity, C-reactive protein level and Early Signs of Colorectal Cancer
PhD student : Harry Freitag Luglio Muhammad
Supervisors : Edwin Mariman and Marleen van Baak (Maastricht University)
Hosts : John Mathers and Fiona Malcomson (Newcastle University)
Duration : 7 September - 9 October 2018

I am a first-year Ph.D. student at Maastricht University the Netherlands with a topic “The Interaction between Inflammatory Properties of Diet and Genetic Variation in Body Weight Regulation”. In order to finish my Ph.D. project, I am conducting several studies which can prove the hypothesis that inflammatory property of the diet interacts with genetic variations resulting in individual susceptibility to obesity and obesity-related diseases. The study involved a population-based study and clinical trials in Indonesia and in The Netherlands. By taking an exchange program at Newcastle University I am able to expand my research interest on different population and other diseases related case.

The aim of this visit is to evaluate the interaction between the dietary inflammatory index and CRP gene variants in the context of obesity, C-reactive protein level, and early development of colorectal cancer. This is a cross-sectional study design in adult individuals living in North East England, United Kingdom who participated in the Biomarkers Of Risk In Colorectal Cancer (BORICC) Study.

I started working at Newcastle University on 7th September 2018. I was received well by Prof. John Mathers and Dr. Fiona Malcomson. I also work with Stella Breininger, one of Ph.D. student, on dietary data of the subjects. The project ended at 9th October 2018, and it went seamlessly. I was working on data from BORICC study, analysing anthropometric, dietary, inflammation data and genetic materials as well as attending several academic activities at The Newcastle University, including symposium and laboratory meeting.

From this visit, I am not only conducting research but also learn several methods that are being developed by The Human Nutrition Research Center, Newcastle University. The method that is being used to collect the data on dietary intake in a population-based study as well as several molecular examinations that are currently being done by the group. Obesity and inflammation are closely linked to the development of cardiovascular diseases, diabetes mellitus, and cancer. In our previous study, we mainly focused on the early indicator of cardiovascular diseases and diabetes. By conducting research at Newcastle University, we also are able to examine the relationship with the early marker of colorectal cancer. This study is unique because not many nutrition research center investigate an early indicator of colorectal cancer.

The main goal of this visiting research is conducting the experiment, writing a manuscript and discussing the future possibility of research collaboration. Thus, the academic activity does not stop at the end of the exchange. The exchange program is just the start of further research activities.