## PRESS RELEASE

# RESEARCH STUDIES FUNDED BY HIGH IMPACT RESEARCH GRANT REVEALS THE GENETIC VARIATIONS THAT RAISE THE RISK OF BREAST AND OVARIAN CANCER

**KUALA LUMPUR, [24 JULY 2015] - 21 regions of the genome that can increase an individual's risk of breast and ovarian cancers have been found in the largest ever study of its kind, published in a series of articles in the top scientific journals Nature Genetics*.**

The research, led by scientists at the University of Cambridge, with contribution from Cancer Research Malaysia (formerly known as Cancer Research Initiatives Foundation) and University Malaya, could lead to new treatments, targeted screening and a greater understanding of how these diseases develop.

The scientists** were looking for genetic variations – called single nucleotide polymorphisms (SNPs) – that are linked to an increased risk of developing cancer. By studying the DNA makeup of over 100,000 people with cancer and 100,000 people from the general population, they found alterations that were more common in people with breast, ovarian or prostate cancers. Each alteration raises the risk of cancer by a small amount. But 1 in 20 people have lots of these alterations and this means that they could have a risk of developing breast cancer of greater than 15% (compared to less than 5% in people who do not have the alterations). Similarly, for ovarian cancer, people who have a lot of the alterations could have a 3% lifetime risk of developing ovarian cancer (compared to less than 1% in people who do not have the alterations).

This new discovery means that a total of more than 90 SNPs associated with breast cancer have now been revealed through research. These genetic markers, which explain around a seventh (16 per cent) of inherited increased risk of breast cancer in Caucasian women and a smaller percentage in Asian women, can be used to help predict which women are most likely to develop the disease and could lead to improved cancer screening and prevention.

Professor Dr Teo Soo Hwang, Chief Executive of Cancer Research Malaysia and Principal Investigator for the Malaysian part of the study said: "Collectively through the international consortium, we have identified new genetic variations that are linked to breast and ovarian cancer. This is already enabling us to understand more about how cancers occur and hopefully, we can develop tests to identify those who are at greatest risk of developing these cancers and then targeting screening tests to these individuals."

The Malaysian contribution to the International Study came from the Malaysian Breast Cancer Genetic Study and the Malaysian Ovarian Cancer Genetic Study, which were established in 2003 and 2008 respectively to study breast and ovarian cancer in Malaysia's multi-ethnic population. Both studies are a collaborative effort by Cancer Research Malaysia and University Malaya, with funding from Ministry of Higher Education, Yayasan Sime Darby, PETRONAS, Estee Lauder Breast Cancer Campaign, MST Golf and others.

University Malaya Vice-Chancellor, Dato' Dr Amin Jamaluddin, in congratulating the Malaysian Breast and Ovarian Cancer Project Teams for this latest accolade, lauded the collaboration between the university, Cancer Research Malaysia and the international partners. He also thanked the Ministry of Higher Education Malaysia for providing the special high impact research grant to make this project possible.

**ENDS**

**Notes to editor**

*Genome-wide association analysis of more than 120,000 individuals identifies 15 new susceptibility loci for breast cancer. Michailidou K et al., Nat Genet. (2015) Apr;47(4):373-80. doi: 10.1038/ng.3242. Epub 2015 Mar 9. PMID: 25751625 [120th out of 243 authors]

*Identification of six new susceptibility loci for invasive epithelial ovarian cancer. Kuchenbaecker KB, et al., Nat Genet. (2015) Feb;47(2):164-71. doi: 10.1038/ng.3185. Epub 2015 Jan 12. PMID: 25581431

** The Collaborative Oncological Gene-environment Study (COGS) is a collaboration of four international consortia: BCAC (the Breast Cancer Association Consortium), PRACTICAL (Prostate Cancer Association Group to Investigate Cancer Associated Alterations in the Genome), OCAC (the Ovarian Cancer Association Consortium), and CIMBA (the Consortium of Investigators of Modifiers of BRCA1/2)

**About Cancer Research Malaysia**

Cancer Research Malaysia (formerly known as Cancer Research Initiatives Foundation) is the first independent cancer research organisation in Malaysia. Cancer Research Malaysia conducts research to identify better ways to prevent, detect and cure cancer for Malaysians. Cancer Research Malaysia is committed to ensuring that at least 90% of funds received are spent on research. Cancer Research Malaysia researchers work closely with experts worldwide to fight cancers that occur in Asia as well as globally.

**About University Malaya**

University Malaya High Impact Research is funded under a special grant by the Ministry of Higher Education Malaysia. Its aim is to conduct research that will lead to publications in top international journals which will help UM get into the top 100 QS World Ranked Universities by 2015. The Breast Cancer Research Programme is one of the flagship HIR projects funded under

this grant and is headed by Prof. Dr. Nur Aishah Mohd Taib, Faculty of Medicine. The Ovarian Cancer Research Programme is headed by Prof. Dr Woo Yin Ling and Assoc. Prof. Lim Boon Kiong and is part of the University Malaya Cancer Research Institute.

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