

For Immediate Release



Research on cancer, diabetes and heart disease therapies took center stage at AUB's Annual Basic Biomedical Research Day

Beirut, Lebanon- 09/03/2012 - Students, faculty and notables from various scientific disciplines recently gathered in AUB to participate in the University's 2nd Annual Basic Biomedical Research Day, with topics ranging from genetic research to stem cell and tumoricidal therapy.

Ayad Jaffa, assistant dean of interdisciplinary programs and chairperson of the conference organizing committee, said the day aimed to unite the AUB research community and provide an intellectual environment for scientific exchange.

In their introductory speeches, Dr. Mohamed H. Sayegh, dean of the Faculty of Medicine and vice president of medical affairs, Provost Ahmed Dallal and AUB Trustee Farouk Jabre expressed their support and faith in interdisciplinary research partnerships and their impact at AUB.

"Multidisciplinary and interdisciplinary partnerships concentrate the critical mass of resources and expertise needed to find innovative solutions to critical real world problems," Dallal said.

Jabre, donor of the Farouk Jabre Award, said AUB had all the components for multidisciplinary research, important for the development of Lebanon and the Arab region. He announced the doubling of his biomedical research endowment.

The Farouk Jabre Award is a one-year grant that brings together faculty from different backgrounds to research a common interest and collaborate using disparate areas of knowledge.

The 2012 recipients were Dr. Georges Nemer, from the Faculty of Medicine (FM); Dr. Zakaria Kambris, from the Faculty of Arts and Sciences (FAS); Dr. Marwan Sabban, from FM as well; and Dr. Hala Muhtasib, from FAS. All award winners presented their research findings.

Dr. Georges Nemer, FM and Dr. Zakaria Kambris, FAS, are researching the nephrin gene, implicated in cardiovascular disease. Recent evidence from mouse models showed that the gene found in the kidneys, could lead to coronary artery disease. Through screening patients with cardiac diseases at AUB-MC, and studying the nephrin

gene function in *Drosophila* at the Department of Biology at AUB, they hope to prove that this gene could be an indicator of coronary artery diseases.

"The outcome of such findings could have a major impact on understanding cardiovascular diseases, the leading cause of death among adults in Lebanon and the world," says Nemer.

Dr. Marwan Sabban, FM and Dr. Hala Muhtasib, FAS, are working on targeted therapy of breast cancer stem cells and metastasis.

Through last year's award and collaboration, Sabban and his partners generated exciting preliminary data that served as a platform to apply for extramural funding and set the foundations for long-term collaboration.

"This year it is Dr. Muhtasib's interest in anti-cancer drugs and my interest in cancer stem cells that won us the award. We plan to explore how some cancer cells, may acquire stem cell properties, which may be the reason why some cancers are resistant to therapy and may explain cancer recurrence," said Sabban.

The event's keynote speaker was Dr. Aida Ibrahim M. Al Aqeel, senior consultant and head paediatric medical geneticist and consultant endocrinologist at the Riyadh Armed Forces Hospital, and adjunct principal scientist at the King Faisal Specialist Hospital & Research Centre in Saudi Arabia.

In her presentation, "Personalized Translation Genomics in the Middle East; Challenges and Opportunities," Aqeel spoke of the influence of culture and religion on regional medicine.

According to Aqeel, roughly 4,000 infants are born every year in Lebanon, many of them with genetic disorders due to consanguinity - or inbreeding - a practice not uncommon in the Middle East. In her clinic, 90 percent of her patients are consanguineous. Aqeel said the best cures for defects caused by inbreeding were prevention and education.

Aqeel detailed the challenges facing Middle Eastern medicine, such as costs of testing, culture, religion and ethics, availability of technology and public and professional education. She suggested integrating genomics into health care to increase the efficiency and decrease the cost of medicine.

"Once we know more genetic information about our patients, our abilities to help will increase," Aqeel said.

A poster competition was held for students (post docs, fellows, trainees, and residents), with awards of \$500 each, given to the four best posters out of the 34 entries, based on the research and presentation.

Hayat Harati's poster summarized her post-doctoral studies on the juvenile neuronal ceroid lipofuscinosis disease, a neurological disease that strikes children, causing blindness, seizures, progressive loss of cognitive and motor skills, and premature death, and is "testing a potential treatment called 'Galactosylceramide' that seems to be effective at many levels."

Patricia Moghames, represented her research on H. pylori, a bacterium that has been associated with ulcer and gastric cancer, and its effect on metabolic syndrome and insulin resistance in the Lebanese adult population.

"Given the fact that metabolic syndrome is a risk factor for coronary heart disease, the number one cause of death in the world, studying if H. pylori is a risk factor for metabolic syndrome is necessary," said Moghames. However, when blood samples were analyzed, the results came back negative. So far, in Lebanon, the H. pylori has not been shown to be associated with increased risk of metabolic syndrome.

Kawthar Braysh's research yielded the evidence for understanding an important function of mTOR, a mediator protein enzyme located in the kidney, that when inhibited, could be a therapy to reduce urinary albumin excretion in type 1 Diabetes.

Adult T-cell leukemia/lymphoma (ATL) is a rare and aggressive cancer of the blood, and the protein called Tax - which is only found in the cancerous T-cells not the healthy ones-- is necessary and sufficient for the induction and development of this type of leukemia.

"Our laboratory has previously shown that a specific chemotherapeutic combination of arsenic trioxide and interferon-alpha induces Tax degradation resulting in destruction and eradication of ATL leukemia cells," said Zeina Dassouki.

Her poster showed for the first time the molecular mechanism of Tax degradation during arsenic/interferon treatment.

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Note to Editors

About AUB

Founded in 1866, the American University of Beirut bases its educational philosophy, standards, and practices on the American liberal arts model of higher education. A teaching-centered research university, AUB has more than 600 full-time faculty members and a student body of about 8,000 students. AUB currently offers more than 100 programs leading to the bachelor's, master's, MD, and PhD degrees. It provides

medical education and training to students from throughout the region at its Medical Center that includes a full service 420-bed hospital.

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