

QATAR CHRONICLE

THE MAGAZINE OF WEILL CORNELL MEDICINE-QATAR

Summer 2019

CAN PLANTS BEAT CANCER?

**Study identifies plant-derived
therapies which may help in the
fight against breast cancer.**



**Weill
Cornell
Medicine
Qatar**

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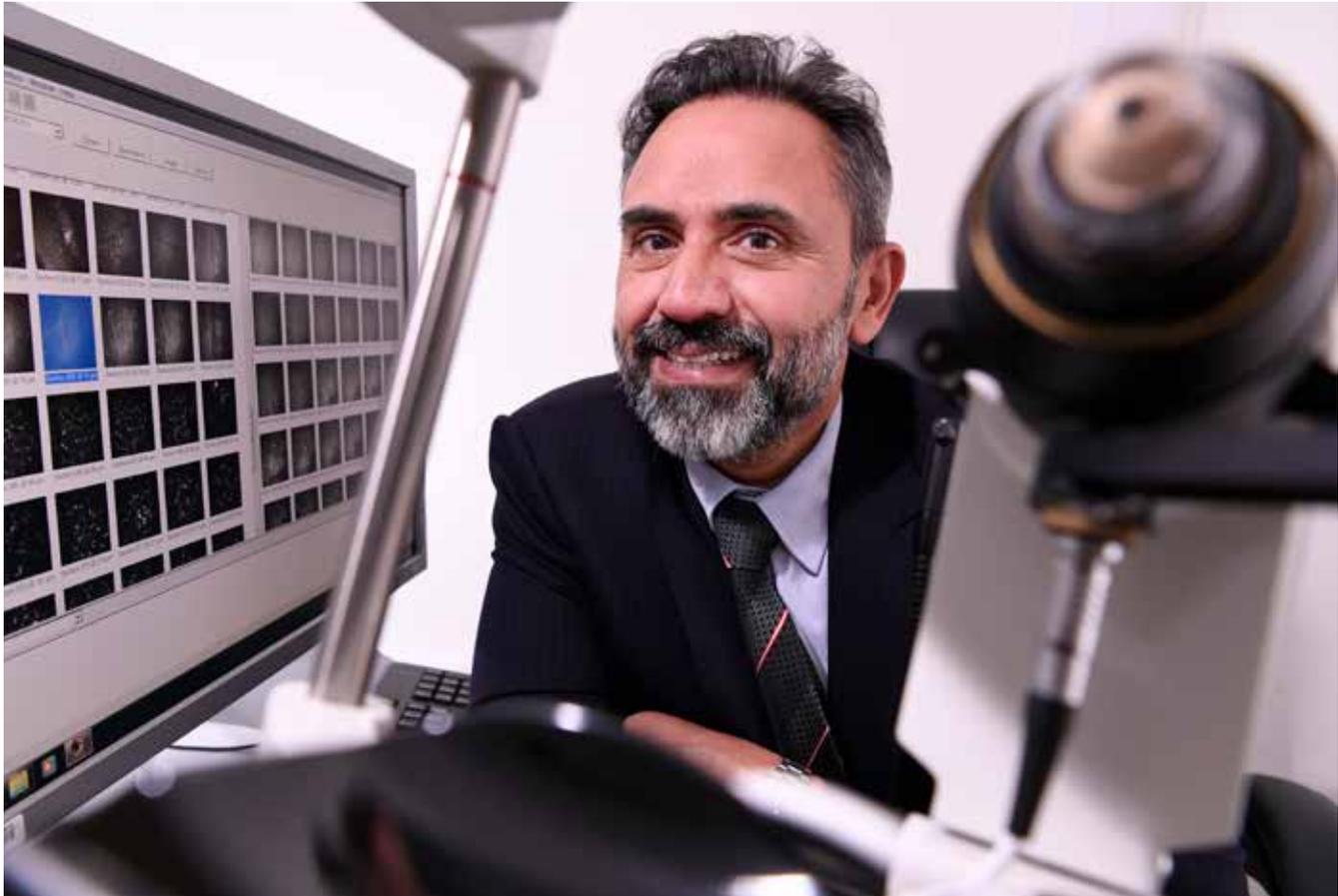
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Double celebration for trailblazing researcher

Leading scientist earns two plaudits for his work on diabetes and its complications.



Dr. Rayaz Malik, professor of medicine at WCM-Q.

Professor of Medicine Dr. Rayaz Malik had cause to celebrate on two separate occasions this year after being listed among the UK's most influential diabetes researchers and also winning the prestigious Camillo Golgi Prize.

In February 2019, Dr. Malik was named UK's second most influential clinical researcher in a list of 'Leaders in Diabetes Complications' compiled by Expertscape, the world's leading index of academic achievement and expertise in healthcare.

Expertscape ranks the performance of researchers impartially, using a series of objective metrics to judge the number and quality of research papers and the impact factor of the journal they have published in over the last ten years. Although Dr. Malik left the UK to join WCM-Q in 2014, he still holds an honorary professorship at his previous institution, the University of Manchester, hence his inclusion in the UK index.

Then, in April of this year, Dr. Malik learnt that he had been awarded the prestigious Camillo Golgi Prize for outstanding contributions in the field of the histopathology, pathogenesis, prevention and treatment of the complications of diabetes mellitus.

The prize, which is awarded by the European Association for the Study of Diabetes (EASD) is named after renowned Italian biologist Camillo Golgi who won the Nobel Prize in 1906 for his studies on the nervous system and kidney physiology. The prize recognizes investigators who have published research papers in internationally recognized scientific journals over the last five years which demonstrate continuing activity, originality and excellence in the field. Dr. Malik is the first recipient in the history of the Camillo Golgi Prize to be based outside Europe.

As the winner of the award, Dr. Malik has been accorded the privilege of delivering the Camillo Golgi Prize lecture at the EASD Annual Meeting in September 2019 in Barcelona.

“We are extremely pleased with the recognition of Expertscape and EASD of Dr. Malik’s achievements in the field of corneal confocal microscopy. One can hardly think of a more deserving clinician-scientist for the Camillo Golgi Prize. Dr. Malik’s continuing achievements and productivity at Weill Cornell Medicine-Qatar highlight the institution’s supportive environment that allows its researchers to perform cutting-edge science that is not only competitive but also leading internationally.”

Dr. Malik began his research into the pathophysiology and treatment of diabetic neuropathy whilst he was still a medical student in Aberdeen, Scotland. As a medical registrar and subsequent professor of medicine in Manchester, he pioneered the technique of ‘corneal confocal microscopy’ (CCM). CCM enables real-time imaging of the corneal nerve fibers and identifies nerve damage in a growing list of peripheral and central neurodegenerative conditions including diabetic neuropathy, hereditary neuropathies, Parkinson’s disease, multiple sclerosis, dementia and autism. The test takes a few minutes, is non-invasive, utilizes existing ophthalmic equipment and can be done in the clinic. It has

become a powerful imaging end-point for early diagnosis and prediction of those who will develop or progress, and it is being used in clinical trials to identify a response to treatment in a number of peripheral neuropathies. It is also now being evaluated in Qatar for central neurodegenerative conditions like multiple sclerosis, stroke, dementia and autism.

Dr. Malik said: “To be presented with awards for doing something I love and that will help my patients now and in the future is a great honor and privilege. It is also extremely gratifying to know that our hard work is considered to be cutting-edge and has been internationally acknowledged by both Expertscape and the European Association for the Study of Diabetes. I want to thank my colleagues in Hamad Medical Corporation, Sidra Medicine and Qatar Biomedical Research Institute and especially my team in WCM-Q for their hard work and belief in what we do.”

Dr. Khaled Machaca, associate dean for research said: “We are extremely pleased with the recognition of Expertscape and EASD of Dr. Malik’s achievements in the field of corneal confocal microscopy. One can hardly think of a more deserving clinician-scientist for the Camillo Golgi Prize. Dr. Malik’s continuing achievements and productivity at Weill Cornell Medicine-Qatar highlight the institution’s supportive environment that allows its researchers to perform cutting-edge science that is not only competitive but also leading internationally.”



Corneal confocal microscopy is non-invasive and uses existing ophthalmic equipment.

Heat and ethnicity

Study finds minority groups in US disproportionately affected by hot weather.



Dr. Grigory Ostrovskiy, Dr. Rana Abualsaud and Dr. Ziyad Mahfoud.

A WCM-Q study has shown that some ethnic groups are disproportionately affected by heat-related illness.

The research, conducted by Dr. Grigory Ostrovskiy, assistant professor of emergency medicine, Dr. Ziyad Mahfoud, associate professor of healthcare policy and research, and the Class of 2019's Rana Abualsaud, showed that emergency room visits in California for heat-related illness like heat exhaustion and heatstroke rose by 35 percent over a decade. The increase was higher among African Americans, Asian Americans and Hispanics than in the overall population.

The study, which was published in the journal *Wilderness & Environmental Medicine*, found that between 2005 and 2015 heat-related emergency department visits rose by an average of 67 percent for African Americans, 53 percent for Asian Americans and 63 percent for Hispanics. These visits increased by only 27 percent among whites. The rates for African Americans and Asians were always higher than for the overall population across the decade, while Hispanic populations and white populations had similar increases in rates until 2013, after which the rates diverged.

The study said: "The overall trend shows an increase in presentation during the last few years for all ethnicities, which may be explained by a common risk factor such as increase in peak temperature and heat intensity. The disproportionate increase [among minorities] prompts the search for ethnicity-based factors that affect heat vulnerability."

The research was based on data drawn from the California Environmental Health Tracking Program, which logs emergency room visits and hospitalizations due to heat-related medical conditions. California has particularly high-quality, freely available data on heat-related illness, making

the state an attractive target for researchers in this area. The WCM-Q team aimed to gain insights from the California data that could help them understand the pattern of emergency room visits caused by heat-related illness in Qatar.

The study suggested a number of factors that might account for the disparity, such as lower socioeconomic status, living in densely populated areas with poor access to air conditioning, and higher rates of employment in outdoor and physically demanding labor. The research has now gained mainstream attention after being featured in a report by Reuters, the global news agency.

Dr. Ostrovskiy said: "We are glad this research has been highlighted by Reuters. Global warming will lead to more heat-related illness in the future and further research is needed to make sure we understand the factors that lead to the more vulnerable populations being disproportionately affected. This study is also relevant to Qatar as it shows how an environmental tracking program could be very useful in this country, which can get very hot."

Dr. Mahfoud emphasized that results of such studies can help policy makers allocate appropriate funds to address such health disparities by understanding the factors and establishing interventions for prevention.

Dr. Rana Abualsaud of the Class of 2019 presented the research at the annual meeting of the Society for Academic Emergency Medicine (SAEM), a leading professional body for academic emergency physicians.

The authors noted limitations of the study, entitled *Ethnicity-Based Inequality in Heat-Related Illness* is on the Rise in California, including inconsistencies in the quality of data collection over time and across different counties, changes in access to care, and migration of individuals to hotter counties within or outside California.

Match Day joy for future doctors

Residency programs at Hamad Medical Corporation and in the US will receive WCM-Q graduates.



Faculty and students celebrate Match Day 2019.

Weill Cornell Medicine-Qatar final year medical students matched with residency programs at some of the world's most prestigious university hospitals.

The students, who received their MD degrees when they graduated in May this year, secured highly coveted places on residency training programs at elite-level healthcare institutions in Qatar and the United States, such as Hamad Medical Corporation, Case Western/University Hospital Cleveland, Duke University Medical Center in Durham, North Carolina, Johns Hopkins Medicine in Baltimore, Maryland and NewYork-Presbyterian/Weill Cornell Medical Center.

The medical specialties the students will be pursuing once they have graduated are anesthesiology, dermatology, emergency medicine, internal medicine, neurology, obstetrics-gynecology, pathology, pediatrics, psychiatry and general surgery. They will join their residency programs in the fall.

Speaking at a ceremony held at the college to mark Match Day, Said Alnajjer, who matched with the general surgery residency program at Johns Hopkins Medicine, said: "I would never have been able to make it this far if it wasn't for Qatar Foundation and the State of Qatar making it possible to get this kind of education here so that we could all achieve our potential. I really hope in the future to come back here and serve this country as it provided me with this opportunity."

Match Day is a pivotal moment in any doctor's career, with thousands of students in the US and all over the world vying for places on residency programs. The process, which is administered by the National Resident Matching Program in Washington, DC, is highly competitive - this year, a record 38,376 applicants competed for 35,185 positions.

This year, 10 WCM-Q students matched at Hamad Medical Corporation and 33 students matched with residency programs in the US.

Qatari national Shaikha Al-Thani matched with the general surgery residency program at NewYork-Presbyterian/Weill Cornell Medical Center. She said: "Let me thank my family and my friends for always giving me unconditional support - I cannot believe this day is finally here. Congratulations to everyone."

Dr. Javaid Sheikh, dean of WCM-Q, gave thanks to the students' friends and family members, WCM-Q faculty and staff, and to Qatar Foundation, for the generosity of their support for the students. He also paid tribute to the students for their hard work and dedication. He said: "My heartiest congratulations go to all of you for this wonderful achievement; you have done exceedingly well and all of us at WCM-Q are immensely proud of you. As you go out into the real world, remember us, and remember that we are always here to support you, whether you stay here in Qatar or if you go overseas."

YHF launches Harvest Day

Inaugural event celebrated the green fingers of high school students and national self-sufficiency and healthy eating



Students from Amna bint Wahab School for Girls harvested some of the tomatoes.

Your Health First held its first 'Harvest Day' event to celebrate bringing in a large crop of fresh fruit and vegetables grown in Qatar under the Khayr Qatarna initiative, which boosts self-sufficiency and encourages healthy eating.

Dignitaries from Qatar Foundation (QF), the Ministry of Education and Higher Education, the Ministry of Municipality and Environment, ExxonMobil Qatar, and Occidental Petroleum of Qatar Ltd. were at the Harvest Day event at Amna bint Wahab Preparatory School for Girls to see students bringing in a bumper crop of tomatoes. Harvests at nine other schools participating in Khayr Qatarna yielded plentiful crops of fruit and vegetables including strawberries, cucumbers, tomatoes, cherry tomatoes, colored peppers, red cabbage and green beans. All the crops have been granted the status of 'Premium Products' - an indication of their freshness and quality - by the Ministry of Municipality and Environment.

All of the produce has been grown in large-scale climate-controlled greenhouses installed at the schools by Your Health First as part of the Khayr Qatarna initiative, which

was launched in 2018 to help make a positive contribution to Qatar's self-sufficiency. The initiative also teaches students valuable lessons about healthy eating, agriculture, environmental awareness, and sustainability issues. Students are also learning about key business operations, such as logistics, commerce and economics, helping the younger generation gain the knowledge required to achieve the goals of Qatar National Vision 2030. Harvest Day will now be held each year to celebrate the bringing in of the crop.

Your Health First, which is the flagship public health campaign of Weill Cornell Medicine-Qatar (WCM-Q), initially installed large-scale greenhouses at three secondary schools as part of Khayr Qatarna's pilot program. Khayr Qatarna has proven such a success that the project was expanded and there are now a total of 10 greenhouses in operation at 10 schools. Khayr Qatarna itself grew out of Your Health First's extremely popular Project Greenhouse initiative, which saw smaller greenhouses installed at more than 130 elementary schools all over Qatar.

The fruit and vegetables grown in the greenhouses are distributed with Khayr Qatarna branding to the community

through local supermarkets and also among the school students' families and their communities. All proceeds from sales are reinvested in the project to allow for further expansion.

Fawzia Abdulaziz Al Khater, assistant undersecretary for educational affairs at the Ministry of Education and Higher Education, stressed that Sahtak Awalan - Your Health First embodies the effective partnership between the Ministry of Education and Higher Education and state institutions.

Mrs. Al Khater added that the ministry's support for the initiative stems from its keen interest in all that enhances the environmental and health awareness of students, and its commitment to build confidence that people can eat what they grow, making tremendous strides towards the nation's self-sufficiency, and giving students the opportunity to contribute effectively to this effort and supporting farmers to be more productive.

She pointed out that introducing students to the importance of agriculture and the principles of sound nutrition and healthy food is one of the priorities of education, in addition to raising awareness among students of the importance of eating fresh vegetables for better health. She also hailed the initiative as a starting point for several other programs that would benefit students and Qatar in general.

Mrs. Al Khater concluded by thanking all students and teachers who contributed to the successful harvest day in schools across Qatar, noting that the participation of students reflects their awareness of the importance of contributing to their country's progress, and of the fact that the hand that holds the pen should also have a fundamental role in building the nation.

HE Dr. Faleh bin Nasser Al Thani, assistant undersecretary for agriculture affairs & fisheries resources said: "We are pleased to participate in the first Harvest Day of Khayr Qatarna in Qatari schools, which is a confirmation of the seriousness of the work of this project and its importance."

HE added that the project in Qatari schools will contribute to the supply of fresh agricultural produce grown by students and will raise students' awareness of the concepts and importance of agricultural production.

"We look forward to further cooperation to launch more projects in schools that support the objectives of the Ministry of Municipality and Environment, especially those that support and promote activities and projects that would raise the level of self-sufficiency and help us achieve food security," HE concluded.

Mrs. Buthaina Ali Al Nuaimi, president of pre-university education at QF, said: "It is wonderful to see how much the Khayr Qatarna initiative has grown since it was launched last year.

"Food security is a key priority for Qatar, and we at Qatar Foundation are delighted to support this program – along with other key local entities – and its aim of educating young people about the importance of self-sufficiency and healthy eating. Ultimately, this is a collective investment in a



The initiative teaches students about healthy lifestyles, agriculture and sustainability.

sustainable future for Qatar."

Alistair Routledge, president and general manager for ExxonMobil Qatar, said: "We're pleased to support our partner Your Health First's Harvest Day - an exciting and fun event, which provides our youth with priceless learning experiences and promotes healthy eating.

"It teaches the value of hard work, helps build self-awareness and inspires a sense of community in the young generation - this is something we continuously strive to achieve through our community outreach programs at ExxonMobil Qatar.

"Harvest Day actively engages Qatar's youth in scientific and engineering practices, from seed planting techniques to understanding how plants grow in greenhouses. They also learn the economics of the food industry as well as how to market and sell the produce. Your Health First's projects are helping Qatar's youth deepen their understanding of key concepts in important subjects in a fun and practical way.

“Food security is a key priority for Qatar, and we at Qatar Foundation are delighted to support this program – along with other key local entities – and its aim of educating young people about the importance of self-sufficiency and healthy eating. Ultimately, this is a collective investment in a sustainable future for Qatar.”

This aligns with the educational development work we’re doing with our many local partners to prepare students with 21st century skills and meet the objectives of Qatar National Vision 2030.”

Andrew H. Kershaw, president and general manager of Occidental Petroleum of Qatar Ltd., said: “Oxy is honored to support Khayr Qatarna and the wider Sahtak Awan campaign. Not only are we encouraging our communities to eat healthier, but we are also providing our children with valuable lessons about agriculture and the environment and we are supporting Qatar toward sustainability. Oxy strives to support and participate in all the communities wherever it operates.”

Mrs. Nadya Mohd Sultan Larem, school principal at

Amna bint Wahab Preparatory School for Girls said: “The Khayr Qatarna initiative and its expansion into schools across Qatar has contributed to familiarizing students with the values of food self-sufficiency and independence in food production. The initiative has also promoted awareness of healthy lifestyles and transformed participating schools into production units, combining theoretical science with practical knowledge and fostering a culture of healthy eating through vegetables grown by students themselves. Moreover, students are more aware now of the importance of staying away from processed foods and instead choosing a vegetable-rich diet, as well as the importance of relying on local fresh produce instead of imported foods that need transport and cooling, contributing to the preservation of the environment.”

Dr. Javaid Sheikh, dean of WCM-Q, said: “Harvest Day is a remarkable moment, marking the culmination of a great deal of hard work and effort by all involved in growing the crops. We are honored that so many people attended today to celebrate our inaugural Harvest Day, and I want to extend my most sincere thanks to all of our students, teachers, and our partners for supporting this extremely worthwhile campaign and making the success of Khayr Qatarna possible.”



Honor for college

WCM-Q awarded highest ACCME standard for continuing professional education

WCM-Q has been awarded the highest level of accreditation for the provision of continuing medical education to physicians by the Accreditation Council for Continuing Medical Education (ACCME) – recognized as the leading accreditation body in the US.

WCM-Q's CME/CPD program was initially accredited by the ACCME in 2016, becoming one of the first medical education colleges in the world outside the US to receive such accreditation, which confers the rights and responsibility to designate AMA PRA Category 1 Credits (American Medical Association Physician's Recognition Award).

Now, following an exhaustive assessment of its CME/CPD program, WCM-Q has been granted Accreditation with Commendation by the ACCME. Such was the quality of the CPD activities offered by WCM-Q that the ACCME conferred accreditation for six years rather than the usual four-year term. The new ACCME Accreditation with Commendation extends WCM-Q's accreditation period until November 2024.

Dr. Graham McMahon, president and CEO of the ACCME, said: "Congratulations to Weill Cornell Medicine-Qatar for earning Accreditation with Commendation, the highest level of accreditation conferred by the ACCME. With this achievement, WCM-Q demonstrates leadership, innovation, and creativity in CME and shows that education measurably improves clinician performance. By leveraging the power of education, WCM-Q promotes team-based care, population health, community collaboration, and clinicians' communication skills. I commend WCM-Q's commitment to continuous improvement in its own program and to advancing the field of CME through research and scholarship. We look forward to continuing to work together to optimize the performance of clinicians in Qatar and to support healthcare improvement for the patients and communities they serve."

WCM-Q's CME/CPD program also recently received renewed accreditation for a period of five years from Qatar Council for Healthcare Practitioners-Accreditation Department (QCHP-AD). This dual accreditation gives physicians practicing in Qatar the opportunity to keep their knowledge and skills up-to-date while simultaneously earning credits to allow them to maintain their medical licenses, both in Qatar and in the US.

A culture of high-quality CME/CPD is regarded as an essential part of any modern healthcare system because it provides rigorous standards of best practice for physicians which are continually updated to keep pace with developments in medical science. WCM-Q develops a wide variety of learning opportunities such as workshops, seminars, certificate programs and lectures for members of the healthcare community in Qatar, both within and beyond WCM-Q.



Dr. Javaid Sheikh and Dr. Thurayya Arayssi.

Dr. Thurayya Arayssi, senior associate dean for medical education and continuing professional development at WCM-Q said: "Our dual accreditation is very important to us because it underlines our commitment to help to continuously enhance healthcare at both local and international level. Although our program is relatively young, we felt confident that the quality of our offering met the new and more rigorous set of ACCME commendation standards. I offer my most sincere thanks to Dean Javaid Sheikh and my other WCM-Q colleagues Deema Al-Sheikhly, Laudy Mattar and the rest of their team, and all the other faculty and staff involved in ensuring our program meets the highest standards. This success would not have been possible without their contributions."

When WCM-Q was awarded a two-year provisional accreditation term in 2016 it was one of just three institutions outside of the US to receive such accreditation.

Dr. Javaid Sheikh, dean of WCM-Q, said: "To earn the highest level of accreditation from the ACCME, which is widely recognized as the world's leading medical accreditation body, is a truly special and significant achievement. I offer my warmest congratulations to our Division of Continuing Professional Development for their hard work and unwavering commitment to excellence, which enables WCM-Q to honor its pledge to help bring the very highest standards of medical care and clinical performance to Qatar."

Building the future of healthcare

WCM-Q research praises Qatar's commitment to medical education and expanding local healthcare capacity.



Drs. Javaid Sheikh, Sohaila Cheema, Karima Chaabna and Ravinder Mamtani.

The vision of Qatar's leadership to develop and train medical professionals and build national healthcare capacity has been supported by new research conducted by WCM-Q.

The study, entitled 'Capacity building in healthcare professions within the Gulf Cooperation Council countries: Paving the way forward', published in *BMC Medical Education*, was led by the dean of WCM-Q, Dr. Javaid Sheikh, along with other senior doctors and scientists, against the backdrop of a worldwide shortage of healthcare workers. The situation is of concern in the GCC nations because of a lack of nationally-trained professionals leading to a reliance on expatriate healthcare workers and consequently a high turn-over of employees. Other study investigators included Dr. Sohaila Cheema, Dr. Karima Chaabna and Dr. Ravinder Mamtani, all of WCM-Q, and Dr. Albert Lowenfels from New York Medical College.

The research cites figures that show that in 2014 the GCC had an average of just 2.193 physicians for every 1,000 people, compared to the US which had approximately 2.5 per 1,000, or Norway which had 4.38. A similar shortage is found in nursing and midwifery. There is also a cultural schism between healthcare professionals and their patients due to the fact that people from as many as 100 cultures live in the GCC, although programs like the Institute for Population Health's Center for Cultural Competence in Health Care at WCM-Q are working to address this and improve healthcare professionals' cultural awareness.

The study concluded that a locally trained healthcare workforce is vitally important for the GCC nations. In addition, capacity building efforts would help the nations to focus on major healthcare challenges and also aid in further improving the overall quality of healthcare.

Dr. Sheikh said that it was prescient of Qatar's leadership to recognize this as early as they did, and to establish Qatar Foundation and Weill Cornell Medicine – Qatar.

He said: "The creation of Qatar Foundation and its partnerships with US universities have allowed the country to build capacity in a number of significant areas but few can be as important to the well-being of the population as biomedical research and healthcare. The World Health Organization reported in 2017 that GCC countries should plan their healthcare systems by focusing on building human capacity at all levels, including academia, and this is precisely what Qatar and Weill Cornell have been doing together since the college was inaugurated in the country in 2002.

"The decision by His Highness the Father Emir and Her Highness Sheikha Moza to establish Qatar Foundation, coupled with the continued support and leadership of Her Excellency Sheikha Hind, proved to be insightful and has allowed Qatar to build the foundations for a world-class healthcare system."

The study also highlighted the success of Qatar's Nursing and Midwifery Strategy 2015-2018 which was launched by Hamad Medical Corporation under the leadership of the Ministry of Public Health in order to facilitate high-quality, effective, patient-centered care.

A further area which the research cited as being fundamental to the development of national capacity, was continuing medical education.

Dr. Sheikh and his colleagues said continuing medical education and professional development allows healthcare professionals to maintain their skills and stay abreast of developments and new therapies. For continuing medical education programs to be effective, though, country-specific needs assessments should be conducted, and areas of improvement constantly identified.

WCM-Q has been at the forefront of developing innovative, needs-based continuing professional development programs. One of the core purposes of the college's Institute for Population Health is to strengthen health professionals' capacity through high-quality education and training programs.

Dr. Ravinder Mamtani, senior associate dean for population health, capacity building and student affairs, leads the institute and also contributed to the research paper.

Dr. Mamtani said that both people and communication skills are crucial to capacity-building and that capacity building programs should not focus on one discipline, but rather should be interprofessional, including doctors, nurses, dentists, paramedics, pharmacists and other healthcare professionals.

The research concluded that continuing medical education programs are vital to capacity building in healthcare, and that strengthening this capacity is addressing major healthcare challenges like non-communicable diseases, but also infectious diseases, mental illness and women's health.



Qatar's mission to educate and develop local doctors and healthcare professionals was supported by the research.

"The decision by His Highness the Father Emir and Her Highness Sheikha Moza to establish Qatar Foundation, coupled with the continued support and leadership of Her Excellency Sheikha Hind, proved to be insightful and has allowed Qatar to build the foundations for a world-class healthcare system."

WCM-Q celebrates as Class of 2019 graduate

Forty-nine students received their Cornell University degrees and will now take up residencies at a variety of prestigious institutions.



Students of the Class of 2019 take the Hippocratic Oath.

The hard work and dedication of Qatar’s newest doctors was celebrated as Weill Cornell Medicine – Qatar held its annual graduation ceremony, attended by Her Excellency Sheikha Hind bint Hamad Al Thani, vice chairperson and CEO of Qatar Foundation.

This year 49 students - 12 of whom are Qatari - received their Cornell University MD degrees in front of an audience of VIPs, faculty, family and friends. The graduates will now embark on the next stage of their careers when they will take up residency positions at elite-level healthcare institutions in Qatar and the United States, such as Hamad Medical Corporation, NewYork-Presbyterian/Weill Cornell Medical Center and Johns Hopkins Medicine in Baltimore, Maryland to pursue specialties including internal medicine, neurology, pediatrics and general surgery.

This year’s 49 graduates – comprising 26 men and 23 women - mean that WCM-Q, a Qatar Foundation partner university, has produced 384 new doctors since the first graduation ceremony in 2008.

Dr. Javid Sheikh, dean of WCM-Q, congratulated the new doctors on their achievements.

He said: “Graduation is the culmination of everything that we at WCM-Q strive for, both as faculty and as students, and

it is the highlight of the academic year. I speak for everyone at the college when I say that it gives us all tremendous pleasure to be able to address these young, talented people, as ‘doctor’ for the very first time.

“Becoming a physician is no easy task, and the Class of 2019 have demonstrated great commitment to their studies, intellectual curiosity and compassion for their patients. These qualities will develop as they progress through their careers and I look forward to seeing many of them working in hospitals in Qatar, healing the sick, sharing their wisdom with future generations and contributing to building the country’s world-class healthcare system in line with the goals of Qatar National Vision 2030.

“Everyone at WCM-Q is confident that these new doctors will be wonderful ambassadors for the college, for Qatar Foundation and for the entire nation, demonstrating Qatar’s commitment to unlocking human potential to the whole world.”

Student speaker and Class of 2019 graduate Dr. Moaz Abdelrehim said he had huge respect for the compassion of his fellow graduates.

Dr. Abdelrehim said: “It is truly an honor to be graduating alongside a group of doctors, but more importantly people,



The Class of 2019 with Her Excellency Sheikhha Hind bint Hamad Al Thani, vice chairperson and CEO of Qatar Foundation

“Everyone at WCM-Q is confident that these new doctors will be wonderful ambassadors for the college, for Qatar Foundation and for the entire nation, demonstrating Qatar’s commitment to unlocking human potential to the whole world.”

as caring as you are. To willingly wake up each morning in pursuit of a career that confronts suffering on a regular basis and demands substantial amounts of self-sacrifice is truly amazing. And now as we each go on to pursue our residencies or our research, our white coats will become longer and heavier because of the growing commitments and the self-sacrifice required by this profession.”

The keynote speech of the graduation ceremony was delivered by Dr. Aisha Yousuf, medical director of reproductive surgery at Sidra Medicine. The 49 graduates and the audience also heard from Dr. Augustine Choi, dean of Weill Cornell Medicine in New York, who thanked the leadership of Qatar and Qatar Foundation.

Addressing the new doctors, Dr. Choi added: “To have the greatest impact, and to really help your patients the most, you’ll need to keep learning. Today you walk out of those doors as doctors, but your education does not stop here.

“As you go forth as new physicians, I urge you to remember the lessons you’ve learned here at Weill Cornell Medicine, as well as the friends and colleagues you’ve made. They will sustain you as you find your own path and your own way to Care, Discover, and Teach.

“I wish you all the best and want you to know that you will always have a home at Weill Cornell Medicine.”



Dr. Javid Sheikh addresses former and current foundation students.

Can plants beat cancer?

WCM-Q research identifies which plant-derived therapies may be of use treating breast cancer.



Breast cancer is the most commonly diagnosed cancer in women.

Researchers at WCM-Q have published an in-depth study reviewing the effectiveness of plant-derived therapies at fighting the most aggressive forms of breast cancer.

A team of researchers led by Dr. Dietrich Büsselberg, professor of physiology and biophysics, reviewed more than 350 scientific studies to identify which plant-derived therapies have anti-cancer properties that could potentially be used to treat so-called 'triple-negative breast cancers' which are highly aggressive, do not respond to conventional hormone-based therapies, and which tend to spread, recur and develop drug resistance at high rates.

The researchers investigated existing research on natural compounds with anticancer potential such as luteolin (found in many herbs and vegetables), curcumin (found in turmeric), capsaicin (chili pepper extract), rutin (plentiful in apples, figs and citrus fruits), among many others.

Triple-negative breast cancers (TNBCs) are so called because they test negative for estrogen receptors, progesterone receptors and human epidermal growth factor receptor 2 (HER2) and this means they do not respond

to hormonal and HER2 targeted therapies that target these receptors which are effective at treating non-TNBC tumors. TNBCs are therefore primarily treated with surgery, chemotherapy and radiation therapy, which have unpleasant side effects and are often not effective. Breast cancer is the most common form of cancer among women worldwide, and an estimated 10-24 percent of breast cancers are TNBCs.

While a great deal of research has been conducted into the efficacy of a wide range of different plant-based therapies for treating TNBCs, there are few papers that draw these studies together to give a comprehensive overview, explained Dr. Büsselberg.

"It is proven that consumption of many different fruits and vegetables reduces the risk of cancer, but the research on plant-based therapies and naturally occurring compounds is widely scattered and consequently cumbersome and time-consuming to assimilate," he said. "Our aim with this manuscript was to pull a wide range of the best of these studies together in one place, analyze them and draw conclusions about the efficacy of plant-based therapies. Our hope is that this will facilitate the targeting of research



Dr. Dietrich Büsselberg.

and ultimately the use of those plant-based therapies that the evidence suggests improve outcomes for patients with TNBCs.”

The study was done in collaboration with the research team of Dr. Büsselberg and the Institute of Population Health. Elizabeth Varghese, Dr. Samson Mathews Samuel, Mariam

Abotaleb, Dr. Ravinder Mamtani, Dr. Sohaila Cheema and Dr. Büsselberg carried out an exhaustive review of 353 scientific papers on 14 different plant-based compounds found in a wide variety of plants. Natural compounds with anti-cancer properties work by modulating different cell signaling ‘pathways’ that are involved in the growth of cancer cells. For each compound, the research team analyzed which signaling pathways they affect, and found that 13 of the 14 compounds investigated had anti-cancer properties for TNBCs. These compounds were found in a long list of plants: broccoli, green chili, onions, onion leaves, radishes, carrots, celery, tomatoes, shallots, apples, kiwis, citrus, beans, cucumbers, turmeric, soybeans, red grapes, blueberries, raspberries, pepper, some legumes, tolypocladium (a fungus) and corn lily, the last of which is mildly toxic.

The team noted that one of the 14 compounds reviewed - asparagine - has a pro-carcinogenic effect in TNBCs. Asparagine is found in asparagus, potatoes, legumes and also non-plant sources including beef, fish and eggs.

The paper, entitled ‘The “Yin and Yang” of Natural Compounds in Anticancer Therapy of Triple-Negative Breast Cancers’ has been published in *Cancers*, a highly regarded medical research journal.

Dr. Samuel said: “With this study we were able to identify in the literature a number of plant-derived compounds that disrupt tumor growth by modulating six known cell signaling pathways involved in TNBCs. While these naturally occurring compounds have a relatively modest effect and certainly should not be considered cures in any meaningful sense, they do indeed have anti-carcinogenic properties and are therefore potential anti-cancer agents eligible for further investigation. Furthermore, the literature shows that when used in combination with chemotherapy drugs, these plant-based compounds may bring about better therapeutic outcomes, overcome resistance to drugs and sensitize cancers to anti-cancer agents they were once resistant to.”

The research was made possible by support from the Bridge Funding Grant (Nov 2017- current) awarded to Dr. Büsselberg by the Biomedical Research Program at WCM-Q, a program funded by Qatar Foundation. Elizabeth Varghese was supported by the Institute of Population Health.



New boost for workers' health

Supreme Committee and WCM-Q announce further collaboration to look after the well-being of World Cup laborers.



State-of-the-art health monitoring technologies will be deployed to track and support the wellbeing of workers on Qatar 2022 construction projects in the next phase of a program delivered by the Supreme Committee for Delivery & Legacy (SC) in partnership with WCM-Q.

A team of experts from the medical college will use evidence-based monitoring technology solutions to undertake a three-year field assessment for construction workers on SC sites.

Hi-tech devices will be used to monitor key health indicators such as heart rate and rhythm, blood sugar levels, blood pressure, body temperature and hydration, in order to identify individuals at risk and ensure preventive measures and care systems are put in place.

The first phase of the initiative, carried out in 2018, involved the Supreme Committee and WCM-Q partnering to conduct health checks for construction workers, providing health awareness and training campaigns, and working with caterers to optimize the nutritional value of meals. This work also set the standards for existing health screening and medical care delivery for workers.

Mahmoud Qutub, executive director of the Supreme Committee's Workers' Welfare Department said: "We are delighted to continue our engagement with the renowned team of experts at WCM-Q. Protecting the health of our workers is of paramount importance to the Supreme Committee, and this innovative project will further enhance our capacity to do that. This initiative is part of our broader suite of health and safety initiatives and complements the recent decision by the Supreme Committee to mandate the comprehensive medical screenings for all workers, currently being carried out by the Qatar Red Crescent."

Health indicators such as body weight, smoking status, muscle strength, sleep duration and mental health will also

be screened. The modern technology and remote monitoring devices will allow the screening program to be scaled to cover a larger number of workers in the future.

Dr. Javid I. Sheikh, dean of WCM-Q, said: "We are delighted to continue our engagement with the Supreme Committee and commend the forward-thinking efforts of the organization. The use of hi-tech health monitoring systems places this project at the forefront of global efforts to protect the health of expat laborers, while the continued emphasis on sharing information about healthy lifestyle behaviour and nutrition will enhance the ability of workers to optimise their own health, both here in Qatar and when they return to their home countries."

The project will also incorporate lessons learned from the field assessments, provide nutritional advice, video-based training resources, and give workers access to nutritionists and relevant information in their languages.

Additionally, the Supreme Committee and WCM-Q will provide training to contractors, catering staff and Workers' Welfare Officers on key health issues affecting workers, Qatar's dietary guidelines, and health and nutritional best practices relevant to the construction industry.

Dr. Shahrad Taheri, professor of medicine who is leading the WCM-Q expert team added: "Our collaborative work aims to identify health issues and physiological challenges in expatriate laborers early on so we can put systems in place to address these in a timely and effective manner.

"Using technology will allow scaling up of health monitoring quickly and efficiently. The work will have a strong legacy and can play a role in further enhancing health and welfare programs across Qatar where large-scale construction projects are underway. The collaboration is a unique opportunity to make an impact on improving the lives of workers and building on the welfare initiatives successfully implemented by the Supreme Committee."



WCM-Q experts are overseeing the health program.

Physicianship through experiential learning

Students learn that it takes more to be a doctor than just good grades.



Dr. Rachid Bendriss with students from WCM-Q's Foundation Program.

Students from Weill Cornell Medicine – Qatar's Foundation Program presented research posters of their experiences observing doctors and other healthcare professionals at work.

As part of the English course curriculum taught by Dr. Rachid Bendriss, this experiential learning initiative involved students from the Foundation Program shadowing doctors at Sidra Medicine and watching how they interact with patients, each other and colleagues from other medical disciplines. The aim is to give students a greater understanding of what it means to be a doctor and the attributes that are required, aside from an academic understanding of diagnosis, disease, drugs and therapies.

Each student, the majority of whom are Qatari, chose one of five themes to concentrate on: Teamwork, leadership, empathy, emotional intelligence and professionalism. Throughout the semester, students explored and reflected on these themes in research literature, engaged in face-to-face and online discussions, and visited Sidra Medicine to observe physicians at work

They then produced a research poster using a multimodal approach based on a literature review, their observations, an inquiry graphics analysis, and their inferences.

Khalid Alsabbagh opted to focus on teamwork and leadership and was assigned to shadow doctors and other medical professionals in the Department of General Surgery at Sidra Medicine. The title of his study was 'Interdisciplinary Teamwork in the Medical Field'.

Khalid said: "I worked on the idea of observing teamwork in the medical sector and examining how it benefits patients' health, outcomes and satisfaction.

"My conclusion was that teamwork, and most importantly multidisciplinary teamwork, in the medical field is crucial in improving patient health outcomes and satisfaction.

"I also observed that a medical team has no hierarchy; everyone works as one team, there is no leader, everyone takes responsibility both for themselves and others."

Latifa Mahmoud was assigned to the Department of Obstetrics and Gynecology at Sidra Medicine to examine professionalism in the medical profession.

She said that through her observership, she had seen and come to understand that there is no exclusive characterization of professionalism. Rather, the trait manifests itself in various ways depending on the doctor and the circumstances of the patient.

Latifa said: "I noticed that professionalism does not have a single, unique definition. Each doctor demonstrates professionalism in different ways. One doctor may show it in the language they use with a patient, another doctor may show it in the way they explain and then perform procedures on patients."

Dr. Rachid Bendriss, assistant dean for student recruitment, outreach and foundation programs, said it had been a valuable learning experience and that the five themes chosen were central to excellence in healthcare.

Dr. Bendriss said: "Foundation students already have the opportunity to participate in the Clinical Observership Program where they can experience what being a doctor involves, but this experiential learning initiative encourages them to take a critical and specific approach, allowing them to focus on attributes of healthcare professionals that are outside of the traditional medical curriculum.

"The posters today were of a very high standard and a lot of thought had obviously gone into them, demonstrating that the students have appreciated that being a good doctor takes a lot more than simply passing exams."

The initiative was supported by WCM-Q's Distributed Library, Office of Alumni Affairs, and Undergraduate Medical Education at Sidra Medicine.

Experiencing Tanzania

WCM-Q professor produces a book about the east African country as seen through the eyes of medical students.



The Class of 2022's Nasser Al-Kuwari takes a man's blood pressure.

The life-changing experiences of a group of ten medical students on a service-learning trip to Tanzania have been shared in a book compiled by WCM-Q professor Dr. Dietrich Büsselberg.

The 154-page book, entitled *Experiencing Tanzania: Reflections of a Medical Service Learning Trip Through the Eyes of Aspiring Physicians*, features articles by students recounting their impressions of the east African country, its people, wildlife and awe-inspiring landscapes, and the challenges of providing healthcare in a low-resource setting. The book is illustrated with more than 300 photographs taken by Dr. Büsselberg, a keen amateur photographer, who accompanied the students on the ten-day trip. He captured the students as they toured the country helping to provide free health checks for local people, as well as viewing the spectacular scenery and a wealth of exotic animals including lions, cheetahs, hippos, rhinos, crocodiles and elephants, among many others.

Dr. Büsselberg, professor of physiology and biophysics, said: "Tanzania is an extraordinary country of incredible natural beauty, but it is also a low-income country where accessing healthcare is often very difficult for the majority of the population. This contrast between natural beauty and hardship made for some quite profound experiences for the students, fundamentally altering their perception of what it means to be a doctor and a healer. I wanted to record those experiences for posterity and to inspire others, and these were the reasons for creating the book."

The service-learning trip to Tanzania took place in the summer of 2018 and was supported by WCM-Q's Division of Student Affairs. During the trip, the group visited Arusha

and Moshi in the north east of the country, and spent time interacting with local people in their homes, businesses, a local hospital, schools and an orphanage. They also visited three national parks: Tarangire National Park, Lake Manyara National Park and the Ngorongoro Conservation Area, home of the famed Ngorongoro Crater. The articles, written by both students and local professionals, explain the social, economic and cultural context of Tanzania, the difference between urban and rural lifestyles, the lives of the Maasai people, the system of national parks and their role in protecting the flora and fauna of the country, the scourge of poaching, and the major public health challenges facing the country.

With a GDP of \$900 per capita, Tanzania struggles to provide basic healthcare to its people. Student Mohammad Salameh of the Class of 2022 wrote: "Proper and comprehensive care for the ill is so difficult to obtain there that illness meant suffering, and would usually only get worse. In fact, around 85 percent of the Tanzanian population will never see a doctor in their entire life."

Reflecting on the difference between the facilities in Qatar and Tanzania, he added: "We, as residents of developed countries, must aspire to become global citizens who connect and empathize with people of different backgrounds. We must understand that we have a duty to ensure that every human is free to enjoy their fundamental right to healthcare."

Student Narjis Mhaimeed, of the Class of 2022, wrote of the stunning natural beauty of the parks and the wildlife, but also noted: "Unfortunately, these wonders of nature are not as safe as one would hope them to be. Poaching has been a huge, ongoing issue. The elephant population declined by 60 percent in five years, from 109,051 in 2009 to 43,521 in 2014. Lions are also in grave danger - the number of lions has dropped from 25,000 in 2010 to 16,000 currently. It is important we all spread awareness to keep Mother Nature intact."

Further articles were penned by WCM-Q students Dabin Chung, Omar Mhaimeed, Safah Khan, Jasna Chalangal, Nasser Al-Kuwari, M. Fatin Ishtiaq, Abdallah Elshafeey, and Omar Al-Bashtawi. Student academic counselor Steven Stay, who also accompanied the students on the trip, contributed the concluding article of the book, while Dr. Büsselberg wrote the foreword.

The book was published and printed in Doha and is hosted online on Hamad Bin Khalifa University Press' academic platform, QScience.com, an open access, peer-reviewed, online publishing platform that offers a collaborative research environment for academics and scientists in Qatar and the rest of the world.

From the lab to the market

WCM-Q Research Retreat showcases this year's cutting-edge biomedical research



Drs. Khaled Machaca, Abdul Satter Al-Taie, Richard O'Kennedy and Javaid Sheikh.

Researchers from leading institutions across Qatar convened at WCM-Q's ninth annual research retreat to discuss the latest developments in biomedical science.

More than 200 leading scientists and students from WCM-Q and other national stakeholders attended to share their projects, discuss ongoing trends in biomedical research, hear lectures from fellow investigators and take part in a research poster competition. Diverse areas of research were covered at the event, including diabetes, obesity, neurological disorders, genomics, breast cancer, the ecology of Qatar, epilepsy and cardiovascular disease, among many others.

The Research Retreat is one of the key events in the calendar for the region's scientific community; this year's edition had a special focus on the translation of discoveries and innovations into commercially successful enterprises.

Giving the opening remarks at the start of the one-day event, Dr. Javaid Sheikh, dean of WCM-Q, said: "Qatar has made enormous strides by establishing a very successful and active biomedical research sector in the county. The next challenge is to attract sufficient venture capital from the private sector

to allow small and medium enterprises to flourish and grow, which is essential for taking innovations from the lab to the market place. This is a crucial step if Qatar is to make the leap to a sustainable, knowledge-based economy."

The event also featured for the first time the announcement of the newly created WCM-Q Mariam Astrolabi award for Biomedical Research Advancement, named after Mariam 'Ijilyah Astrolabi, an Arab Muslim engineer from Aleppo who pioneered the development of the navigational instruments known as astrolabes in the 10th century CE. The inaugural award was presented to Dr. Abdul Satter Al-Taie, executive director of Qatar National Research Fund (QNRF), a member of Qatar Foundation, for the central role QNRF has played in channeling vital funding to biomedical research.

Dr. Al-Taie said: "Thank you very much for this great award from this great institution. I believe what has been done with research in Qatar so far is marvelous. We are now looking forward to the most important and most challenging phase, in which we must convert our ideas into impact by bringing about the realization of our collective research and innovation



Winners of the poster presentation with faculty members and staff.

to support the country and its move to a knowledge-based economy.”

Dr. Al-Taie then thanked the leadership of Qatar and his colleagues at QNRF for making the organization’s success possible.

The keynote address at this year’s event was given by Dr. Richard O’Kennedy, vice president for research, development and innovation at Qatar Foundation and vice president for research at Hamad Bin Khalifa University. Drawing on his experience in helping to establish the successful biomedical and pharmaceutical sector in Ireland, Dr. O’Kennedy said: “Ireland used to have a slogan that it was the best little country in the world to do business in; I want people to have the slogan in Qatar that this is the best place in the world for people who want to take good ideas and turn them into commercial opportunities. This can only be achieved if all of us work together; if we’re convinced, we can take the ideas and change things.”

The Research Retreat featured a total of 94 poster presentations by research specialists, students and postdoctoral fellows highlighting the findings of projects conducted over the past year. The event closed with the announcement of the winners of the poster presentation in three categories.

First place in the student category was awarded to second-year medical student Heba Altarawneh for her poster presentation titled ‘Quantitative Comparison of Naion and Poag Using Fdcot Scan Parameters’, which investigated vision loss. First place in the research specialists’ category was awarded jointly to Aisha Madani for a project about inflammation-regulating genes, and Iman Achkar for a project on the impact of a combination of a cytotoxic drug and a metabolic agent on cancer cells. In the postdoctoral fellows’ category, Dr. Yasser Majeed was first with a poster titled ‘Sirt1

Deacetylase and Myc Oncogene Interaction as a Regulator of Adipogenesis’.

Dr. Khaled Machaca, associate dean for research and professor of physiology and biophysics at WCM-Q, said: “We were fortunate to be able to welcome colleagues and leaders from Qatar’s vibrant biomedical research sector to this year’s Research Retreat. The WCM-Q Research Retreat is evolving into an event that showcases both our internal and collaborative research. We hope that the research conducted over the past decade at WCM-Q and nationally will find the proper venues for commercialization to close the loop on the national vision of developing a knowledge-based economy.

“The energy and talent at the Research Retreat, as well as the pioneering vision of Qatar’s leadership, gives me great optimism that this new phase will be a resounding success.”



Dr. Khaled Machaca said the aim was to commercialize the research that has been conducted at WCM-Q.

Hope for Alzheimer's cure

Research finds that desert cyanobacteria may hold clues to the onset of a variety of diseases



Dr. Aspa Chatziefthimiou is working with colleagues from across the world to research the causes and potential cures for neurodegenerative diseases.

A story from the deserts of the Middle East during the first Gulf War could potentially end with a cure for Alzheimer's disease.

Dr. Aspa D. Chatziefthimiou, a microbial ecologist and research scientist at Weill Cornell Medicine – Qatar (WCM-Q), is part of an international consortium of more than 50 scientists researching neurodegenerative diseases like Alzheimer's, Parkinson's and ALS (also known as motor neuron disease or Lou Gehrig's disease). She is examining the role of desert cyanobacteria - previously called blue-green algae - and how the neurotoxins they produce may be at least partly responsible for the onset of a variety of neurodegenerative diseases.

The possibility that desert toxins may have a role was first noticed in the decade following the first Gulf War and the liberation of Kuwait.

Dr. Chatziefthimiou explained: "It was found that the US military personnel who were deployed in the first Gulf War had three times the incidence of ALS compared to their colleagues with the same training but who were not deployed to the Gulf. These soldiers trained together in the US and had similar backgrounds and experiences. The hypothesis was that what caused the subsequent disease was the

inhalation of dust particles in the desert. These personnel were following military vehicles in the desert which were physically disturbing biocrusts containing cyanobacteria and the toxins they produce and aerosolizing them."

The interest in cyanobacteria as a potential cause of neurodegenerative disease was originally sparked by ethnobotanist Dr. Paul Cox, the executive director of Brain Chemistry Labs, a not-for-profit research center based in Wyoming.

Dr. Cox and his colleague Dr. Sandra Banack discovered that local villagers on the Pacific island of Guam had a high rate of neurodegenerative disorders because of their predilection for eating native fruit bats. The bats were eating the seeds of the cycad tree and a toxin in the seeds called BMAA (beta-N-methylamino-L-alanine), was accumulating in the tissues of the bat. The toxin itself was produced by cyanobacteria found in the roots of the cycad trees.

BMAA damages neurons in a number of ways and so is thought to cause brain disorders like Alzheimer's. While searching for ways to block the neurotoxin, Dr. Cox and colleagues found that the commonly occurring amino acid L-serine not only blocked BMAA but was also neuroprotective. They are now investigating, through FDA-

“Now we are looking at further evidence of how and why the toxins are produced. How are they transformed from one to the other? What is their half-life in the environment? How are they transported with sand storms and how do they affect our outdoor air quality? These are questions we try to answer from an ecological standpoint.”

approved human clinical trials, whether L-serine could prove to be a therapy for neurodegenerative diseases like Alzheimer’s.

Dr. Chatziefthimiou said: “We now know that BMAA is one causative factor for neurodegenerative diseases, it’s one of multiple stressors. We have found that L-serine offers neuroprotection and we believe that it can slow down the progression of disease.”

She said that a 2016 study involving primates that was conducted by Dr. Cox and his team had potentially positive results; one group of monkeys were fed food with BMAA present, another food with L-serine and a third with both BMAA and L-serine present. A control group received unadulterated food.

The researchers found that the monkeys fed BMAA developed brain tangles and plaques associated with Alzheimer’s, while those fed BMAA and L-serine combined had 80% lower density of brain tangles. More recently, a phase I clinical trial showed that L-serine is safe for human consumption and that ALS disease progression was slowed by 85% (ALSFRS-R scale) at the highest dose tested. The current ALS phase IIa clinical trial at Dartmouth-Hitchcock Medical Center in New Hampshire, is seeking to replicate these results.

L-serine is a readily available and inexpensive food supplement, and found naturally in food such as sweet potatoes, turkey and tofu among others.

Dr. Chatziefthimiou, in collaboration with the Brain Chemistry Labs and Dr. Renee Richer, a former associate professor of biology at WCM-Q, is examining how the cyanobacteria and their toxins that are found in Qatar in both the desert and the marine environment are transmitted to humans through the marine food chain, drinking water and the air, although she stressed that there is no cause for alarm and that cyanobacteria are regularly found in almost every environment on Earth. In deserts particularly, cyanobacterial crusts are vital as they keep the soil fertile and set the stage for vegetation to take root.

Dr. Chatziefthimiou said: “We find cyanobacteria and their toxins in all tested samples of seawater, cyanobacterial crusts and marine mats. When we tested for BMAA in water tanks and the marine food chain in Qatar - including crabs,



Dr. Chatziefthimiou said that cyanobacteria are found in habitats across the world.

snails, shrimp and fish - all the samples were free of BMAA. Other associated toxins which can transform into BMAA were present, but did not biomagnify up the food chain i.e. the larger organisms don’t contain greater levels of the toxins when compared to the base of the food chain. This was a surprising finding, contrasting work by colleagues that clearly show that BMAA is present and biomagnifies in marine food chains in Florida, US or in the Baltic Sea, Sweden.

“Our conclusion is that the way the toxins behave are climate- or regionally-dependent, and so the scientific queries used to inform policy and regulations for the protection from exposure to these toxins, should be regionally based as well. These research findings have been published in the journals *Neurotoxicity Research and Toxicon*.

“We think the cyanobacteria may produce the BMAA toxin as a means of communication, so it would be the equivalent of a text message in humans or a distress call in birds. They may communicate with the toxins when the environmental conditions change or when nutrient levels change. We also see that these toxins are persistent or have long residence times in the environment, even when they are not actively being produced.

“Now we are looking at further evidence of how and why the toxins are produced. How are they transformed from one to the other? What is their half-life in the environment? How are they transported with sand storms and how do they affect our outdoor air quality? These are questions we try to answer from an ecological standpoint.”

Dr. Chatziefthimiou’s research is supported by a National Research Priorities Project grant: 4-775-1-116: ‘Toxin Production by Desert Cyanobacteria’ from the Qatar National Research Fund, which was awarded to Dr. Renee Richer, who is currently an assistant professor at the University of Wisconsin in the US.

Leadership program for alumni

Week-long course taught management styles, decision-making skills and planning for career progression.



WCM-Q alumni with course leaders and organizers.

WCM-Q alumni working in Qatar spent a week learning leadership and management skills on a course organized by WCM-Q's Division of Alumni Affairs.

Ten WCM-Q graduates completed the seven-day Certificate of Leadership and Management program, learning a range of topics including different management styles, performance management and motivation, presentation and communication skills, the role of coaching and mentoring, decision-making tools, emotional intelligence and how to enhance assertiveness, among other skills.

The program, which was accredited by the UK-based Institute of Leadership and Management (ILM), was delivered by Leadership Focus, a specialist training organization from London. The 10 alumni who took part

graduated from WCM-Q between 2009 and 2016 and work variously as consultants, assistant professors, fellows and senior residents at WCM-Q, Hamad Medical Corporation and Sidra Medicine. Their specialties comprise pediatrics, internal medicine, emergency medicine, pediatric radiology, obstetrics-gynecology, and psychiatry.

Dr. Robert Crone, vice dean for clinical and faculty affairs, said: "Our role at WCM-Q is not only to educate our students to the highest possible world standards but to create the next generation of leaders in healthcare for the State of Qatar. This means we must stay in touch with our graduates who are engaged in postgraduate training in Qatar and North America and encourage and facilitate their return to Qatar to take up important roles within the healthcare system. As leadership and management are learned skills, we at

“Our aim with this very rigorous and demanding course was to leverage the talents of our highly trained alumni by helping them acquire excellent leadership and management skills. This will allow them not only to advance their own careers, but also enhance their capacity to take leadership roles in Qatar’s rapidly growing healthcare sector for the good of the entire community.”

WCM-Q are offering leadership and management training programs for our alumni in order to ensure that they have the tools to succeed not only as excellent clinicians, but as leaders when they return to Qatar.”

WCM-Q’s Division of Alumni Affairs was created to support the career development of WCM-Q graduates by providing access to training, networking and employment opportunities. The division has been very successful at encouraging graduates to return from completing their residency training overseas - usually in the US - to serve the community in Qatar. The division also seeks to support the advancement of women into senior leadership positions, following the example of figures like HH Sheikha Moza bint Nasser, chairperson of Qatar Foundation, HE Sheikha Hind bint Hamad Al Thani, vice chairperson and CEO of Qatar Foundation, and HE Dr. Hanan Mohamed Al Kuwari, minister of public health.

Haya Ahmad, WCM-Q director of alumni affairs, said: “Our aim with this very rigorous and demanding course was to leverage the talents of our highly trained alumni by helping them acquire excellent leadership and management skills. This will allow them not only to advance their own careers, but also enhance their capacity to take leadership roles in Qatar’s rapidly growing healthcare sector for the good of the entire community.”

The training, which took place at WCM-Q, engaged the alumni in lectures and interactive exercises to teach them a variety of key leadership and management skills. These included making a five-year plan for career progression, how to manage the performance of teams by creating environments that are based on trust and mutual support, using coaching to improve performance, utilizing appropriate visual aids and presentation tools, understanding the impact of body language, and by actively listening to feedback and giving appropriate responses to questions, among many others.

Qatari national Dr. Sara Buhmaid, attending physician in obstetrics/gynecology at Sidra Medicine, graduated from WCM-Q in 2012, before going on to complete a residency program at the University of Vermont Medical Center in

the United States, returning to Qatar in 2016 to take up her position at Sidra Medicine.

She said: “As graduates of WCM-Q, all of us are very ambitious and keen to take up leadership positions in the healthcare sector, so this training program was extremely welcome. It was very useful to learn about the various different leadership styles and work out which of them was most appropriate to my character and my career goals. It was also great to see my fellow WCM-Q alumni again and to hear all about their experiences serving the community here in Qatar.”

Dr. Grigory Ostrovskiy, assistant professor of emergency medicine at WCM-Q who graduated from the college in 2011 and then completed residency training in emergency medicine at NewYork-Presbyterian Hospital, said it had been a valuable exercise.

He said: “I found the course extremely useful, particularly the sections that explained how to formulate a five-year plan for career progression and the Pugh decision-making matrix. Taking the course with fellow WCM-Q alumni helped a great deal as we know each other’s strengths and weaknesses, so we were able to provide each other with meaningful feedback.”



Dr. Tania Jaber, an alumna of WCM-Q, delivers a presentation.



The Color Run breaks records

Ten thousand people from across Qatar learn that exercise can be fun thanks to Sahtak Awalan.



More than 10,000 people took part in the event.

Doha was covered in color as The Color Run presented by Sahtak Awalan: Your Health First returned to the Qatar National Convention Centre.

A record-breaking turnout of more than 10,000 Color Runners completed the Happiest 5K on the Planet as they walked, ran, skipped, and, most importantly, laughed their way to the finish line on Saturday in their most colorful attire.

One of the biggest events that Doha has ever seen, this edition of the Color Run was part of The Hero Tour, featuring an all-new Super Zone and Foam Zone as part of the 5k course.

Shaun Smith, who ran in the event, said: "This is my second color run and I felt this year's event was extremely well organized and it was great to see such a massive turnout of first-time runners. The foam pit was a fantastic addition and having medals at the end of the race made me feel happy and accomplished. It was so much fun."

People of all fitness levels gathered for the warm up, before the first wave jetted off on the 5k course in clean white shirts, capes, tutus, socks and sunglasses before getting doused from head to toe in color.

At the finish line, runners were bursting with colors, energy, and pride as they collected their medals, before heading to the Finish Festival to celebrate with their friends, families and colleagues, enjoying the live music and games.

Nesreen Al-Refai, chief communications officer for Weill Cornell Medicine – Qatar, which runs the Your Health First campaign said: "The wonderful thing about the Color Run is that it brings together huge numbers of people of all ages and

from all parts of the community to exercise and have great fun at the same time. The event is so much fun that it really inspires people to get active and make regular exercise part of their everyday routine, which is one of the core messages of Sahtak Awalan – Your Health First."

Since its inception in 2012, The Color Run has become a global phenomenon, continuing to innovate the 5k paint race genre each year. The event has been experienced by over 6 million people worldwide in more than 35 countries and has donated a staggering \$6 million to charity to date. In Qatar, the Color Run donated a portion of every entry to Reach Out To Asia – a program of Education Above All.



The run ended with the Finish Festival.

Five WCM-Q students honored in Qatar Educational Excellence Awards

Students and alumnus received their awards at event attended by HH the Emir.



Dr. Javaid Sheikh with, from left, Ghalia Ashkanani, Latifa Mahmoud, Asma Al-Kaabi and Alya Ashkanani.

One alumnus and four Weill Cornell Medicine-Qatar students won awards for academic achievement at the 12th edition of the Qatar Education Excellence Awards, patronized by His Highness the Emir Sheikh Tamim bin Hamad al-Thani.

Alumnus Dr. Abdulrahman Al-Abdulmalek, who graduated in 2018 and is now an internal medicine resident physician at Hamad Medical Corporation, won a gold award, as did WCM-Q Foundation Program students Latifa Mahmoud, Alya Ashkanani and Ghalia Ashkanani. Asma Al-Kaabi, also a Foundation Program student, won a platinum award.

The four Foundation Program students won their awards for their academic achievements at their secondary schools, while Dr. Al-Abdulmalek won his for his performance in his final year as a medical student. The Education Excellence Awards are administered by the Ministry of Education and Higher Education.

The award winners met with Dr. Javaid Sheikh, dean of WCM-Q, in recognition of their accomplishments.

Dr. Sheikh said: "Winning an Education Excellence Award is a fantastic achievement, demonstrating a level of academic ability that places the winners among the very best scholars in the whole of the State of Qatar. We are extremely proud of our five winners and I am very happy to congratulate each of them on behalf of the entire WCM-Q community for their exceptional dedication and ability."

Dr. Al-Abdulmalek, who completed the Foundation Program at WCM-Q before beginning his pre-medical and medical studies, said: "I feel extremely proud to have won this award. I have to thank my professors and the student affairs team at WCM-Q, my friends and family, the Sahtak Awalan – Your Health First campaign for making me one of their ambassadors, and the professors at my old high school. My success is a reflection of the support and encouragement they gave me, without which I never would have been able to win this award."

Foundation student Asma Al-Kaabi said: "When I got the phone call telling me I had won I was so happy and excited; it was wonderful to hear that all the hard work I put in had paid off."

Researching a career in medicine

Program offers younger students the chance to explore the medical curriculum and understand what is required of a trainee doctor.



Dr. Mohamud Verjee shows high school students the anatomy table used to teach human anatomy.

Students from high schools across Qatar explored the possibilities offered by careers in medicine when they joined WCM-Q's Qatar Medical Explorer Program (QMEP).

Thirty-four students took advantage of the opportunity to go through a learning experience at WCM-Q, attending lectures on a wide range of subjects, including biology, chemistry, human anatomy, pharmacology and physiology, among others. They also became familiar with the world-class facilities at WCM-Q thanks to visits to the state-of-the-art Clinical Skills and Simulation Lab. Students also participated in self-development workshops and admissions sessions. One of the main goals of the program was to help students learn more about the admissions requirements, how to write an effective personal statement and how to undertake college interviews, which provided an insight about the holistic admission process at WCM-Q.

This year's QMEP, which runs both a winter and a summer session, was offered in a shorter version than the traditional two-week format. Due to changes of school calendars, this

year's QMEP was offered in a one-week capsule format. Part of the enrichment programs offered by the Office of Student Recruitment and Outreach, the program is offered alongside a series of other initiatives designed to connect the college to the local community. Such initiatives allow talented students with an interest in the sciences to not only discover what life as a medical student is like, but more importantly to gear-up for admissions and eventually acquire proper college-readiness that could pave the way for a successful career in medicine.

The conclusion of the program was marked with a closing event, at which certificates were presented to each student who participated, along with a number of awards.

Speaking at the event, Noha Saleh, director of student recruitment and outreach at WCM-Q, said: "QMEP is designed to give high school students the chance to come and participate in sessions at WCM-Q, attending lectures and seminars, confirming their interest in science and medicine, and interacting with existing students and faculty. It offers a comprehensive and accurate impression of what it is



Students spend time in labs, go to lectures and learn about the admissions process.

really like to study at WCM-Q, helping the students decide if the prospect of a career in medicine is something that will inspire, challenge and fulfill them.”

The Excellence Award was then presented to the student on the course who demonstrated excellence, leadership, and motivation through the entirety of the program. This year’s award was presented to Laila Lubbad of DeBakey High School for Health Professions at Qatar. The JO Achievement Award, named after two WCM-Q graduates from the Class of 2008, was presented to the student who showed the most improvement during the course. This year the award went to Abdulrahman Mohammed Al-Serbi, also of DeBakey High School for Health Professions at Qatar.

Dr. Rachid Bendriss, assistant dean of student recruitment, outreach and foundation programs, said: “We were extremely encouraged by the sheer energy, intelligence and curiosity of this year’s cohort of students. We hope and sincerely believe a great many of them will apply to join WCM-Q and eventually become highly accomplished doctors serving their communities.”

Qatar Academy student Khalid Fawzi Al Aiji gave an address at the completion event. He said: “This is one of the best opportunities that could be provided to aspiring doctors and has helped me to focus on medicine as a career. From learning about lab safety to pharmacology, to being introduced to human anatomy, I have been able to learn a great deal from this experience, which will help improve school grades and hopefully prepare me to be a medical student in the near future.”



The QMEP is designed to give prospective students a realistic glimpse of life as a medical student.



Students take an anatomy class while at the college.

Changes to herpes infection in US

Researchers find that the herpes simplex virus type-1 is being transmitted in new ways.



Dr. Houssein Ayoub, Hiam Chemaitelly and Dr. Laith Abu-Raddad.

Researchers at Weill Cornell Medicine – Qatar and Qatar University (QU) have described an intriguing and rapid evolution of the herpes simplex virus type-1 (HSV-1) epidemic in the United States, with less infection in childhood but more in adulthood, and less oral infection but more genital infection.

HSV-1 is a highly contagious virus and one of the most widespread infections globally. It is normally transmitted orally during childhood, leading to blisters and lesions around the mouth known as oral herpes. Recent data from several countries, however, showed that HSV-1 can also be transmitted sexually, through various sexual practices, leading to genital herpes and genital ulcer disease.

The QU and WCM-Q study, published in the prestigious journal *BMC Medicine*, developed a sophisticated mathematical model to quantitatively characterize the level and trend of the HSV-1 epidemic in the US. The study indicated that HSV-1 infection is undergoing a more subtle transition than previously thought, with this infection propagating through four different modes of transmission in the population and affecting different age cohorts in different ways. Oral-genital contact, in particular, was found

to be playing an important role in infection transmission for young adults, with 25 percent of infections among them being genital and leading to genital herpes.

The study estimated that there are 3 million new HSV-1 infections every year, a level that will persist for several decades. Of this total, close to 500,000 will be genital infections, mainly through oral-genital contact. HSV-1 will persist as a major cause of first-episode genital herpes among youth in the US for decades to come, surpassing the contribution of HSV-2, a related infection transmitted mainly through sexual intercourse. HSV-2 has been historically the main cause of genital herpes until present times.

Despite these increasing rates of genital herpes, the study indicated steep declines in oral herpes in children. The study also predicted that the fraction of the population who will carry the infection will decline with time, and this decline will be most pronounced by 2050.

"It was striking for us to see this major shift in HSV-1 transmission patterns, and how this infection is affecting different age groups very differently. While oral herpes is declining rapidly for children, genital herpes is increasing steadily for young adults," said Dr. Houssein Ayoub,

lead author of the study and assistant professor in the Department of Mathematics, Statistics, and Physics at QU.

Hiam Chemaitelly, second author of the study and senior epidemiologist at WCM-Q added: "The increase in genital herpes due to oral-genital contact is of particular concern, as this is affecting young adults, mainly women, who have to endure significant psychosocial and sexual consequences once they discover these genital blisters, often shortly after their sexual debut."

Dr. Laith Abu-Raddad, principal investigator of the study and professor of healthcare policy and research at WCM-Q, concluded: "These findings demonstrate the criticality of accelerating HSV-1 vaccine development to control transmission and to prevent the medical and psychosocial disease burden that is emerging from this infection."

The study, 'Characterizing the Transitioning Epidemiology of Herpes Simplex Virus Type 1 in the United States: Model-Based Predictions', was conducted through a collaboration between QU and WCM-Q with funding from the Qatar National Research Fund, a Qatar Foundation member, through the National Priorities Research Program (NPRP 9-040-3-008).

Key scientific findings of the study

- HSV-1 infection in the US is transitioning from being an oral infection typically acquired during childhood, to increasingly a sexually transmitted infection and a major cause of first-episode genital herpes among young adults.
- The number of new HSV-1 infections will persist at 3 million new infections every year. Of this total, close to half a million will be genital infections, mainly through oral-genital contact and leading to genital herpes.
- Young adults, and especially women, will be most affected with 25 percent of new cases among them being genital infections.



Students present research posters

Event marks the completion of 16 weeks of studies for pre-medical students.

Pre-med 1 students presented the findings of their biology laboratory projects to their peers and faculty members at a poster session marking the culmination of work that spanned two semesters.

Working in small groups of two and three, the students conducted literature reviews and lab experiments to ascertain whether the anti-microbial effects traditionally ascribed to a variety of herbs, spices and other natural remedies could be supported with evidence.

The students cultivated several different species of bacteria in nutrient agar in petri dishes and then introduced the natural remedy, observing how far each was able to inhibit the bacteria's growth. The students presented a total of 19 posters investigating natural remedies including eucalyptus oil, tea tree oil, ginger, galangal, oregano, wasabi, peppermint, figs, dates, cinnamon, garlic, pineapple and papaya, among others.

The project gives the students hands-on experience of conducting a research experiment from start to finish, starting with the conceptualization of a research question and then formulating a hypothesis, conducting experiments, collecting and analyzing data, and creating posters to communicate their findings. The final step is to present the posters at the poster session and field questions about their findings from students and faculty. The students worked on their projects in biology classes over the course of 16 weeks during the fall and spring semesters.

Dr. Kuei-Chiu Chen, associate professor of biology, said: "The beauty of this project is that it underlines for students the importance of not only knowing and understanding the science but also of being able to communicate it accurately to others. I have been extremely impressed with the quality of the research they produced and the confidence with which they presented and talked about it."

Students Saadah Al Mohannadi, Imaneh Qaedi and Moza Al-Hail presented a poster about their research comparing the anti-bacterial properties of eucalyptus oil to the pharmaceutical drug streptomycin. The students took agar plates spread with staphylococcus aureus bacteria and introduced varying concentrations of streptomycin and eucalyptus oil before incubating the plates at 37°C for 24 hours. They then measured the 'inhibition zones' on the plates where growth of the bacteria was inhibited.

Saadah said: "We found that *E. globulus* (eucalyptus oil) had a positive inhibitory effect on the *S. aureus* bacteria, equivalent to 0.5mg/ml of streptomycin, but that streptomycin's antimicrobial effect exceeds that of *E. globulus* quite significantly as concentration increases. We really gained a lot from the experience – it was really rewarding to be able to confirm what we read in the literature by designing and conducting our own experiment."

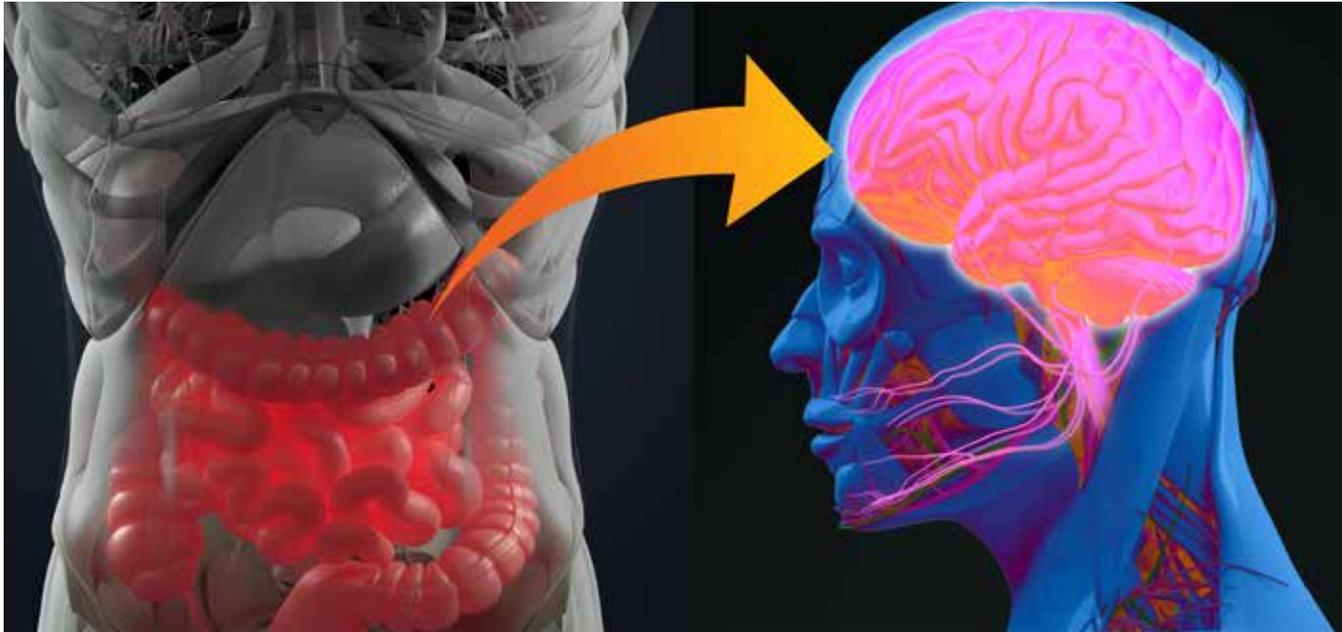
"The beauty of this project is that it underlines for students the importance of not only knowing and understanding the science but also of being able to communicate it accurately to others. I have been extremely impressed with the quality of the research they produced and the confidence with which they presented and talked about it."



Hubaib Haider discusses his poster.

The gut's impact on health

Examining the way bacteria living within us interact with the brain and nervous system.



The symposium heard that microorganisms living in the gut could be a causal factor in a host of conditions.

A symposium at WCM-Q explored the impact on health of the complex interactions between the nervous system, the gut and the microbiota – the microorganisms living in the gut.

The activity, directed by Dr. Ghizlane Bendriss, lecturer in biology, focused in particular on the vagus nerve and its role as a mediator of microbiota-gut-brain communication. As the longest cranial nerves in the human body, the two vagus nerves run from the brainstem, through the neck and into the abdomen, connecting the brain with many disparate organs, muscles and structures, including the colon. A growing body of research suggests that the complex interactions between the microbiota, the gut and the brain are important determinants of human health, and that an imbalance in the gut microbiota could be a causal factor in a variety of conditions, including ulcerative colitis, irritable bowel syndrome, Crohn's disease, diabetes, obesity, Parkinson's disease and many other neurodegenerative diseases and neuropsychiatric disorders. As the conduit for many of these interactions, the vagus nerve is a logical target for researchers.

Dr. Bendriss said: "Scientists are witnessing increasing evidence on the emergent role of the gut microbiota as a key player in inflammatory diseases, neurodegenerative diseases and neuropsychiatric disorders. Nevertheless, it is still a challenge to raise awareness among healthcare professionals of the importance of the gut microbiota, and therefore lifestyle and nutrition, without unraveling the mechanisms

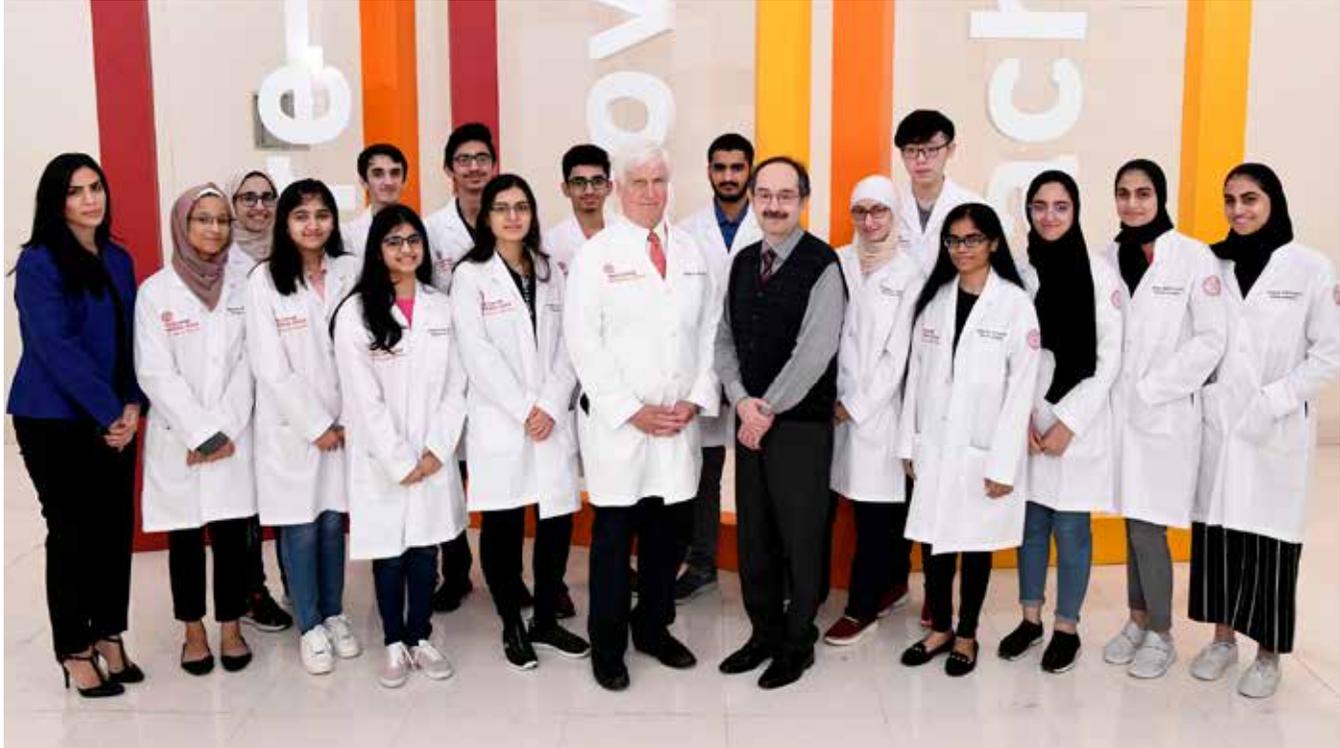
involved. This symposium aims to provide an update on one of the key routes that allows the bidirectional communication between the gut and the brain: the vagus nerve. This is a very exciting area of research that holds a lot of potential for enhanced understanding of chronic inflammatory diseases and other conditions that we hope will lead to improved or novel treatments and preventative measures."

The workshop heard a presentation by Dr. Riham Shadid, a diabetes educator and health coach, which defined the gut microbiota and the main mechanisms involved in the gut-brain axis and explained the role of antibiotics, probiotics and lifestyle on microbiota diversity and inflammatory processes. Dr. Mehdi Djelloul, a postdoctoral researcher, described the anatomical connection between the gut and the brain and presented concrete studies that illustrate the role of the vagus nerve under inflammatory conditions and how the microbiota is involved in this process, while giving clinical examples that could benefit from modulating the gut-brain-axis. There were also Q&A sessions to allow participants to discuss the topics raised at the event, which had the full title 'The vagus nerve as a key mediator of the microbiota-gut-brain axis: From research to clinical implications'.

The event was accredited locally by the Qatar Council for Healthcare Practitioners-Accreditation Department and internationally by the Accreditation Council for Continuing Medical Education.

Early glimpse of a doctor's life

Program allows students to experience what a career in medicine involves.



The initiative allows students to put their classroom work into the context of a hospital.

Students at WCM-Q got a glimpse of what life as a practicing physician is really like thanks to the Division of Pre-medical Education's Clinical Observership Program.

Under the program, 14 students from WCM-Q's foundation and pre-medical programs completed two weeks in clinics at Hamad Medical Corporation (HMC) and Sidra Medicine, observing the work of doctors and interacting with patients under supervision.

The program is designed to give students first-hand experience of the reality of life as a doctor, helping them to put their studies into context and to begin developing the ability to communicate effectively and compassionately with patients – a key skill for any doctor. Of the four students who took their observerships at HMC, three joined the anesthesia clinic, and one the urology clinic. Of the ten students who went to Sidra Medicine, five went to the pediatric clinic, three to the emergency clinic, and two to the obstetrics and gynecology clinic. The students who participated in the program, which is a voluntary undertaking, were presented with certificates at a ceremony held to mark its conclusion.

Speaking at the event, Dr. Rachid Bendriss, assistant dean for student recruitment, outreach and foundation programs

at WCM-Q, said: "I am very pleased that all of the students who participated had such rich and rewarding experiences in the clinics – these will be of great use to you as you progress onto the medical program. To actually be in the clinics to see the work that the doctors do first-hand, being able to ask questions, and interacting with patients tells you a great deal more about the medical profession than you could learn from reading about it in a book or an article."

Dr. Marco Ameduri, WCM-Q's associate dean for pre-medical education, then spoke to congratulate the students for completing the program and thanked the physicians and staff at HMC and Sidra Medicine, as well as the administrative staff and faculty at WCM-Q for making the program possible.

Second-year pre-medical student Ibrahim Laswi spent two weeks in the anesthesiology clinic at HMC.

He said: "The experience really opened my eyes. Seeing the way the doctors interacted with patients and students gave me a great insight into their roles, not just as physicians, but also as teachers. I also learned so much about anesthesiology as a specialty, which was great because I never realized before what an interesting and challenging field it is."

Conference hears how lifestyle medicine can change lives

Delegates hear how making the right lifestyle choices can manage and even cure certain diseases.



The conference heard from experts from WCM-Q and across the world.

The importance of lifestyle in preventing, treating and even curing illnesses like diabetes and heart diseases was discussed at the latest conference at WCM-Q.

'Lifestyle Medicine: An Emerging Healthcare Trend that Inspires', brought together experts from across the world to discuss the latest trends, share data about the impact that lifestyle changes can have to an individual's health, and explore best practice among clinicians.

Organized by WCM-Q's Institute for Population Health, delegates learned how to evaluate a patient's health with reference to their lifestyle habits, how to guide patients in their habits and how to develop nutrition and exercise regimens. Speakers included international experts in lifestyle medicine, such as Dr. Wayne S. Dysinger, CEO of Lifestyle Medicine Solutions, Dr. Darren Morton of Avondale College of Higher Education in New South Wales, and Dr. Ahmad Al Mulla, senior consultant in public health and advisor to HE the Minister of Public Health, who delivered the keynote speech.

Dr. Al Mulla said: "Given the high prevalence of chronic conditions such as obesity and diabetes, it is timely and in our interest to implement lifestyle medicine programs in the State of Qatar. By doing so, we will reduce the burden and suffering associated with chronic diseases."

Delegates to the two-day symposium were also able to take advantage of a number of workshops including 'Nutritional Mythbusters', that was delivered by Stephan

Herzog, executive director of the American and International Boards of Lifestyle Medicine, and was intended to debunk some commonly, but falsely held beliefs about diet, and 'How to Take Care of Ourselves' which was led by Dr. Mohamud Verjee, associate professor of family medicine in clinical medicine at WCM-Q, and examined techniques for stress management.

In a lecture entitled 'The Promise of Lifestyle Medicine', Dr. Ravinder Mamtani, senior associate dean for population health, capacity building and student affairs at WCM-Q, extolled the potential of behavioral changes to vastly reduce the number of cases of chronic diseases like diabetes and heart disease. While not denying the importance of traditional, clinical medicine, Dr. Mamtani explained that only around 15-20 percent of a person's health can be attributed to medical therapies and treatments; the remaining 80-85 percent is due to lifestyles and behavioral and socio-economic factors. How individuals live their lives and the personal choices they make with regards to diet, exercise, sleep, stress and the avoidance of behaviors known to be detrimental to health like tobacco consumption are vital to good health.

Dr. Mamtani said: "It's not cancer and heart disease that kill people but poor nutrition and a lack of exercise; the real killers are poor lifestyle choices. I am not belittling medical care, but health professionals are missing the point about

"It's not cancer and heart disease that kill people but poor nutrition and a lack of exercise; the real killers are poor lifestyle choices."

the importance of lifestyle, and we have been missing the point for a long time."

Dr. Mamtani also emphasized the importance of training health professionals in lifestyle medicine.

In his lecture entitled 'Lifestyle Medicine, Nutrition and Chronic Diseases: Time to Reverse an Epidemic', Dr. Wayne S. Dysinger outlined how lifestyle changes can actually cure many chronic illnesses, including conditions that were previously thought incurable, like type-2 diabetes. He also debunked myths about low-carbohydrate, high-protein diets that have become popular in recent years as a method for losing weight, stating that for the vast majority of human history, complex carbohydrates formed the bulk of a person's diet. It is only in the last few decades that consumption of fat and simple carbohydrates like refined sugar have increased, as have the accompanying rates of obesity, diabetes, heart disease and certain cancers.

Dr. Dysinger said: "Why use medicines when doctors can prescribe a risk-free diet?"

The conference also featured a poster session, presenting findings from the latest research on lifestyle behaviors. Topics included the management of gestational diabetes through lifestyle, the awareness of health professionals to sleep hygiene, and the prevention and treatment of tobacco use

Dr. Sohaila Cheema, director of the Institute for Population Health and assistant professor of healthcare policy and research, said it had been a valuable conference.

Dr. Cheema said: "It's apparent that lifestyle medicine has the potential to revolutionize the way healthcare professionals approach certain diseases, and used correctly and possibly in conjunction with traditional clinical medications, we could see a new era of disease management. What was also apparent, though, was that for the most part medical educators need to take a more enlightened and proactive stance towards the teaching of nutrition, physical activity, sleep hygiene and stress management and impress upon healthcare professionals the huge benefits that may come from prescribing lifestyle changes to patients.

"Happily, the curriculum at WCM-Q recognizes the importance of lifestyle medicine and hopefully other colleges across the world will place a greater emphasis on the teaching of lifestyle medicine – alongside clinical therapies – in the near future."



Dr. Darren Morton.



Dr. Mohamud Verjee.

Preparing for med school

Students participating in WCM-Q's Qatar Aspiring Doctors Program receive certificates for their work.



Many students who participate in the QADP go on to become full-time students at WCM-Q.

The hard work and ambition of dozens of high school students interested in a career in medicine have been honored at a ceremony at WCM-Q.

The students are all participants of WCM-Q's Qatar Aspiring Doctors Program (QADP), a year-long student recruitment and outreach initiative designed to academically support high school students who are interested in medicine and science-based careers. The program, which is now in its fifth year, helps students improve their knowledge of the physical sciences, biology, English language and research skills.

In front of an audience of the participating students, their families and WCM-Q faculty, Dr. Rachid Bendriss, assistant dean for student recruitment, outreach and foundation programs, presented the QADP students with certificates and congratulated them for their hard work and dedication. He also gave them seven tips for success at university: setting smart goals; developing good study skills; time management; stress management; engaging with others; seeking help and guidance; and determination.

Dr. Bendriss added: "The QADP is a rigorous program, especially as it is in addition to the work expected of you by your current schools. All of you here have had to make

sacrifices in order to complete the modules, but I hope the rewards outweigh those sacrifices. The WCM-Q faculty members who have worked with you and acted as mentors have provided you with a strong foundation in the sciences, research and English skills, and whatever career you embark on in the future, this knowledge will stay with you. However, I know many of you wish to become doctors and some have already successfully applied to WCM-Q. In that case, the QADP will prove invaluable in helping to prepare you for the academic challenges that await, and I look forward to welcoming you back to the college as full-time students."

In total, 39 students from a record 19 schools received certificates of completion and participation for passing the QADP modules. Two students - Amal Alnaemi and Maryam Al-Muhannadi - received certificates of completion with honors for completing all modules of the program.

Addressing the audience and her peers, Maryam, who attends Al Arqam Academy for Girls, said: "I would like to say that we are the doctors and leaders of tomorrow, and we should take the extra steps needed to help shape the world and the future, and I wish everyone here a bright and successful life."

“Without the efforts of the program’s organizers, I wouldn’t have had the opportunity to interact with the expert faculty taking the course and I extend my thanks and appreciation to everyone involved.”

Amal, who attends Al Bayan Secondary Independent School for Girls, said: “This day is very special for all the students who have persevered through this unique journey. I enrolled in the QADP with the goal of getting an insight into life as a university student and that I have achieved.

“Without the efforts of the program’s organizers, I wouldn’t have had the opportunity to interact with the expert faculty taking the course and I extend my thanks and appreciation to everyone involved.”

The QADP course comprises a combination of face-to-face lessons, online modules and practical lab exposure based on a personalized timetable that takes account of students’ high school studies. The QADP allows students to learn at their own pace, is flexible and involves a full academic year of contact from September to April. Students also have the opportunity to engage directly with WCM-Q faculty, staff and students, and to use WCM-Q facilities, giving them access to a multitude of resources.

Dr. James Roach, professor of chemistry and assistant dean for premedical education at WCM-Q, is one of the WCM-Q faculty members who teaches the physical sciences module of the QADP. He said he was anticipating seeing many of the QADP students begin the six-year medical program at the start of the fall semester.

Dr. Roach said: “You all chose to enrich your understanding of the physical sciences, and I’m really looking forward to welcoming many of you back as Cornell students to lecture hall 4 at 8am on Sunday 25 August for the first general chemistry class of the pre-medical curriculum.”

Information about the QADP is available at WCM-Q’s Office of Student Recruitment and Outreach at www.qatar-weill.cornell.edu/future-students.



Dr. James Roach is one of the faculty members who teaches the QADP students.

Boosting scientific rigor

WCM-Q systematic review workshop demonstrates how to improve medical research



In total, 44 healthcare professionals participated in the workshop.

Healthcare professionals from across Qatar convened at WCM-Q for a workshop that explained how to optimize the rigor and reliability of medical research.

The workshop focused on a branch of academic research called systematic review, whereby investigators synthesize and analyze large quantities of existing research on a particular subject in one paper. When performed correctly, systematic reviews in the medical field provide researchers, healthcare practitioners and policy makers with useful resources to quickly and efficiently gain an accurate understanding of a particular healthcare issue. They can then identify avenues for further research or implement new healthcare practices or policies to improve patient outcomes based on the available evidence.

In total, 44 physicians, nurses, pharmacists, researchers, educators and other healthcare professionals participated in the workshop, which was developed and implemented by WCM-Q's Institute for Population Health (IPH).

Dr. Karima Chaabna, population health and communication specialist at IPH said: "Because it synthesizes and critically analyzes large amounts of research, systematic review actually gives us a better evidence base for empirically grounded healthcare practice than viewing individual studies does. There is one important caveat, however, which is that in order for a systematic review to be useful it must be conducted with absolute rigor and transparency. This workshop demonstrated how this can be achieved by following established, high-quality methodology."

Participants at the workshop first took part in a pre-assessment survey to identify their current knowledge of systematic review, before Dr. Sohaila Cheema, IPH director and assistant professor of healthcare policy and research, and Dr. Chaabna gave an introductory presentation of the

subject. Subsequent presentations and interactive activities demonstrated how to write a protocol for a systematic review, how to search and screen literature, how to systematically collect and extract data, how to assess the quality of studies and identify risks of bias, and how to synthesize and report a systematic review. IPH projects specialist Dr. Amit Abraham also gave a presentation, while projects coordinator Aida Tariq Nasir and projects specialist Sonia Chaabane, along with the rest of the IPH team, facilitated the workshops in conjunction with the presenters.

Dr. Cheema said: "By following the established methodology for critically synthesizing existing studies and reporting their findings, participants will be able to pursue their own systematic review projects. This will enable them to make valuable contributions to the ongoing process of continual improvement in healthcare and population health, for the benefit of patients and communities, and at the population level, both here in Qatar and beyond."

The workshop, which was fully subscribed, will be offered again in September. The event was accredited locally by the Qatar Council for Healthcare Practitioners-Accreditation Department and internationally by the Accreditation Council for Continuing Medical Education.

Dr. Ravinder Mamtani, professor of healthcare policy and research and senior associate dean for capacity building and population health at WCM-Q, said: "This workshop has been designed to equip healthcare professionals in Qatar with the skills and knowledge necessary to conduct high-quality systematic reviews that meet the very high standards of rigor demanded of academic research. We are extremely happy that so many joined us for this important learning experience."

Teenagers take on professional research

Students learn about scientific research techniques from faculty and staff at WCM-Q before presenting study findings.



The event and competition was designed to inspire students to embark on a career in science.

Teams of students from high schools across Qatar went head-to-head as they presented research posters to a panel of experts.

The High School Research Competition was organized by the Student Recruitment and Outreach Office of Weill Cornell Medicine – Qatar (WCM-Q) to encourage teenagers to explore the field of medicine and to use professional scientific research methods. It was also designed to offer them a platform to showcase both their knowledge and their concerns.

Twenty-one teams from both private and independent high schools took part in the contest, presenting about themes tied to the United Nations' Sustainable Development Goals of ensuring healthy lives; ensuring access to water and sanitation; making cities inclusive and safe; and ensuring sustainable consumption and production.

Research subjects tackled by the students included: 'The effect of air pollution on the prevalence of respiratory diseases in Qatar', which was studied by a team from Bright Future International School; 'Elderly and their mental health', by a team from Sherborne Qatar; and 'Causes of dental decay among children in Qatar' by a team of five students

from Michael E, Debakey High School-Qatar.

Dr. Rachid Bendriss, assistant dean for student recruitment, outreach and foundation programs at WCM-Q, said the standard of research was very high.

He said: "It has been truly gratifying to read the research posters that have been presented here today because what is obvious is that the students involved have employed true research methodology.

"Science, technology and medicine are all areas in which Qatar needs to build research capacity and by encouraging students to become involved and take an interest in these subjects before they go to university, we can help them to make informed choices about their future careers. It would, of course, be wonderful if all those here today decided they wanted a career in medicine or biomedical research, but our real aim is to simply instill a love of science and research.

"What is also interesting, is that the posters all examine issues that are relevant to the lives of everyone living in Qatar today. Rather than the research being esoteric and remote, conducted in a sealed laboratory, the studies these students have performed all have an immediacy to which everyone can relate."

Each research team was provided with the help of a mentor from WCM-Q, who helped guide their research, ensuring they were asking and answering the relevant questions, and providing expertise on research methods and the most effective means of presenting their findings to a wider audience. The mentors were composed of faculty members and the teaching specialists who teach in the premedical curriculum of the medical program.

The posters were then judged by a panel of 10 professional scientists from WCM-Q's Division of Research, and the Qatar Biomedical Research Institute.

Year 13 student Ramsha Yousaf, from Bright Future International School, was part of the team that investigated the environmental and behavioral risk factors of cataracts.

Ramsha said: "We read up on the literature and then went out and surveyed people about the risk factors. For example, we asked them how many hours they spend in the sun each day, and what kind of eye protection they use. Cataracts are very common in older populations, so we wanted to know about whether habits and behaviors you have at a young age influence whether you get cataracts when you're older."

Ramsha said her group concluded that there was a risk associated with cataracts and these risks could be summed up as the five Ds: daylight, diabetes, diet, drugs and dehydration."

During the competition, the top three ranking teams were announced. The Bright Future International School team who investigated the prevalence of behavioral and environmental determinants of cataracts, came out first. The team is comprised of the teacher Mr. Asim Bukhari and the students: Momina Khashi, Maryam Sulaiman, Najwa Amir, Ramsha Yousaf and Zahida Bibi. The second ranking team was that of Ali Bin Jassim Bin Mohamed Al Thani School researching about germs-free central air conditioning using UV-c. In the third place, came the Lebanese School of Qatar researching about recycling and kitchen waste.

Dr. Elie Sayeh, who helped lead the team from Lebanese School of Qatar, said the competition had been hugely valuable to the students.

Dr. Sayeh said: "They now know how to conduct research; they know the correct terminology to use, they know how to present the information using graphs, and they have improved their critical thinking."

Dr. Sayeh said their study had examined the creation of biofuel from waste cooking oil, in order to reduce air pollutants from petrol engines.

All the teams were given the opportunity to go through to the next round, where they will present their posters at the annual High School Medical Conference on November 23 at Qatar National Convention Centre, where the top team will be announced.



Khayr Qatarna showcased regionally

Sahtak Awalan's latest initiative attends exhibitions in Qatar and Oman.



His Excellency Mr Abdulla bin Abdulaziz bin Turki Al Subaie, Minister of Municipality and Environment, with Nesreen Al-Refai, chief communications officer at WCM-Q.

Sahtak Awalan – Your Health First has been praised both locally and regionally for the huge success of its Khayr Qatarna initiative, having been showcased at three high-profile exhibitions in the first half of this year.

The latest was at The Education Conference 2019: Education Makes a Difference, held under the patronage of H.E Sheikh Abdullah Bin Nasser bin Khalifa Al Thani, prime minister of Qatar and minister of interior, at Qatar National Convention Centre.

The Khayr Qatarna exhibit was visited by H.E Dr. Mohammed Abdul Al-Hammadi, the minister for education and higher education, along with Ms. Fawzia Abdulaziz Al-Khater, assistant undersecretary for educational affairs at the Ministry of Education and Higher Education. Both were very impressed by the scale and success of the Khayr Qatarna initiative, especially the fact that it has a strong educational facet that integrates into schools' curriculums, and that so much high-quality produce had been grown in greenhouses sited at local high schools.

Khayr Qatarna has also been showcased at the Agro-Food Oman expo, attended by thousands of people and

senior figures in commerce and government, including H.H Mohamed bin Salim Al Said, chief of protocol at the Ministry of Foreign Affairs in Oman, and H.E Ambassador Ali Bin Fahad Falah Al Hajri Shahwani, Qatar's ambassador to Oman, both of whom showed great interest in the program.

Finally, Khayr Qatarna was represented at AgriteQ, the region's leading agricultural innovations exhibition. H.E Abdulla bin Abdulaziz bin Turki Al Subaie, minister of municipality and environment, heard about the valuable work the program is doing in schools teaching students about sustainability and healthy lifestyles, while contributing to Qatar's food security.

Nesreen Al-Rifai, chief communications officer at WCM-Q, said: "Khayr Qatarna is a groundbreaking, innovative project bringing knowledge and skills relating to agricultural science, economics and food security directly to secondary school students, who have responded with tremendous enthusiasm. We are very proud to have exhibited this initiative regionally, as these conferences all reflect our own forward-thinking approach."

Award for gardening students

Students learned about healthy lifestyles as well as agriculture, sustainability and self-reliance.



Khalifa Al-Derham, director of school affairs at the Ministry of Education and Higher Education, and Hassan Al- Mohamedi, director of public relations and communications at the ministry, presented the award for first place to Mrs. Fawziya Abdullah Al-Kuwari, the principal of Jawaan Bin Jassim Primary School for Boys.

Green-fingered students have received awards for their schools after growing bumper crops of fruit and vegetables.

The students all participated in Sahtak Awalan's Project Greenhouse competition, which challenges schools and pupils to grow the biggest and best crops and teaches them about sustainability, and healthy lifestyles at the same time.

This year the Sahtak Awalan panel of judges awarded first place to Jawaan Bin Jassim Primary School for Boys, with Al Khor Preparatory School for Girls coming second, and Dukhan Primary Preparatory School for Girls in third place. Khalifa Al-Derham, director of school affairs at the Ministry of Education and Higher Education, and Hassan Al-Mohamedi, director of public relations and communications at the ministry, presented the award for first place to Mrs. Fawziya Abdullah Al-Kuwari, the principal of Jawaan Bin Jassim Primary School for Boys. The other schools to win awards were Al-Khor Preparatory School for Girls, Dukhan Primary Preparatory Secondary School for Girls, Alkharsaa Primary School for Boys, Abdullah bin Turkey Primary School For Boys, Audio Education Complex for Boys, Ahmed Mansour Primary School for Boys, Qatar Leadership

Academy, Al Markheya Primary School for Girls, and Zaynab Bint Jehesh Primary School for Girls.

Nesreen Al-Rifai, chief communications officer at Weill Cornell Medicine – Qatar, which launched the Sahtak Awalan campaign, said: "Since Project Greenhouse was launched in 2013, we have been teaching our young people about the vital importance of sustainability, agriculture and healthy diets and encouraging them to eat the fruit and vegetables that they have grown.

"Thousands of children have now been through the scheme and everyone at Weill Cornell Medicine – Qatar and Sahtak Awalan's strategic partners - Qatar Foundation, the Ministry of Public Health, the Ministry of Education and Higher Education, the Ministry of Municipality and Environment, and ExxonMobil - feel very proud that we have made such a difference to so many children's lives.

"We hope that all the students who have participated in Project Greenhouse this year take the lessons that they have learned about healthy lifestyles with them throughout their lives. In doing so, we can create a strong and healthy generation able to meet the challenges of Qatar National Vision 2030."

Project Greenhouse has provided more than 130 schools across Qatar with greenhouses, plant pots, soil and seeds. The crops grown by Jawaan Bin Jassim Primary School for Boys include tomatoes, cucumbers, onions, eggplants and parsley. The children prepared the pots, planted the seeds, and watered and nurtured them as the plants grew. Project Greenhouse has allowed students to work independently and in small groups and has taught them a whole range of skills. Along with learning about healthy eating, sustainability and horticulture, the project feeds directly into classes about science and the environment.

Teachers Fatma Al-Shumairi, Sarah Al-Naimi and Lina Saadi expressed their joy at receiving the first prize and encouraged other students to grow and eat their own organic fruit and vegetables, alongside learning about self-reliance and self-sufficiency.

Student Ali Mubarak Al-Naimi said he had learned a lot from the initiative and had started growing fruit and vegetables at home. He added that he had enjoyed the whole greenhouse experience and had used some of the produce grown to prepare a salad with his schoolfriends.

Project Greenhouse has now been expanded into secondary schools under the Khayr Qatarna initiative. This has seen a variety of crops grown in large scale greenhouses which have been given the 'Premium Produce'

designation by the Ministry of Municipality and Environment. The crops are then distributed to the community through local supermarkets, with all profits being reinvested in the scheme.

The aim of the scheme is to support national sustainability and food security, while teaching older students valuable lessons about economics, agriculture and logistics.



Students of Jawaan Bin Jassim Primary School for Boys in their prize-winning greenhouse.



The students of Audio Education Complex for Boys.

Qatari students to experience world-class research after winning WCM-Q essay competition

Students will have work experience in the world-class research labs of WCM.



The winners of the WCM-Q Healing Hands essay contest will travel to the US for a two-week research experience.

Four students with their eyes set on a career in medicine will soon be jetting off to the US on a two-week research experience after winning Weill Cornell Medicine-Qatar's (WCM-Q) Healing Hands essay contest.

The annual essay competition challenges local high school students to write the best composition on a given topic. This year, the subject was 'Lifestyle Medicine Practice in Qatar', with students asked to write an eight-hundred-word essay with consideration to the health of the community and exploring the challenges and benefits of integrating lifestyle medicine into the Qatari healthcare system.

In all, 37 essays were attempted out of which 21 were successfully submitted by students from 10 different schools across Doha, along with Qatar Foundation's Academic

Bridge Program. Of those students, 14 received certificates of participation and three received honorable mentions but there could be only four winners: Aisha Rashid Al Marri, of Al Eman Independent School for Girls; Dalal Khalid Al-Fadli, from the Academic Bridge Program; Dyana Hamad Alblooshi, of Qatar Academy, Doha; and Haya Khalid Rahimi, who attends Newton International Academy, Barwa City. The four, along with a chaperone each, will now fly off to the US, where they will spend one week gaining work experience at Weill Cornell Medicine's world-class biomedical research laboratories in New York, as well as attending lectures with faculty and meeting students. They will then move upstate to Cornell University in Ithaca where they will stay at the campus and tour the wide-ranging facilities that the Ivy League university offers.



Dyana Alblooshi receives her prize from Dr. Mohamud Verjee (left), and Dr. Rachid Bendriss.

Haya Khalid Rahimi said her essay discussed consumption in Qatar and the need for balanced diets, sufficient sleep, and a reduction in stress. She also talked about how the Qatari climate, particularly in summer, can demotivate people from exercising.

She added: "I entered the competition because I want to see the Weill Cornell campus in New York and learn how the medical college system works in the US."

Aisha Rashid Al Marri said her essay examined cardiovascular diseases and how lifestyle medicine – a balanced diet, increased exercise, reduced stress, and smoking cessation – can prevent them.

She said: "It is the most common disease in Arabic society and at the root of preventing it is convincing people to take care of themselves.

"I'm interested in being a doctor in the future. You are able to help many people but it is also your job so you can make a career and a living from it."

The Healing Hands essay contest is held annually and is designed to encourage high school students to think critically about relevant healthcare and scientific topics and to consider a career in medicine.

Noha Saleh, director of student recruitment and outreach at WCM-Q, said the contest had proved very successful in doing this, and had been a real source of inspiration for the winners but also other entrants.

She said: "The quality of entries for the Healing Hands contest improves every year; this year the judges had a particularly difficult time in selecting the winners, such was the high standard. It was obvious that everyone who submitted an essay had conducted their own research and given a serious amount of thought to the topic, and I hope that the passion and interest they displayed for the subject will continue and that they opt for a career in medicine. In doing so, they will increase local capacity in healthcare and help the nation meet the challenges of Qatar National Vision 2030."

Children help trainee doctors learn new skills

Annual event allows medical students the chance to learn how to examine children in a clinical setting



Dr. Stella Major demonstrates how to examine a young patient at the Cornell Stars event.

In the latest phase of their training, students at Weill Cornell Medicine – Qatar (WCM-Q) had to deal with the world’s most interesting and unpredictable patients – young children.

The medical students, who are all in the third year of the medical curriculum, attended the clinical orientation week - which incorporates the annual Cornell Stars event - to prepare them to start their full-time clinical courses (clerkships). This involves faculty and staff members at WCM-Q bringing in their own children so that the medical students can learn the best techniques for examining children in a clinical setting.

The event offers students experience of interacting and examining babies, toddlers and children up to the age of seven. The examinations are all held in WCM-Q’s Clinical Skills and Simulation Lab, which features a number of realistic mock clinics.

Dr. Amal Khidir, associate professor of pediatrics, and organizer of the Cornell Stars program, said the annual event is a valuable learning opportunity for the students, demonstrating that children and adults make for very

different patients and encounters. For example, examining a child may involve encouragement from the physician, help from the parent, but also a willingness to be opportunistic and flexible on the part of the doctor.

Dr. Khidir said: “We are trying to give our students the chance to experience what it is genuinely like to engage a child and perform a basic physical examination of a child, but also to pass on hints and tips that may help with that examination. For example, we show the students how to keep the children calm, maybe let the children listen to their own hearts through the stethoscope, and generally build up a rapport with them. We want them to learn how to negotiate, communicate and be creative in engaging the children and their care-giver in a relaxed environment.”

The examinations were all overseen by experienced doctors from WCM-Q, Hamad Medical Corporation and SSidra Medicine, who passed on their years of experience in pediatrics.

Dr. Khidir said that without the invaluable support of Dr. Stella Major, Dr. Madeeha Kamal, Dr. Mehdi Adeli, Dr. Sharda Udassi, Dr. Manasik Hassan, Dr. Suzan Gamel, Dr. Ahmed Eltayeb, Dr. Mohamed Elkalaf, and Dr. Marva Yahya, the Cornell Stars event would not be as successful as it is. She also thanked the members of faculty and staff who brought their children in for the event, and, of course, she thanked the children themselves.

For Class of 2021 student Rozaleen Aleyadeh it was a useful learning experience.

“The kids were so cute,” she said. “They were really, really nice and obviously this won’t be exactly how it is in the hospital, but it was very good practice. The doctors were really helpful and showed us how to interact with the children depending on their age. We’ve also been talking to the parents and it was really useful to know how to deal with them as well as it’s not just about the children.”

Fellow student Sherif Mostafa said it was nerve-wracking at first.

He said: “I was definitely scared of the kids. They are like tiny creatures, but the examinations were easy to navigate as these children were healthy, although I don’t know how it will be with kids who are sick. The physical examination was easier than I thought but it’s mostly about observation and although it’s obvious, I didn’t realize it until now as the children can’t tell you anything.”

But although they learned a lot from the experience and enjoyed meeting the children, Sherif and Rozaleen have not decided to switch to pediatrics; Rozaleen still aims to specialize in neurology while Sherif is keeping his options open.

The ethics of gene-editing

Event explored the potential pitfalls and benefits that new gene-editing technologies will bring.



From left: Dr. Khaled Machaca, Dr. Sunanda Holmes, Dr. Mohammed Ghaly, Dr. Jeffrey Skopek, Dr. Jeremie Arash Rafii Tabrizi and Dr. Barry Solaiman.

Doctors, lawyers, ethicists and academics convened at Weill Cornell Medicine-Qatar to discuss the legal and ethical implications of new gene editing technologies that allow for the creation of 'genetically enhanced humans'.

The event, the latest in WCM-Q's Intersection of Law & Medicine series, featured lectures and panel discussions of pressing issues prompted by the recent development of technologies such as CRISPR, a powerful gene editing tool that a scientist in China claims to have already used to produce twin baby girls with modified genes that make them resistant to HIV.

Co-ordinated by WCM-Q's Division of Continuing Professional Development in collaboration with Hamad Bin Khalifa University (HBKU), the event heard lectures from practicing physicians, lawyers, legal academics, researchers and ethicists.

Dr. Barry Solaiman, assistant professor at HBKU College of Law and Public Policy, and co-director of the activity, explained the existing legal framework governing genetics research in Qatar and discussed the challenges involved in developing regulations to take account of developments in gene editing technologies.

Dr. Sunanda Holmes, general counsel and chief compliance officer at The American University in Cairo, spoke about the global legal frameworks governing gene editing and genetic medicine in general, with specific reference to the USA, UK and Canada. WCM-Q's Dr. Jeremie Arash Rafii Tabrizi, professor of genetic medicine in obstetrics and gynecology, spoke about the possible uses for genetic technologies like CRISPR, such as introducing genetically modified mosquitos to combat the spread of malaria, and genetic therapies for breast cancer caused by mutations in two genes known as BRCA1 and BRCA2.

Dr. Tabrizi said: "If you have a BRCA mutation, you have a very high risk of cancer, so we do a mastectomy. What's going to happen within the next few years, I think - and we are working on this in our labs - is to design a personalized CRISPR to correct this mutation with a few cycles of injections in the breast, rather than a mastectomy."

Dr. Tabrizi warned that regulation of gene editing poses many problems, explaining that so-called biohackers are already selling DIY CRISPR kits online. Regulation of genetically modified plants and animals is also problematic, because once introduced into the wider environment they are difficult or even impossible to control, he said.

“If you have a BRCA mutation, you have a very high risk of cancer, so we do a mastectomy. What’s going to happen within the next few years, I think - and we are working on this in our labs - is to design a personalized CRISPR to correct this mutation with a few cycles of injections in the breast, rather than a mastectomy.”

HBKU College of Law dean Susan L. Karamanian, who attended the conference, said: “HBKU Law was delighted to work with our Education City neighbor, WCM-Q, to address a complex topic that involves novel legal issues. The conference brought together leading thinkers in law, Islamic studies, ethics, medicine and scientific research to help identify the legal gaps and pave a way forward.”

Dr. Jeffrey Skopek, lecturer in medical law, ethics and policy at the University of Cambridge, gave a lecture titled ‘The Harms of Human Genetic Enhancement: Secular Perspective’, after which Dr. Mohammed Ghaly, professor of Islam and biomedical ethics at the HBKU Research Center for Islamic Legislation & Ethics, spoke about Islamic ethical perspectives on human gene editing.

Dr. Solaiman said: “This was an excellent opportunity for HBKU Law to collaborate with WCM-Q on cutting edge issues surrounding the science, law and ethics of genetics

research. Qatar is quickly developing capacity in this area and it is critical that academic institutions work together to support this development. In this regard, the gathering of experts from inside and outside Qatar highlighted the issues that must be given new or continued focus for continued progress.”

The event culminated with a panel discussion in which all of the speakers explored the challenges of developing a legal and ethical framework in Qatar to regulate gene editing to protect the rights and dignity of both individuals and society at large. WCM-Q’s Dr. Khaled Machaca, associate dean for research, gave the closing remarks.

Dr. Thurayya Arayssi, senior associate dean for medical education and continuing professional development, who co-directed the event with Dr. Solaiman, said: “Gene editing is one of the most exciting areas of medical research with huge potential for treating many different diseases, as well as many other possible applications. We are very grateful to our expert speakers for joining us to explore ways to regulate genetic medicine that not only provides the very best care to patients but also offers robust protections for patients and the wider community. Special thanks go to Dr. Barry Solaiman, whose expertise and energy were crucial to the success of this event.”

The event, titled ‘Intersection of Law and Medicine Series: Genetically Enhanced Humans’, was accredited locally by the Qatar Council for Healthcare Practitioners-Accreditation Department (QCHP-AD) and internationally by the Accreditation Council for Continuing Medical Education (ACCME).



Dr. Jeremie Arash Rafii Tabrizi makes a point during the panel session.

Happenings

Children's Health Fair

Youngsters of all ages came with their families to QF's Children's Health Fair. Students from WCM-Q took part, with the support of Sahtak Awalan - Your Health First.



Happenings

Med Gala



The annual Med Gala gave students the chance to let their hair down and present awards to their peers and faculty.



Happenings

Journal Club

Journal Club allows faculty and staff the chance to get together to discuss recent academic articles.



Happenings

Student Affairs Open House

The Division of Student Affairs' Open House was a chance to make students, faculty and staff aware of the services that the division provides.



Happenings

Research Awards

The Research Awards were held to honor the division's faculty and staff for their achievements and commitment throughout the year.



Happenings

Student-Faculty Majlis



The Student-Faculty Majlis was a chance for faculty and students to get to know each other better.



Happenings

Convocation

Students of the Class of 2019 assembled for a Convocation ceremony at which awards were presented to acknowledge extraordinary achievement in a variety of categories.





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