Virtual microscopy:
“The right solutions at the right time”
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Weill Cornell Medical College in Qatar was jointly established by the Qatar Foundation for Education, Science and Community Development and Cornell University
Dear Readers

I am pleased to launch the latest edition of our magazine, Qatar Chronicle. You will note that it is very different in appearance and form than previous issues. Besides a new design, you will find more in-depth articles than before, with feature-length stories that enable us to explore issues of particular interest in more detail.

Our usual round up of news and events will continue to appear, ensuring that we chart the everyday events here at WCMC-Q, but the change in format allows more variation in the way we treat stories about the Medical College branch and its ongoing evolution.

The metamorphosis of one of our flagship publications mirrors the changes happening throughout our institution. The pace of change has accelerated, reflecting our growth in terms of both people and educational programs.

The first leg of our triple mission, medical education, is now well underway. We have three classes on site and a fourth will be admitted in the fall. Looking ahead, our Research Program will be launched in the near future and plans for the construction of the Specialty Teaching Hospital nearby are now being developed.

Our affiliation agreement with Hamad Medical Corporation is being realized on the ground with weekly visits by WCMC-Q medical students to its hospitals and clinics, where they learn more about the doctor-patient relationship under the guidance of HMC preceptors. In addition, visiting Weill Cornell faculty regularly present Grand Rounds at HMC, as we continue to develop our relations with colleagues in the medical community in Qatar, and you will find news of these events in the following pages.

This edition also brings you up-to-date with the exciting future of Education City, with a feature on one of its major projects, the Science and Technology Park. Watch out for further stories of this kind in later editions as the various initiatives planned for our unique community are realized.

Exciting and challenging times lie ahead for all of us, changing times that we intend to capture in these pages. The new Qatar Chronicle provides a window to the world on our activities here and I hope you enjoy looking through it.

Daniel R. Alonso, M.D.
Dean
Weill Cornell Medical College in Qatar
Developing Partnerships

The flow of visitors from Cornell University and WCMC-NY continues to increase, as contacts between faculty, students and staff in the U.S. and Qatar grow closer. We give an overview of visits to Doha by several leading figures from the University and its Medical College during the spring.

The visits are also building links between Weill Cornell, NYPH and the Hamad Medical Corporation (HMC) following the signing of an affiliation agreement last October. Visiting faculty are keen to discuss arrangements and see the facilities at HMC for themselves, ahead of the start of the third-year clerkships in fall 2006.

Among the guests this semester, Dean of the Weill Graduate School of Medical Sciences of Cornell University, David P. Hajjar, Ph.D., delivered a lecture at HMC and WCMC-Q on the pathogenesis of atherosclerosis. He also met with faculty and students to discuss plans for future research at the Medical College, and held meetings with senior officials of the Science and Technology Park in Education City, which is now at the planning stage (see report page 16.)

The Frank H.T. Rhodes Distinguished Professor of Cardiovascular Biology and Genetics, professor of biochemistry and pathology at WCMC-NY, and Director of the Cornell Center of Vascular Biology, Dr. Hajjar was the first investigator to determine that infections and inflammatory agents, particularly viruses such as herpes, play a part in changes in the arterial wall.

Dr. Hajjar explained that atherosclerosis (or hardening of the arteries) can occur anywhere in the body, with the build-up of unstable plaque formed by oxidised lipoproteins inside blood vessels. The breakdown of these plaques may eventually lead to strokes and heart disease, among other conditions.

Atherosclerosis is a multi-factorial disease in which certain non-modifiable factors such as age and genetics play a role, while other factors, including hypertension, type 2 diabetes, obesity and smoking, may be managed or modified.

Current biomedical research is focused on the transport of lipoproteins in the body, and on how they may be extracted from cells, a process in which HDL or “good cholesterol” plays an important part. This action may be enhanced by two “transporter-molecules.” In addition, new transcriptional factors (PPARs) may assist in lowering levels of LDL in cells and regulating the inflammatory process.

Atherosclerosis is a multi-factorial disease. Age and genetics have a part in its development, as do hypertension, type 2 diabetes, obesity and smoking.
during a visit to Qatar in mid-February, E. Darracott Vaughan, Jr., M.D., chairman emeritus of the department of urology, James J. Colt Professor of Urology at WCMC-NY and attending surgeon in the department of urology at Memorial Sloan-Kettering Cancer Center, met urologists at HMC and presented Grand Rounds on renal cell carcinoma.

A leading international figure in the field of urology, Dr. Vaughan gave an overview of the disease and an update on its management. He noted that possible causes include a genetic propensity in addition to personal risk factors, although he added that they remain “quite speculative.”

Laparoscopic surgery is “the treatment of choice” for tumors that are not massive. However, he recommended a more conservative approach, advising against surgery for elderly patients with slow growing tumors and for those whose tumors are benign (some 20% of patients with small masses.)

Dr. Vaughan suggested that ultrasound scanning should be more widely used to pick up tumors at an early stage. Looking to the future, molecular profiling would enable physicians to identify accurately the type of tumor and to manage patients accordingly, using non-invasive procedures for benign masses, for example.

Dr. Vaughan met WCMC-Q medical students to discuss careers in urology. In an interview afterwards, he explained that, although he came from a family of general practitioners, he chose the specialty because he wished to provide continuity of care for patients, from referral into the operating room: “It always would have bothered me to have evaluated a patient, worked them up ready for that final confirming diagnostic test, the surgery, and then sent them to somebody else.”

He identified urology as a rapidly advancing field with a particularly innovative approach, and he put this down to urologists’ love of the new: “We are willing to change, we love new things, we are ‘gadgeteers.’” Putting all of that together, we have been able to accept change more readily.”

Patient care and ethics

Earlier in February, Frank A. Chervenak, M.D., the Given Foundation Professor and chairman of obstetrics and gynecology at WCMC-NY, and obstetrician-in-chief at NYPH, paid a return visit to Qatar more than three years after his first trip. He noted that exchanges between physicians in his department and their colleagues in Qatar were increasing: “I’m very excited and enthusiastic about what’s happening in Doha. A contingent from the department of obstetrics in Doha visited me two months ago, and I’m sure there will be more interchanges.”

Presenting Grand Rounds on elective cesarean section and ethics at the Women’s Hospital, Dr. Chervenak examined an issue that he identified as “a hot clinical-ethical controversy – what to do with a patient’s request for a cesarean that is not medically indicated.”

Although cesarean section is both the most commonly performed obstetric procedure and relatively safe, it is recommended only when indicated, he said. Among the risks of the procedure to the mother are adhesions, and – if she has many subsequent such procedures – placenta accreta, a condition in which the placenta erodes into the uterus. Dr. Chervenak went on to say that “there are still big uncertainties” concerning risks to the fetus.

With a strong interest in ethics, which he described...
Focus on pediatric clerkships

For Gerald M. Loughlin, M.D., Nancy C. Paduano Professor and chairman of pediatrics at WCMC-NY, and pediatrician-in-chief at NYPH, February’s visit included a busy schedule of meetings with pediatricians at HMC to work on plans for the pediatric clerkships. In addition, Dr. Loughlin gave a lecture on bronchiolitis and presented Grand Rounds on obstructive sleep apnea syndrome in children.

With Lyuba Konopasek, M.D., assistant professor of pediatrics and director of the pediatric clerkship at WCMC-NY, he joined the daily round of activities in the department, visited pediatric and neonatal intensive care units, and went out to the pediatric emergency center.

“It was very much a working visit,” said Dr. Loughlin, “we really felt we wanted to see what’s going on. We made rounds, went to several of the residents’ conferences, met with individual leaders and got a chance to ask questions. We have a good feel for the issues as we set up the clerkship curriculum for the medical students.”

Opening his lecture, Dr. Loughlin commented that it was particularly timely, in view of the large number of patients suffering from bronchiolitis on the Hamad Hospital wards. He highlighted the difficulty of arriving at a definite diagnosis, and considered different ways of managing the disease, an area that was discussed at some length during the question and answer session afterwards.

A leading expert on obstructive sleep apnea syndrome (OSAS) in children, Dr Loughlin gave a detailed picture of the condition, and discussed its management, in Grand Rounds. While it is not widely recognized, he argued that pediatricians should be alert to the syndrome: “It has profound effects on growth and development, cardiac function and neurological function.”

In the question and answer session, attention focused on the pressure that physicians may be under to agree to a request for an elective cesarean. The possible legal consequences of refusing to grant such a request, and the need to educate patients in the risks of the procedure particularly if they might have numerous children, were also discussed.

As “mainstream” in obstetrics and gynecology, Dr. Chervenak discussed a number of core principles that should guide the physician. These include the concept of beneficence, or acting in the best interests of the patient according to the physician’s clinical judgement, balanced by respect both for the patient’s autonomy and for justice, or the fair allocation of resources.
Lewis Atterbury Stimson, professor and chairman of surgery at WCMC-NY, and surgeon-in-chief at NYPH, Fabrizio Michelassi, M.D., also paid his first visit to Qatar in February. He met both with surgeons and residents at HMC to discuss plans for the surgical clerkships, and with faculty and medical students at WCMC-Q.

“I am very impressed by the enthusiasm of the faculty and the medical students, and by Dean Alonso’s vision of what this Medical College can be,” Dr. Michelassi commented in an interview. He looked forward to building on the initial contacts with the HMC: “I certainly hope to visit more often. I will be involved with the delivery of an appropriate curriculum to the medical students for the surgical clerkship. In order to deliver outstanding education to medical students, we need to make sure that the opportunity to see clinical cases, as well as interact with residents, is stressed.”

In Grand Rounds at the HMC, Dr. Michelassi described a surgical technique developed by him for the treatment of complications of Crohn’s disease. Now adopted in centers across the world, the technique, side-to-side isoperistaltic strictureplasty, is designed to save as much as possible of the small intestine in order to avoid compromising the nutritional status of the patient.

Profound changes in academic libraries, and in the services they provide, with far-reaching consequences for librarians and end users, were the subject of a lecture by Sarah E. Thomas, Ph.D., Carl A. Kroch University Librarian of Cornell University, during a visit to WCMC-Q in March.

The Distributed eLibrary at WCMC-Q, with its emphasis on electronic resources, is an advanced example, she observed. Speaking to an invited audience of librarians and information systems experts from institutions in Education City and across Doha, Dr. Thomas focused on the ongoing information revolution, and how the academic library community is meeting the challenges of working across nations in the age of the transnational university.

Technology is central to the transformation, with resources moving out of a physical space and into cyberspace. Users expect to have rapid access to...
A film crew with a difference flew into Doha early March – none other than James B. Maas, Ph.D., Weiss Presidential Fellow and professor of psychology at Cornell University in Ithaca, accompanied by seniors Ali Gorski and Lauren Jacobs.

Their plan was to film a behind-the-scenes look at what it is like to take a course by streaming video, supplemented by interactive videoconferences. Through interviews with faculty, students and technical staff at both the New York and Doha ends, they built up a picture of how the Psychology 101 course, which is taught by Dr. Maas at the campus in Ithaca, is brought to pre-medical students at WCMC-Q.

An experienced and prize-winning film-maker, Dr. Maas explained the approach: “It wasn’t really until we were on-site that we had a chance to plan our work. As with any documentary that is unscripted and broad concept, it always evolves as the days go by. We wanted to film every aspect, but wonderful things happened serendipitously and I think this will make the end product great!”

Interviewer Ali, who has been an intern with ABC News as well as holding the position of news editor with a local student-run radio station in Ithaca, was enthusiastic about their work in Qatar. “Before we came, Lauren and I met to talk about the angles we wanted the story to have and what questions to ask people. When we came, it was really meeting the people at first hand that allowed us to ask new questions. It has been a really new learning experience.”

Filming took place in and around the Medical College in Education City, and on the farm of second-year pre-medical student Haya Al-Ghanim, during a day out organized to celebrate the end of exams. Dr. Maas said that the final product will be a short, of about 10 minutes duration, for use by leaders and faculty in spreading the message that distance learning really can work.
Among the many challenges presented by the task of replicating in Qatar the curriculum taught at WCMC-NY, providing each medical student with the hundreds of glass microscope slides normally used in the basic science courses might seem to be one of the most difficult to meet. 

Enter the virtual microscope. Not for the first time at WCMC-Q, technology is providing the right solutions at the right time, bringing the slides into the classroom with outstanding resolution and ease of use. 

For medical students in Doha, gone are the days of hauling around boxes of slides handed down from one generation of students to the next, and of microscopes in continual use for a decade at a time. In a project born of necessity, WCMC-Q is pushing the envelope in medical education by offering entire slide collections in digital format, accessible anywhere in the building where the faculty and students can use a computer.

While many educational institutions use virtual microscopy as an adjunct to their teaching of basic sciences such as histology and pathology, up to now none has gone this...
However, WCMC-Q had little choice. “There was no way to duplicate for each student perhaps as many as 600 glass slides,” says associate professor of pathology Powers Peterson, M.D., F.A.S.C.P., F.C.A.P., who is leading the project to digitize the slides, “we had to find another way to deliver the same quality product.”

A quiet revolution in learning

To see first year medical students in action in a histology lab is to gain an immediate idea of the significance of this quiet revolution in learning. Assistant professor of anatomy, Nithila Isaac, Ph.D., begins with a presentation, in which each slide to be studied is projected from her computer onto a large screen for the whole class to see.

Once the short presentation is over, the students turn not to conventional microscopes on the bench, but to computers with 23-inch monitors. With a click on the Safari browser they key in the url and their passwords, gaining immediate entry into the WCMC-Q system. The first thing you notice is the collection of thumbnails running vertically down the left of the screen: this is the histology collection, right in front of your eyes.

It’s a simple step to scroll down, select a slide for study and, with another click of the mouse, bring it up on the monitor. Manipulating the slide is equally easy: using the mouse, the students move the image around just as if it were being moved on a microscope stage. They have the added advantage of an inset of the whole slide to help them orient themselves.

Another click pulls up a menu to change magnification. And compare the choice: a light microscope has four objectives on the turret giving four different magnifications up to 100 times the ocular lens (a magnification of 1000), whereas the virtual microscope has seven options up to 40 x, with the promise of more to come.

Dr. Isaac, who is lead instructor for histology and gross anatomy at WCMC-Q, is quick to praise this feature: “I have found it very useful that you can gradually increase the magnification on the virtual microscope. It makes it easier for the students to follow through a particular detail and retain the overall picture: it’s more stepped.”

As one member of the Class of 2008 remarks, using this powerful tool is “quick and easy.” Dr. Isaac is in agreement: “Doing conventional microscopy is much more difficult than accessing a slide from a server and clicking on it. This is very user-friendly.”

The images are remarkably clear and easy to study. In addition, the virtual microscope allows a group of students to view and discuss the same image. They can even pull up two images and have them side-by-side on the screen for comparison. All of this would be impossible with a conventional microscope.

Quality and consistency

Senior Associate Dean for Education, Elizabeth Alger, M.D., F.A.C.P., believes that this innovative method of delivery is an ideal solution for WCMC-Q: “The virtual microscope replicates completely the experience of working with a physical microscope. For me, it’s not a substitute or a fallback position in any way. It’s a significant advance in terms of the material that can be presented to the students and the learning experience that they have.”

She points out that one of its great advantages is consistency, since the technology brings the same slide to every student. They can view the whole specimen, learn to select different areas and understand the overall architecture.

Gary Schneider, Ph.D., Senior Associate Dean for Research, is also an admirer of the system. He identifies the high quality of the original slides as a key strength: “This is probably the best scenario for teaching the students. They have to know what normal tissue looks like, and to see a very good example of it, so that they can then differentiate the pathology and recognize what is abnormal.”

The virtual microscope is a “significant advance” in students’ learning experience.
Preserving an intellectual asset

Work on creating the virtual microscope began well before the Medical Program opened in fall 2004, and it is ongoing under Dr. Peterson’s close direction.

“WCMC-NY has a fantastic collection of teaching slides, put together over the last 50 or 60 years by the department of cell biology and anatomy, and the department of pathology and laboratory medicine. These are glass microscopic slides, much like a pathologist would see of a breast or colon biopsy taken by a surgeon for the diagnosis of carcinoma,” Dr. Peterson explains. “We see the digitization of the collection as an opportunity to preserve one of Cornell’s true intellectual assets.”

Indeed, a virtual collection is robust in ways that glass slides are not, she says: “These slides do not fade or crack; they are not dropped, broken or covered with fingerprints.”

The digitization of microscope collections may be the only way forward if medical students are to continue to have access to the materials they need, since obtaining good quality glass slides is increasingly difficult. As Dr. Alger observes, “pathology in some schools cannot be taught with glass slides any more because either we are not seeing the lesions or we are not getting good specimens – yet it’s an incredibly important part of a medical student’s experience.”
Hundreds of slides to be digitized

Among the collection already digitized are about 150 slides of normal tissue for use in the Molecules, Genes and Cells, and Human Structure and Function courses. The samples are taken from a variety of species including cat, dog, white fish, grasshopper and human, and they include sections of major internal organs and the skin.

The pathology collection, for use in the Host Defenses, Brain and Mind, and Basis of Disease courses, is larger, comprising approximately 400 slides of diseased human tissue and about 20 others that are examples of normal tissues.

Dr. Peterson has also prepared a number of new slides of cytology samples to add to the collection. They include normal and abnormal PAP smears, and fine needle aspirations of tissue from internal organs and the breast.

She identifies the need to produce just one new glass slide of each sample as a major advantage of the virtual system: “Instead of having to find 150 glass slides of uterine cervix showing dysplasia caused by human papilloma virus infection, I can find one good slide and every student can access the same high quality image.”

Building the virtual microscope

Nevertheless, it is a time-consuming and exacting task to digitize the collections. Dr. Peterson examines every slide closely and selects only those of the highest quality for scanning: “I make sure that each slide we use is extremely high quality. The slide must be well cut and properly stained with no wrinkles, folds, ‘window shades’ or bubbles.”

The process of scanning the slides is handled by Bacus Laboratories Inc., an Illinois-based company that specializes in virtual microscopy. Each digitized image is composed of hundreds, even thousands, of jpegs (compressed image files); the exact number is highly variable, since it depends on the size of the section. (See opposite: Tiny samples hungry for space.)

Once scanned, the images are loaded onto DVDs and sent back to WCMC-Q, where Dr. Peterson puts them through a careful process of quality control to ensure that only the best images are passed.

Experience has shown that scanning the slides is by no means simple. Dr. Peterson explains: “We found that slides of skin are better scanned at 20x, whereas slides of PAP smears are better scanned at 40x. So sometimes you learn the magnification isn’t right, and the process has to be redone.”

The costs of digitizing the glass slides include copyright protection. While other collections are widely accessible via the Web, the Weill Cornell collections are loaded on servers at WCMC-Q, with access restricted to faculty and students at the Weill Cornell Medical College. The principle is to safeguard a great University resource, says Dr. Peterson: “This is a priceless collection and it is superior in quality to most of the collections I have seen on websites. Ours is as good as we can get.”

Developing the collection, improving the technology

Once the whole collection for the basic science courses has been digitized, the next step will be to annotate the slides, labelling the details on each sample – something that is very difficult to do with glass slides.

Dr. Peterson describes this as “a tremendous advance” that will bring significant benefits to the students. “They can pick up the ‘native’ image, but, with an annotated slide beside it, they can also review the important structures or processes. You can draw circles and lines, and map areas such that the students have an atlas of what is on the screen.”

The use of annotations is particularly valuable in self-study, says Dr. Isaac: “This way, the students know exactly what they are looking at. It helps them a lot, especially outside the lab.”

At this point, the virtual microscope has a number of limitations, particularly in the study of internal cell structure, for which higher magnification is necessary. True, it offers a greater choice of magnifications, but it cannot go higher than 40x (400 magnification) while a conventional light microscope can go up to 100x (1,000 magnification) using an oil immersion lens. Nevertheless, Dr. Peterson has no doubt that improvements are on the way: “The technology is still under development, and there is no question that this will come.”

There are other questions: is the virtual microscope truly as good as the ‘real thing’? And if a medical student does not learn to use a light microscope early in his or her education, will this be a problem later on?

Dr. Peterson, whose career has been in the field of hematopathology, is certain that the virtual microscope...
will not compromise the medical students’ future microscope skills. “Many, many years ago medical students, interns, and residents were expected to perform laboratory tests on their newly admitted patients. These tests included differential counts on blood smears, Gram stains on infectious material and routine urinalysis. Proficiency with a microscope was necessary then. But times have changed. Such tests are now performed in laboratories by qualified and licensed laboratory personnel rather than by physicians in training, as required by Federal and other regulatory agencies such as the Joint Commission on Accreditation of Healthcare Organizations (JCAHO.)

“In the future, further technological developments may mean that the virtual microscope will be the norm – just like today’s light microscope.”

Dr. Schneider sums up: “In my experience, I have yet to see a real downside to virtual microscopy. I’ve spent 30 years twisting the dials on a microscope, and I have found that I’m getting very much accustomed to doing the same thing with a mouse.”

Scanning just one slide for the virtual microscope can take as much as a day – and the end product could be a digital image composed of anything up to 5,000 individual jpeg files, depending on the size of the tissue sample on the original glass slide.

In their original form, the smallest tissue samples in the histology collection are about 3 x 3 mm, the largest no more than 3 x 2 cm. Astonishingly, once they are digitized, these tiny samples can require up to 2 gigabytes of space for storage – quite an appetite for something so small.

The reason why? Director of information technology at WCMC-Q, Abraham Kololli explains that this is how the software accommodates the zoom capability of a microscope. “In order to look at a small portion of a slide at any magnification, it has to be broken down into many small objects and it has to be tiled (put side by side.) One slide could be 500 jpeg files or it could be 5,000, depending on the magnification level and the tissues involved.”

The process of scanning the glass slides is carried out by trained technicians at Bacus Laboratories Inc. in Lombard, Illinois. Each slide is scanned in proprietary format and converted into jpegs, or compressed files of still images.

Since it would take hours for the images to reach Qatar if they were transferred electronically, they are normally loaded on DVDs – it takes several disks to hold one collection of slides – and flown out to Doha.

“We have tried electronic transfer,” Kololli says, “but one glitch in a slide transfer when you are talking hundreds of jpeg images means that you have to start over, and if you have a 5 or 8 hour transfer, you can’t do that.”

Under the supervision of IT staff members Siraj Halil and Joshua Abraham, the images are downloaded from the DVDs onto a central storage system and delivered to the computers via dedicated servers in Qatar. The allocation of two servers is designed to give rapid delivery to end users in the lab – and to ensure that there is backup if one server goes down.

“This is such a critical server in terms of delivery of educational material that we don’t want a situation where a server is down and we can’t teach a class,” Kololli says.

Tiny samples hungry for space

="You can map areas such that students have an atlas of what is on the screen.” At left, trachea, cross-section, hematoxylin and eosin stain at 40x (400 magnification) and, at right, the same section with annotations.
Multi-faceted Delivery Brings the Medical Program to Qatar

As the implementation of the Medical Program at WCMC-Q moves ahead, the balance between faculty members resident in Doha and those visiting for a period, or teaching by elearning methods, from New York is set to change.

At this early stage, delivery of the Program is through a combination of methods, with teaching by faculty based in Qatar, video streaming of lectures from WCMC-NY, and interactive videoconferences late in the afternoon – or at night after the daily fast is broken during Ramadan – to accommodate the 8 time zones between New York and Doha.

In addition, there are regular visits by faculty members based in New York. Once they have completed all or most of their teaching commitments at WCMC-NY, they set out on the well-trodden path between the Medical College in New York and its branch in Qatar, usually staying for a week of intensive teaching in Doha.

All medical faculty who teach at WCMC-Q, whether they are resident in the U.S. or in Qatar, are part of academic departments at Weill Cornell in New York. Dean of WCMC-Q, Daniel R. Alonso, M.D., explains: “We are not the second medical school of Cornell University, we are a branch of the only medical school, which is in New York. We do not have academic departments here – the departments are in New York. It’s a very important common denominator that our faculty in Doha have to be appointed by our academic departments in New York.”

At this stage, the department with the greatest number of faculty resident in Doha is Public Health, with three members appointed. However, Dr. Alonso expects numbers to grow significantly in other key areas as the Program proceeds, with most faculty “wearing two hats” – combining an appointment in research with a teaching role in the basic sciences, for example.

In consequence, the number of lectures delivered by streaming video is likely to decrease over time, although Dr. Alonso believes that there will always be a place for such a system, in order to capture single lectures given by faculty members with expertise in a highly specialized field.

Nevertheless, with some 60% of the Medical Program taught in small groups, it is clearly very important to have faculty on the ground in Doha, to allow for close interaction with students in the classroom.

They have a wider role, beyond the delivery of the Pro-
gram. As Dr. Alonso says: “Faculty in residence take care primarily of the small group sessions – they teach the students in PBL (problem-based learning), labs, journal clubs and so on. They also are here with the students, they counsel them, advise them, basically are role models and mentors to them.” — Dr. Daniel R. Alonso, Dean, WCMC-Q

The importance of their role as advisers should not be underestimated, particularly at this early stage in the development of the branch in Qatar, says Olaf Sparre Andersen, M.D., professor of physiology and biophysics, director of the MD-PhD Program and Thomas H. Meikle, Jr., Professor of Medical Education at WCMC-NY, who visited WCMC-Q last September.

“The WCMC-Q medical students do not have more senior students to guide them....In NYC, the first year students receive lots of advice from students in the upper classes, through organized channels (and) through informal interactions.... When in Qatar, I met with small groups of students each day for lunch, and we spent a lot of time discussing career planning.”

He adds that some of them are now in email contact with him, particularly those with an interest in gaining research experience during their medical studies.

While he is concerned about the pressure of time, Thomas Maack, M.D., professor of physiology and biophysics, and professor of physiology in medicine, has praise for WCMC-Q’s medical students. Asked what he found most interesting during his visit, he responds: “The enthusiasm, attentiveness, hard work and dedication of the students. I was highly impressed by the fact that they came very well prepared for the lectures.”

In order to accommodate the regular movement of faculty, the Medical College in Qatar starts the academic year some 2 weeks later than the ‘mother ship’ in New York. Even so, combining commitments in the U.S with a concentrated week of teaching in Qatar is demanding, says Randi Silver, Ph.D., associate professor of physiology and biophysics, who visited WCMC-Q in March to teach a module on respiration.

While in Doha, Dr. Silver gave both lectures and a research seminar, supervised a lab and conducted a review session. “It is fatiguing to teach like this if you give it your all,” she comments, “but it is very similar to New York in terms of the progression of the material and how things develop over the course of the week.”

Indeed, she suggests that it may be helpful for the students to work intensively. “This is very difficult material and if, by having the students immersed in the material the way we do it, they see every different aspect, maybe that’s actually better.”

The faculty are notably positive about their visits to WCMC-Q. For Dr. Silver, working closely with the sixteen class members meant that she could be sure they grasped the concepts before moving on to the next step.

She feels that she got to know the students quite well:

(Continued on page 32)
Science and Technology Park to Develop Qatar’s Knowledge Economy

Qatar’s Science and Technology Park (STP) is taking shape and moving from the drawing board to reality. As a hub for the location of technology businesses it promises to be one of the foremost centres of excellence in the Middle East.

The brainchild of Her Highness Sheikha Mozah Bint Nasser Al-Missned, the idea of STP first germinated in 2003. Existing models in Europe and North America have their own versions but Qatar’s has a flavor of its own, located as it is in the rapidly expanding Education City environment and rubbing shoulders with a campus of schools, universities and research centres in a Middle East setting.

The objectives of STP are four-fold:

- Promote applied research, technology development and commercialization in Qatar
- Grow and diversify Qatar’s economy through application of technology
- Accelerate formation and growth of start up technology companies
- Create high value employment opportunities in particular for university graduates

STP aims to be an international location for the development and commercialization of technology – not research in isolation. It is a place where companies will develop their intellectual property and deliver it to the marketplace; where research institutes undertake collaborative R&D and where entrepreneurs can flourish, create and start up their own technology based companies.

Another role is to link the academic institutions moving into Education City with industry, as a way to grow Qatar’s “knowledge economy”. To achieve this goal, STP provides accommodation and services on a non-profit basis to technology-related organizations around the world that are interested in opening up in Qatar.

Research and commercialization in all areas of technology are welcome. Particular emphasis is placed on sectors that are key to Qatar’s economy – gas and petrochemicals; information and communication technologies; aircraft operations; the environment and water technologies.

Medicine and healthcare under the microscope

In addition, two target areas of technology are medicine and healthcare – not surprising given that STP’s southern neighbors in Education City will be Qatar Foundation’s $900m Specialty Teaching Hospital (STH) and Weill Cornell Medical College in Qatar.
STP will support the creation and growth of new companies through its business incubation program, with a venture capital fund to help kick-start investment. STP will seek to attract entrepreneurs and technology-transfer offices from around the world to choose Qatar as the place to commercialize existing intellectual property. With tangible support available from STP, Qatar is emerging as an ideal location in the Middle East to launch new technology ventures.

The broader picture
Meanwhile, world-class names have already announced their participation in this bold venture. European Aeronautic Defence and Space Company (makers of Airbus planes), ExxonMobil, Microsoft, Shell and Total will become major tenants with the first phase of multi-user buildings now under construction and ready to open for business by the middle of 2006. In February this year, Shell announced that it will invest up to $100 million over 10 years in a training and research facility at STP. It will initially focus on upstream and Gas to Liquids (GTL) technologies, technical services and a related training centre, forming part of Qatar’s ambitions to become GTL capital of the world.

So what facilities and services can prospective tenants find at STP? Office, exhibition and laboratory space and shared meeting rooms are just some of the attractions. Initial buildings will be multi-user, with the opportunity for the tenant to commission their own buildings going forward. High bandwidth internet connections, internet protocol telephony, and advanced security form part of this package alongside professional services such as human resources, legal, accounting and intellectual property advice. The first phase comprises two innovation and technol-

(Continued on page 33)
Al Khelaifi, 21, is part of the pioneering Class of 2008 at WCMC-Q that is now in the first year of the four-year Medical Program leading to the Cornell University M.D degree. As one of four Qatars in a cosmopolitan class, he studies alongside students from a wide range of other countries in a co-educational environment.

On this day, he was in the lab, wearing a nose clip to monitor respiratory levels and measure different volumes of the lung. On another occasion, he was working with a team of classmates to determine blood pressure and heart rate after exercise.

The variety of the Medical Program is also apparent from the wide range of subjects tackled. Earlier in the year he studied molecules, cells and genetics; currently he is in the middle of the Medicine, Patients and Society I course, which introduces the patient-physician relationship. So, from physiology examinations one minute, Al Khelaifi could be attending lectures or visiting primary health care centers in Doha the next.

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“Once I have my M.D., I hope to continue my studies and qualify as a surgeon here in Qatar”
— Khaled Al Khelaifi.

Discussing clinical issues with faculty preceptors is a central part of the medical student’s experience during the Medicine, Patients and Society course.
Participation in problem-based learning sessions with other students is one of the most rewarding experiences for any student in the Medical Program here,” he says. “We get to work as teams and to tackle problems and health issues ourselves, having been set specific tasks by our faculty supervisor. Finding the solutions and using modern technical equipment are among the joys of college life, as are the anatomy classes. The facilities are world class and so modern, we have everything we need. And if it is not there, we usually are able to access it thanks to Weill Cornell’s great resources.

He adds: “The international dimension of life here not only have I met young people from the region, but I also have friends from Europe and the U.S.” Al Khelaifi with classmates Subhi Al Aref and Dino Terzic.

Other experiences include visits to Hamad Medical Corporation hospitals and discussing clinical issues with faculty preceptors, in between attending seminars, taking part in student activities and interacting with faculty, whether Doha-based or visiting from New York.

Medical students the world over have different reasons for their ambitions in medicine. Al Khelaifi has always wanted to help people, especially the sick, and has had his heart set on his chosen career since he was a young teenager.

Al Khelaifi’s education began in the state school system in Doha, followed by entry to the Academic Bridge Program in Education City, where he refined his fluency in English among other studies.

While there, he qualified for the Pre-medical Program at WCMC-Q, where he spent the next two years pursuing his love of the sciences: the perfect grounding for entry to the Medical Program. Now in his first year of medicine, he has noticed a step change in the orientation of his studies.

(Continued on page 20)
is also extremely rewarding. My class is fairly small so we interact a lot and we have a truly international flavor, with opportunities for people of ability from all walks of life. The only requirements are academic achievement and a willingness to work hard – but we also have some fun alongside our studies.

“Not only have I met young people from elsewhere in the region but I also have friends from Europe and the U.S and that broadens my experiences for the future. We also have the opportunity to participate in research programs at Weill Cornell Medical College in New York, or Cornell University in Ithaca during the summer, something that is unique in my experience.”

But although spare time is not as plentiful as it used to be when he was growing up, Al Khelaifi does take time to socialize outside the whirl of his college day. Contrary to popular student mythology, life is not all about sleep, study, more sleep, more study.

With four brothers and four sisters, Al Khelaifi has a busy social life in Doha, where he has lived since he was born. His siblings keep him busy for most of the time and his father, a professional in Qatar’s buzzing architecture and construction sectors, has also been a mentor. Indeed, both his parents are very supportive: “They have been instrumental in my choice of career, and they have encouraged me at every stage,” says Al Khelaifi. “They really care about what I do and ask frequently about how I am doing at WCMC-Q.”

A wide circle of friends also keeps Al Khelaifi on his toes. Whenever he can, he likes to spend time with the friends he has known most of his life. They accompany him on his frequent camping and fishing trips, which form the twin passions of his recreational pursuits.

As a group, they spend weekends, evenings and holidays out in the desert or at one of the many isolated but beautiful stretches of coastline around the Qatar peninsula. These hidden jewels may be overlooked by visitors and expatriates but for Qataris like Al Khelaifi, they form the true Qatar, a land with a rich cultural heritage located as it is on the crossroads of the shipping routes around the Arabian Gulf.

In Doha, they often get together informally at a majlis. Part of everyday life in the region, the majlis is where men meet to discuss issues of the day or catch up on news about family, friends and colleagues. Al Khelaifi’s relations also feature in these gatherings. The extended family is a key part of his life, with visits from uncles and aunts a weekly, if not daily, occurrence.

Meanwhile, holidays are normally spent in the Middle East with many visits to Egypt and other Gulf states, although he has also been to Austria to sample the mountain air.

And Al Khelaifi has definite ambitions once he has completed his degree at WCMC-Q. He hopes one day to become a surgeon. Al Khelaifi explains: “Once I have my M.D., I hope to continue my studies and qualify as a surgeon here in Qatar. In the past, I would have had to travel to fulfill my ambitions. Today, the picture is different and I can complete my studies here – it just goes to show how much the education system is changing here in Qatar.”

Today will be a totally different experience for Al Khelaifi, one of WCMC-Q’s inaugural Class – and it will bring him one step closer to reaching his goals.

“Finding solutions and using modern technical equipment are among the joys of college life” – Khaled Al Khelaifi discusses a problem with Dr. Nithila Isaac and classmate Subhi Al Aref.
New Faces in the Medical Program

Among new appointments to the medical faculty this semester are William Greer, Ph.D., Monica Bishop, M.D., C.C.F.P. and Amy Sandridge, M.Sc.

Dr. William Greer is assistant professor in the department of public health, where he participates in the biostatistics/epidemiology and evidence based medicine components of the Medicine, Patients & Society course. He will also be involved in the forthcoming research program to be carried out by WCMC-Q.

Originally a physicist, Dr. Greer obtained his Ph.D. in bioengineering from Strathclyde University in Scotland in 1978. His postdoctoral research focused on both spinal and musculoskeletal trauma, and the application of control systems techniques to the analysis of totally-closed breathing circuits in the department of anesthetics at Manchester University, U.K.

In 1980, he joined the National Institute for Medical Research in London, U.K., where he collaborated with biologists in computational aspects of developmental biology and neurobiology.

Dr. Greer comes to WCMC-Q from King Faisal Specialist Hospital and Research Center in Riyadh, Saudi Arabia, where he worked on the development of a Scientific Computing Research Unit focusing on clinical image analysis, signal analysis, biological simulation, geographical information systems (GIS) and bioinformatics.

His current research interests include diagnostic aspects of postmenopausal osteoporosis, epidemiological applications of GIS, biological and physiological modeling, and the computational analysis of promoter regions.

Dr. Monica Bishop is instructor of family practice in the department of medicine and director of the Clinical Skills Center at WCMC-Q.

Dr. Bishop received her M.D. degree from the University of Western Ontario in Canada. Following a residency in family practice, she became a Certificant of the College of Family Physicians. She is currently developing a standardized patient program for WCMC-Q, while working to get the Clinical Skills Center up and running.

Before moving to Qatar, Dr. Bishop worked as a consultant physician at the Sheikh Khalifa Medical Center in Abu Dhabi, United Arab Emirates. There she developed and managed an outpatient clinic for patients that included many of the emirate’s leading citizens. Her experience in the Middle East, and in particular in treating the local Gulf population, has given her many valuable insights into the customs and cultural traditions of the region.

Dr. Bishop’s clinical and educational interests include preventive medicine, nutrition and fitness.
Amy Sandridge is lecturer in the department of public health, participating in the Medicine, Patients & Society course. She will also have a role in the research program at WCMC-Q.

Ms Sandridge took her M.Sc. in epidemiology from the University of Massachusetts, Amherst; her thesis concerned risk factors for cesarean births. She then worked on the Johns Hopkins University’s tuberculosis prevention study in Port-au-Prince, Haiti, before joining the King Faisal Specialist Hospital and Research Center in Riyadh, Saudi Arabia, where she worked in the fields of research data management, epidemiology and biostatistics.

Following a period at the National Health Service’s Information and Statistics Division in Edinburgh, Scotland, Ms Sandridge returned to Riyadh, where she was assistant scientist in the Epidemiology Research Unit. While there, she developed two hospital-based registries – one for congenital heart defects and the other for neural tube defects. Additionally, she studied risk factors for congenital heart defects among infants and completed a survey of patterns of consanguinity.

Aside from consanguinity and birth defects, her research interests include osteoporosis and palliative care.

Notes from Faculty

In a recently published paper in *Academic Medicine*, Pablo Rodriguez del Pozo, M.D., J.D., Ph.D., and Joseph J. Fins, M.D., review the experience of introducing a course in medical ethics and humanities to pre-medical students at WCMC-Q.

Their paper, “The Globalization of Education in Medical Ethics and Humanities: Evolving Pedagogy at Weill Cornell Medical College in Qatar,” gives a detailed description of the structure of the seminar course and the texts used during the academic year 2003-2004.

It goes on to identify a number of challenges presented by introducing topics and modes of thinking that were new to many of the students at this stage of their education, and analyses intellectual struggles that arose. The paper also notes the development of “a nascent professional identity” among the students as they read more about the physician.

“We believe that our course has helped connect the art and science of medicine and has brought our students closer to the experience of doctoring,” the authors write.

Teaching the course at WCMC-Q was a thought-provoking experience for Dr. Rodriguez del Pozo. “Teaching in a different culture necessarily provokes reflection on, and a more objective vision of, one’s own culture. I learn with my students and from my students, and there is a sense of partnership in this endeavor,” he says.

Dr. Rodriguez del Pozo is assistant professor in the Division of Medical Ethics, department of public health at WCMC-Q. Dr. Fins is chief of the Division of Medical Ethics, professor of public health, and professor of medicine in psychiatry, at WCMC-NY.

“The Globalization of Education in Medical Ethics and Humanities: Evolving Pedagogy at Weill Cornell Medical College in Qatar.” *Academic Medicine*, (the journal of the Association of American Medical Colleges), Vol. 80, No. 2, 135-140 (February 2005.)
Notes from Faculty

Senior Associate Dean for Research, Gary Schneider, Ph.D., visited Cairo in February at the invitation of the President of the American University in Cairo (AUC), David D. Arnold. His trip was timed to coincide with a meeting of the AUC Board of Trustees, and followed a visit to Qatar by members of the Board last December, during which Dr. Schneider accompanied them on a tour of WCMC-Q.

While in Cairo, Dr. Schneider gave a formal presentation about the Medical College and its Programs to the Board, and held one-on-one discussions with individual members, and meetings with senior faculty and students in the departments of chemistry and biology.

“It was a very beneficial, two-way conversation,” says Dr. Schneider, back in Doha after his visit. “They knew little about our Programs. I had a very positive response from the Board.”

With 4-year Bachelors programs in the sciences, the U.S-accredited AUC is a potential source of students for the Medical Program at WCMC-Q, and there was “considerable interest” among the students, Dr. Schneider comments.

In a number of papers published since 2002, Frank Smith, Ph.D., FRSC, professor of chemistry at WCMC-Q has reported developments in an ongoing study of organotins. He is working on the project in collaboration with Dr. Tushar Basu Baul, from the North East Hill University in Shillong, India.

Dr. Smith says: “Organotins have a wide range of industrial applications and a long history of use as biocides of one kind or another. These publications describe part of a continuing study to find new applications for organotin complexes, and other organometallic complexes. An important component of the study is to investigate the detailed structures of the compounds so that structure-activity relationships can be explored.”

The papers are:

• The synthesis and structural characterization of some triorganotin(IV) complexes of 2-[(E)-1-(2-hydroxyaryl)alkylidene]amino-lactate acid. Crystal and molecular structures of Ph3Sn(2-OHC,H,C(H)=NCH,COO) and Me3Sn(2-OHC,H,C(CH3)=NCH,COO).


• Synthesis, X-ray crystal structures and multinuclear NMR characterization of Hg(II) complexes of 2-[(E)-2-(aryl)-1-diazenyl]pyridine.
  Tushar S. Basu Baul, Antonin Lycka, Ray Butler and Frank Smith
Admissions Interviews: Seeking Candidates with that “Something Else”

As the season of interviews for entry to the Medical Program at WCMC-Q gets into full swing, we take a look at admissions interviews and ask what qualities the Medical College is seeking in its future medical students, how the Committee on Admissions identifies them and what the applicant can do to shape the experience.

The interview process can be demanding and it may be memorable: one pre-medical student at WCMC-Q has even written a poem about his experience. What one group of students, interviewed for this article, agreed on, is that the interviewers are keen to find out more about applicants and to explore their suitability for medicine – but in no sense do they try to trap them.

In addition, the forward-thinking candidate can do a lot to shape the interview process – by researching the Medical College and its Programs via the website, thinking through his or her personal strengths and weaknesses, and writing a carefully considered personal essay.

Interviews are an essential part of the admission process at WCMC-Q. Unlike medical schools in the Middle East, which do not normally interview candidates for admission, no applicant will be offered a place at the Medical College unless he or she has attended at least two interviews.

Senior Associate Dean for Education, Elizabeth Alger, M.D., F.A.C.P., is very clear: “The interview process makes the difference on whether you get in or not. It is really the determining factor.”

The application form provides information about academic performance and relevant experience (such as work in a research lab) of each candidate. In addition, a lot may be revealed by the applicant’s personal essay and the referees’ letters of recommendation. Yet the Committee on Admissions seeks to dig deeper and to find out more.

“I guess the best way of putting it is that an application dossier is a monologue and an interview is a dialogue,” says Dr. Alger. “It’s the way I have to get to know who you
are as a person, to probe some of the characteristics that I may be looking for in someone who is planning to enter the medical profession.”

Suresh Tate, Ph.D., professor of biochemistry, has had long experience of interviewing candidates for the Medical College in New York and he is now a member of the Admissions Committee at WCMC-Q. He explains that a face-to-face meeting may be the only way to sift through candidates who are quite evenly matched on paper, to find those who are really exceptional.

“Their GPAs and MCATs are all good. So I am looking for something else,” Dr. Tate says, “I want to be able to look into their eyes and see how they react…I really want to see their expression, because I am looking for personality, character.”

Defining this “something else” elicits a long list of personal qualities and capacities, as director of student affairs, Charles Paragg, considers what kind of person the medical school is seeking.

“You’ve got to have a good intellect. You must be conscientious and have integrity and empathy, be motivated, alert and psychologically robust. Also, you need to have understanding, sensitivity and sound judgment.”

To these he adds openness and intellectual honesty, characteristics that, he believes, may be observed in an individual’s relationship with parents and friends.

Among essential capacities are good cognitive skills, with a willingness to learn independently, as well as psychomotor and communication skills, Paragg says.

Director of admissions, Lee Askin, believes that candidates must show the potential to develop the range of abilities of a successful physician: “We are not looking for bookworms. We’re looking for future physicians, and they have to have exceptional ‘people skills.’ They have to be good team-members and to be not only good researchers or scholars, but to have a healthy curiosity about things beyond the physical world.”

The theme of ‘people skills’ is taken up by Dr. Tate: “We are trying to see if they have interpersonal skills. Are they going to be able to treat people? An M.D. is not just science; you have to interact with people – males, females, different ethnic and social groups.”

In addition, it is important to assess how a candidate would fit into the medical profession, says Dr. Alger. “I have about 45 minutes to learn not only why you are here, but all about you – the strengths and weaknesses that you are going to be bringing to this profession. We will be colleagues, so I want to know how I am going to relate to you as a member of my profession.”

Taking a very broad approach, Paragg explains that medical schools aim to achieve a balance between the wider need of society at large for successful and responsible physicians, the needs of individual applicants and the needs of the medical profession.

“Interviewers work long and hard to try to be fair in what they do. They have to balance fairness to society versus fairness to a diverse pool of...”

(Continued on page 34)
When she teaches the techniques of writing a scholarly paper to pre-medical students at WCMC-Q, Professor Mary Ann Rishel requires that students complete a portfolio of sequenced assignments leading to a multi-source Aristotelian argument.

She stated: “In my class, I try to teach that writing creates knowledge and that an excellent way to discover knowledge is to write.”

How should writing best be taught to Education City students? What are good classroom practices? How can we best serve students with international language skills? Issues such as these were in the spotlight during a roundtable discussion for Education City faculty at WCMC-Q in early February, convened by Professor Rishel. Participants were faculty members who teach or have a particular interest in writing. They came from the Medical College, Carnegie Mellon University in Qatar (CMU-Q), Texas A&M University at Qatar (TAMU-Q) and Virginia Commonwealth School of the Arts in Qatar (VCU-Q).

Associate Dean for Pre-medical Education at WCMC-Q and Chairman of the Committee on Liberal Arts for Education City, David Robertshaw, Ph.D., opened the meeting by noting a commonality of interest among the higher education institutions in promoting students’ writing skills.

Turning to the WCMC-Q writing seminar course led by Professor Rishel, and first offered in fall 2004, he said: “I am excited and impressed by the way it has gone, and I recognize how crucial it is to undergraduate education.”

Participants at the roundtable outlined the experience of their respective institutions and compared notes on a range of issues. In question and answer sessions, they debated the more challenging aspects of teaching a skill that, according to some commentators, is under threat in an age of Internet advertising, text-messaging, and blogging.

Among themes to emerge, arguably the central issue was the broad spectrum of English-language skills among the students and, consequently, the need for some teaching of English as a second language (ESL).

In addition to the classroom teaching of writing, the role of the Writing Center in each institution was examined. While some are still in the early stages of creating their service programs, the Writing Center at VCU-Q is fully operational. It is run along formal lines, with a system of appointments to cope with demand and close cooperation between faculty members and Jean Hodges, the Center’s coordinator.
WCMC-Q Hosts Writing Roundtable

Interviewed afterwards, Professor Rishel noted that the contribution to the discussion by the Center tutors had been both strong and helpful. “I think there are a lot of exciting issues, such as: What is a Writing Center? How does it serve the students? How can we best demonstrate to students that a Writing Center is there to promote learning?”

Participants highlighted both the link between developing reading ability and writing, and the need to enhance students’ capacity to read critically and analytically for academic purposes. Christina England, Writing Center director at CMU-Q, commented: “The students need these skills right at the beginning, from the first week, and then we need to follow them up, throughout the first and second semesters.”

Teaching critical thinking through writing brings challenges, and Professor Rishel addressed some of them in her interview. She explained that one of her aims is to have students explore different cultures, yet remain comfortable with the exploration of differences. “What I hope is that my course will help students think critically about different cultures in order to discover the best ideas in each one. Good ideas in different cultures aren’t mutually exclusive.”

Professor Rishel’s approach to scholarship and citation, another hot topic in the roundtable discussion, was similarly careful: an “intriguing topic,” it merits a whole conference on its own, she said.

While the fundamental principle is that, in academic work, you document your sources conscientiously, Professor Rishel is open-minded about how students work. She points out that the collaborative approach, working in groups and sharing ideas, can be both productive and enjoyable: “Whatever helps students enjoy learning – and experience deep learning – is the pedagogy you should use.”

Feedback after the roundtable discussion was positive, with agreement that a series of such meetings, to include workshops, should be organized among Education City institutions in the future.

* Starting September 2005, pre-medical students at WCMC-Q will take two sequential writing courses in their freshman year. Working with Professor Rishel are lecturer Deena Shehata and Writing Center tutor Michelle Wallin.
One thing that you soon realize about the student community at WCMC-Q is its extraordinary diversity. Talk to some of our students for a short time, and you also realize that their background and interests are as varied as the community is cosmopolitan – and there are quite a few surprises in store.

We met with three pre-medical students to find out more.

"My story’s kinda funny," begins Imran Farooq, and this is typical of the young man of Pakistani origin, born in the U.S. and raised for many years in Saudi Arabia.

One of the live wires of the Class of 2009, sportsman, MSEC member and Master of Ceremonies par excellence, Farooq was actually enrolled, and had attended Orientation, at the University of South Florida before he joined WCMC-Q.

He remembers being all set for the 7-year program at South Florida, until a visit to Qatar by his brother turned his plans upside-down. Persuaded by his brother to come to Qatar and meet the WCMC-Q faculty and students, Farooq decided on an entirely different route to his chosen career.

"I came here, talked to faculty members, met the students – and I really liked the environment. At the time, the summer festival was on, so there was a lot of stuff going on. It was so lively and the whole atmosphere caught me. I thought – ‘this will be one of the coolest experiences of my life!’"

He admits to being "intrigued" by medicine; his choice of career was also influenced by direct experience of family illness – a subject he discussed in the WCMC-Q film "A Groundbreaking Partnership."

With his ready laugh and infectious enthusiasm, Farooq values life outside the academic environment and he is often at the center of the action. "Usually, if something is happening on the campus, I know of it – and I try to get myself involved," he says.

He explains his philosophy: "I believe that studies are very important and should always be given the first priority. But you should have other activities that keep your mind going. I really love doing everything else. Playing sports are my hobbies – plus going to the gym, talking to people. There are lots of fun things to do."

And if that means acting as Master of Ceremonies for the student Coffee House evenings, he is certainly ready: "Getting a chance to do that is an opportunity. I like public speaking, being in a hall with people watching."
From the Class of 2010, Qatari Sakina Al-Saiqal describes her ambition to qualify as a general surgeon as “a passion.”

Family lore has it that this is an ambition she has held since she was very young. “I’ve always wanted to do medicine. My mother says that I have been saying I wanted to be a doctor since I started to talk, when I was 2 years old.”

The choice of surgery is unusual for a Qatari woman. While doing her observership at the Hamad Medical Corporation recently, Al-Saiqal encountered few Qatari women physicians, and no surgeons. In part, she puts this down to social attitudes: “Right now, men here think that a male doctor will be better. That’s not true.”

And she feels that it is important to open the door for Qatari women to qualify in this most exacting of careers. “I want to be one of the first, not because I want to be “first” but because I want to help open the pathway for Qatari women.”

As for the challenges she may face, Al-Saiqal feels that she can overcome them. “I am prepared to do this. I’ll try my best, because I’m really dedicated to it. I’ll work my way through the challenges step-by-step.”

The opening of WCMC-Q has come as “a godsend” for this lively young Qatari woman. It would have been difficult for her family to accept her studying abroad; the presence of the Medical College means that she may actively pursue her ambition.

It also presents new opportunities. Of the international environment, Al-Saiqal comments: “I love the diversity. You get to learn about so many different cultures and religions.” And she certainly joins in – February 14th saw her acting as a “Valentine cupid,” delivering flowers and chocolates around the Medical College along with a group of her Classmates.

From the “land of a million poets,” Mauritanian Hala Mint El-Moctar is herself a poet, and a founder member of the WCMC-Q Poetry Club.

She quips that Mauritania has only 2 million inhabitants – so poetic creativity must be part of the psyche. Unusually, El-Moctar writes in English, rather than Arabic or the local dialect (Hassaniyah), and she has read two of her works to audiences at the student Coffee House evenings.

Although El-Moctar is the only student from Mauritania, she is quite typical of the WCMC-Q community. Born in the sub-Saharan country to parents who are Mauritanian and Western Saharan, she led a wandering life as the daughter of a diplomat, moving from country to country in the Middle East and Africa.

However – and this is unusual among WCMC-Q students – El-Moctar’s high school education was by distance learning through the University of Nebraska, with only her sister for a classmate; and she was educated in English, unlike most of her compatriots in the francophone region.

Talking about her choice of career, El-Moctar reveals a family link, through the practice of herbal medicine. She explains: “I do have a link with medicine: it comes from my great-grandmother. Way back, she did traditional medicine, using the things they had in the Sahara. My Dad always talked to me about her, told me stories.”

It was a practice in which women played a major role, with knowledge of herbal treatments passed down by the oral tradition and assimilated as part of daily life.

Even with her background of traveling in the region, El-Moctar has found that settling down at WCMC-Q, away from her family, has not been plain sailing.

“At first, I didn’t miss my family very much – it was weird. But this semester, sometimes I wake up and I feel that if I look out the window I’ll see the street back home. Sometimes, I hear sounds that remind me so much of the Saharan atmosphere.”

Perhaps this goes some way to explaining the poetry.
Just Another Day: With the rider “any resemblance to real people, places or events is purely intentional,” members of the Class of 2008 presented a satirical ‘day in the life’ of their class to an invited audience, March 22nd. The show featured inimitable cameos of medical faculty in class (above) and a trio of winsome troubadours in full regalia (left.)

On March 4th, the sounds of music, poetry and prose filled the faculty lounge as the students of WCMC-Q performed at the second Coffee House of the year. Coffee House was created last semester under the guidance of TA Erin King, to give students an opportunity to share their talents outside of the classroom. The first event was an exciting mix of performances by faculty, staff and students that left the audience asking for more. This time around, first year pre-medical students dominated the program. Highlights included an outstanding electric guitar performance, the “Freshman Attack” rap, a stand-up comedy skit, and an adaptation of “Romeo and Juliet” to the lives of two WCMC-Q students.
Under the direction of second year pre-medical students, Ali Saad and Heba Haddad, the dancing cigarettes returned for a guest appearance in the second annual anti-smoking campaign.

Concerned by the prevalence of smoking in young students, Ali and Heba created an entertaining and educational program about the hazards associated with smoking. On March 14th, the program was presented to middle school and high school students at Qatar Academy in Education City. It began with a short informational lecture presented by a WCMC-Q medical student. Following the lecture, a group of pre-medical students performed a skit focusing on the life of a young man suffering the consequences of nicotine addiction.

In addition to the larger-than-life dancing cigarettes, several students and faculty contributed their dancing and acting skills to the entertaining performance – a performance that was well-received by the students and faculty at Qatar Academy.
“I think that, by the end of my visit, there was a nice comfort level. The students were able to talk to me... they felt very free asking me questions. I hope I did my best making them feel comfortable.”

Dr. Olaf Andersen also points out the value of being able to sit in on video streamed lectures and get a feel for what delivery of material by elearning methods is really like: “If I hadn’t been in Doha, and if I hadn’t seen how the students in Doha were receiving the materials - put myself in their place - I wouldn’t fully appreciate this.”

As a result, he has adjusted his approach in order to improve the experience for students at the Qatar branch when they watch the tape sent from New York: “My lecture style is different now from before. You have to focus on the students in the auditorium, but I no longer move from the podium. I try to stay still, which is not entirely my normal style. And I specifically say ‘good morning’ both to the students in New York and to those in Doha.”

He also tries to ensure that students in Doha hear any question asked by a student in the lecture hall in New York by repeating the question before he answers it.

To assist the students in Doha, the WCMC-Q course director is normally present in the auditorium in Doha during video streaming sessions to deal with any immediate concerns. Further, the slides and text are made available on the students’ website during the week following each lecture.

In addition, regular interactive videoconferences at the end of the week give WCMC-Q students an opportunity to put their questions to faculty in New York. Although they cannot ask a question immediately it comes to mind during a lecture, from the perspective of medical student Ali Farooqi, this may be an advantage.

“Maybe the best situation would be to have the lecturer here, so you could ask them at once. But sometimes it’s an advantage (to wait), because you can think about your questions more deeply and formulate them with more time,” he comments.

Indeed, holding the discussions at a late stage of the week means that the medical students have a more in-depth understanding of the subject, says Dr. Alonso: “The students have learned more about the topic by going to labs, PBL sessions, and journal clubs, so they are better prepared to ask questions.”

This is a point taken up by Donald Fischman, M.D., Harvey Klein Professor of Biomedical Sciences, and professor of cell and developmental biology, who notes the quality of the inquiries: “The questions are thoughtful and, at times, provocative. The students are not intimidated.”

Faculty and students agree that the interactive exchanges are good – “90% of the time, they’re fine,” says Farooqi, while Dr. Olaf Andersen feels the system works well: “The way the camera focuses on the student, it’s almost as if the person is sitting in your office and you are having a one-to-one talk with him or her. That’s good in terms of the discussion.”

In the final analysis, however, they all agree that visiting Doha is hugely important. Initially “skeptical” about the WCMC-Q project, Dr. Fischman is now convinced not only about the exceptional abilities of the medical students, but also about the importance of the Medical College. He comments: “I think I was too conservative. I’ve come 180 degrees on this issue.”
ogy transfer centres designed for larger tenants which offer space in increments of 500 sq m, and the emerging technology centre which provides support for smaller tenants and start up companies. Later in 2006, Qatar’s National Data Centre will open on site, providing world class IT services.

A raft of support programs aimed at promoting the research and commercialization process in Qatar are also planned. Alongside the venture capital fund, entrepreneurship training and a mentoring program are on the drawing board. Start up companies will receive assistance in the recruitment of managers, raising of capital and protection of intellectual property.

While blue chip brands have already announced their intention to move in to the STP, it will also be a major home for small to medium sized companies from the region and around the world. A key differentiator between STP and other business parks is that unless a tenant is a start up business, activities must include technology development.

STP project Director, Dr. Eulian Roberts said: “STP is designed to be the ideal environment for companies to develop their technology and deliver it to market …. They will have access to world class researchers and graduates from Education City’s universities” — Dr. Eulian Roberts.

A map of the Science and Technology Park (STP) site which forms part of the developing Education City complex (top). The central buildings at the heart of this key project are shown in an aerial view of the STP (architectural rendering of future buildings, above.)
applicants with varied motivations for studying medicine, and to the profession to which they will belong.”

Dr. Alger believes that the interview process provides a useful opportunity for candidates who seem slightly weak on paper to establish “distance traveled.” An interviewee who shows how obstacles or barriers have been overcome may reveal real strength of character, and this is a plus factor given the demands of medical school and the medical profession.

Interestingly, among the medical students in the Class of 2008, recollections of the pre-medical interviews seem the more vivid, perhaps because these were their first university-level experiences. Nevertheless, two years down the line, the interviews for the Medical Program were quite stretching, says Ayobami Omosola:

“We discussed my grades in general, weak points, strong points and so on. Other questions were about ethics – and there were some pretty tough ethical questions.”

Sharon King, an external candidate who interviewed in New York for WCMC-Q, found herself discussing her research experience with Gary Schneider, Ph.D., Senior Associate Dean for Research at WCMC-Q and a member of the Committee on Admissions. “This was really fun,” she recalls, “Dr. Schneider shared his research, and I talked about mine – my research wasn’t as interesting, but discussing it was a good experience. It was a comfortable topic for me.”

While the Committee looks for evidence that applicants are committed to a future in the medical profession, through consistent participation in research, community service or hospital observerships, Dr. Tate clarifies that allowances are made for the more restricted opportunities in Qatar.

“We do understand that WCMC-Q pre-medical candidates haven’t had the same experience or the same opportunities to be able to do all these things. So we have to modify the procedure a bit.” As a result, the Committee may look for breadth of interests and outlook, rather than direct involvement in health-related activities.

A number of contributors to this article highlighted the applicant’s role in shaping the interview. In Paragg’s view, an interesting personal essay that reveals personal qualities and motivation, backed by solid evidence from the applicant’s life, will provide material for the interviewers to go on and help the interviewee to stay on firm ground.
Recent visitors to WCMC-Q have included dignitaries from across the region, academics from as far away as Singapore, a former pop star turned Islamic scholar, and a film crew from NBC.

Above: The Heir Apparent of Qatar, His Highness Sheikh Tamim Bin Hamad Al-Thani (left) escorted H.H. Sheikh Salman Bin Hamad Al-Khalifa, Crown Prince of Bahrain (center) during a tour of the Medical College, accompanied by Qatar Foundation Vice Chairperson, Dr. Saif Ali Al-Hajari (right.)

Below: Prime Minister of Lebanon Omar Karami (left) was also given a tour of the Medical College by Ms. Idriss; with them is Dr. Saif Ali Al-Hajari (center.)


Below: In the news — As preparation for a report about the fast-developing state of Qatar, broadcast on NBC Nightly News February 20, journalist Preston Mendenhall interviewed Dean of WCMC-Q, Dr. Daniel R. Alonso (right), as well as students at the Medical College.

Mendenhall (left), himself a Cornellian, later commented on both the remarkable “hope and pride” he encountered among the students and the cosmopolitan atmosphere: “Knowing what an international kind of place the University is, I think you can recognize the sort of students you see here from Cornell in the U.S.”

A web-based report of his visit is accessible at: http://www.msnbc.com/id/6870667/
Above: Among academics from outside Cornell University to visit WCMC-Q was Dr. Kirpal Singh, associate professor of communication skills and creative thinking, and director of the Center for Cross-Cultural Studies, at Singapore Management University. Dr. Singh delivered two lectures on creative writing and cross-cultural understanding to the Education City community.

Below: Cultural Attachés of a number of Qatar’s embassies overseas, as well as embassies of Gulf Cooperation Council countries in Qatar, visited the Medical College in January: members of the group are seen here as they visited the labs.

Above: A group of visitors from the American University in Cairo, led by David D. Arnold, AUC President, was welcomed to WCMC-Q by Ms. Idriss, Dr. Schneider and members of the medical faculty.

Below: Formerly famous as the singer Cat Stevens, and now a well-known Islamic scholar, Yousuf Islam (left) visited the Medical College accompanied by officials from Qatar Foundation.

Above: Among academics from outside Cornell University to visit WCMC-Q was Dr. Kirpal Singh, associate professor of communication skills and creative thinking, and director of the Center for Cross-Cultural Studies, at Singapore Management University. Dr. Singh delivered two lectures on creative writing and cross-cultural understanding to the Education City community.
Welcome to WCMC-Q

A warm welcome to the following members of staff, who have joined us in recent months:
Ronald McNeill, associate director of human resources;
Moiz Motiwala, manager, management accounting;
Stephanie Pribish, benefits analyst;
Felix Onyemah, database administrator;
Noha Saleh, public affairs specialist;
and Ali Al Jabir, computer support technician.

www.qatar-med.cornell.edu
Weill Cornell Medical College in Qatar was jointly established by
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and Cornell University