

# CAREERS

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Research institutions in Saudi Arabia, the United Arab Emirates and Qatar are offering opportunities to foreign researchers.

RELOCATING

## Middle Eastern promise

*Countries on the Arabian Peninsula are vying to attract young scientists to their universities.*

BY QUIRIN SCHIERMEIER

When Diego Cuadros told fellow scientists that he was moving to Qatar, they looked at him in disbelief. What, they asked, did he hope to gain from doing research in a small Arab emirate, fabulously rich in oil and gas but with no noteworthy tradition in science? What if he became totally disconnected from the collaborations, colleague networks and scientific expertise that could facilitate his career success?

But Cuadros, a Colombian-born epidemiologist who was finishing his PhD at the University of Kentucky in Lexington, knew what he was getting into. He had come across papers by Laith Abu-Raddad, a public-health researcher at Weill Cornell Medical College in Qatar (WCMC-Q) — the Doha branch of Weill Cornell Medical College in New York — and had become interested in Abu-Raddad's

research on diabetes and other illnesses. He also knew that his chances of getting funding in the United States after his PhD were slim. In 2010, he asked about postdoctoral opportunities at the WCMC-Q, and Abu-Raddad invited him for a two-month summer internship. Cuadros liked what he saw during his brief stay in Qatar — and, when Abu-Raddad later offered him a postdoctoral position, he packed his bags and returned to the Middle East.

Nineteen months on, Cuadros is glad that he made the move. "I get all the support I could wish for and I can focus 100% on my malaria project," he says, noting that the emirate provides ample resources for research, travel, equipment procurement and housing. For the first time in his career, he is managing his own research money — a three-year, US\$100,000 grant from the Junior Scientists Research Experience Program of the Qatar National Research Fund. Thanks to generous travel

support from Abu-Raddad and the university, he can regularly attend conferences in Asia, Europe and North America. And he does not feel isolated in Doha. The capital's Education City, a large science and technology compound launched in 1998 with government support, hosts branches of several US and British universities, including Texas A&M University, Carnegie Mellon University and University College London. "I feel better-connected here than I did in the United States," says Cuadros.

### KNOWLEDGE IS POWER

Qatar is not the only aspiring science hub on the Arabian Peninsula. Aware that their oil wells will run dry sooner or later, and that a knowledge economy may be key to future prosperity, Saudi Arabia and the United Arab Emirates (UAE) have launched their own ambitious efforts to become well regarded in international science and higher education. ►

L TO R: OMAR SALEM/AFP/GETTY; JONATHAN GAINER/ARABIANEYE/CORBIS; CARLOS CAZALIS/CORBIS

► Saudi Arabia's English-speaking King Abdullah University of Science and Technology (KAUST) in Thuwal, which graduated its first cohort of PhD students last December, prides itself on having several dozen leading Western researchers on its faculty. The UAE's New York University Abu Dhabi (NYUAD) attracts science students from around the world to its undergraduate courses (it has no official PhD programmes yet), and the Paris-Sorbonne University Abu Dhabi offers programmes in the humanities and social sciences.

The past decade or so also has seen several futuristic science campuses rising among the sand dunes, complete with new labs, lucrative funding opportunities (Qatar spends around 2.8% of its gross domestic product, or \$1 billion, on research and higher education each year, and KAUST has a \$10-billion endowment) and generous pay that is generally on a par with US salaries. Money often comes directly from institutions, meaning that researchers spend little energy drumming up external grants.

The region is replete with partnerships meant to draw in expertise and infrastructure from other countries. The Masdar Institute of Science and Technology in Abu Dhabi is collaborating with the Massachusetts Institute of Technology in Cambridge on research into energy and sustainability, and into biofuel for aviation. Kourosch Salehi-Ashtiani, a systems biologist formerly at Harvard Medical School in Boston, Massachusetts, began his research there on algae metabolism with a grant from the US Department of Energy. He is now working at the NYUAD, and collaborating with people at the University of Virginia in Charlottesville.

However, institutions have plenty of catching up to do in terms of recruitment and amassing expertise. The NYUAD plans to substantially expand its science and maths programmes and to hire faculty members next year, after it moves to a spacious new campus on Saadiyat Island. Since January, KAUST has recruited in biosciences and materials sciences.

A stint at a lab in the Gulf can be a valuable addition to a Western scientist's CV, hinting at personal flexibility, open-mindedness and a willingness to take on a certain level of risk. But anyone considering the move must remember that the scientific environment is still new, says Khaled Machaca, associate dean for research at the WCMC-Q. Although

funding opportunities are ample and new talent is welcome, foreign researchers will need to be patient about under-developed infrastructure. When Salehi-Ashtiani arrived at the NYUAD in February 2011, he found that his laboratory was nothing but empty benches. He says it took several weeks to get to know local suppliers for the most urgently needed reagents and pieces of equipment — from high-throughput sequencers to photo bioreactors and microarrays.

"Don't expect to find what you're used to," says Machaca. For all their modern conveniences and regional charms, Doha and Abu Dhabi have little to offer in the way of nightlife such as concerts, clubs or trendy bars. And the local institutions are too new and unproven to have the reputation or traditions of the University of Oxford or Harvard. "If you're looking for a research environment identical to the one you leave behind, the Gulf region is probably not what you're after," continues Machaca. "But if you have a bent for adventure and thrive on the new and exciting, it might be exactly the right place for you." Teething troubles, he says, are not unusual in a barely ten-year-old campus on the periphery of the scientific world. But government bureaucracy and research administrators are getting more experienced and efficient, and productive research is possible.

#### RECRUITMENT DRIVE

In 2009, Abu-Raddad left a tenure-track position at the Fred Hutchinson Cancer Research Centre in Seattle, Washington, and moved to Qatar, eager to be closer to his native Jordan and tempted by the no-strings-attached funding at the WCMC-Q. "I gave myself one year to try out how things might work here," he says. His expectations were easily surpassed: he won \$6 million in grants for hepatitis and HIV projects from the Qatar National Research Fund, and hired six research specialists (temporary workers who are typically locally trained graduate students) whom he found to be exceptionally gifted. He decided to stay.

Recruiting high-calibre postdocs was a challenge at first, he says. Many balked at a stint in the Middle East. But most faculty members at KAUST and branch universities in the region are now being recruited from abroad, and early-career researchers have followed, keen to take advantage of the funding — and incentives such as free or inexpensive on-campus housing, free public transport and zero taxes. In the past few years, Abu-Raddad has recruited postdocs from Colombia, Japan, Hong Kong and the United States. In all, there are currently around 50 foreign postdocs at the WCMC-Q, up from 5 in 2009. And the trends are similar elsewhere: in the first half of this year, KAUST recruited 15 assistant, associate and full professors from abroad.

The NYUAD's planned campus move will create more than 200 faculty and postdoc positions at all levels of experience, says Pance Naumov, a chemist who moved from Japan to

Abu Dhabi last year. Salehi-Ashtiani says that when he advertised a job five years ago, only a handful of people applied. Now he receives several speculative applications per week.

Abu-Raddad says that he has chosen his postdocs carefully: anyone who thinks that a research stay in the Middle East is a nice,



**"Getting something started from the ground up requires self-motivation."**

Laith Abu-Raddad

relaxed way to make a good salary and polish their CV is mistaken. "I'm expecting my group members to be just as hard-driven as they would need to be to pursue a career in the United States, Europe or Japan," he says. "That research is still relatively new here doesn't mean that things are more easy-going. Getting something started from the ground up requires, in fact, extra stamina and self-motivation."

Those who do venture to the Middle East have plenty to gain. Doha and Abu Dhabi — like neighbouring Dubai — have large expatriate populations, and so have acquired a multicultural identity that makes it relatively easy for foreigners to settle. English is spoken fluently, crime is low and hanging out in restaurants or cafes or on the beach on a Saturday night is commonplace. Religiously ultra-conservative Saudi Arabia is far more restrictive in terms of gender equality and in some other regards — alcohol is forbidden, for example (it is legal but restricted in the UAE and Qatar). However, KAUST operates as a mixed-gender campus and there are no Saudi religious police on its grounds. Women may mingle with men and drive cars while on campus, and need not wear Islamic dress unless they leave the grounds, at which point they must dress modestly.

Women's rights are also restricted in Qatar, where men enjoy privileged status under federal law, and to a lesser degree in the UAE. Cuadros advises anyone considering relocating to the Gulf to go on an exploratory trip or undertake an on-site internship first. His wife, plant physiologist Maria Torres, started postdoctoral research on the date genome at the WCMC-Q in June; she had high hopes, but was also nervous. "When I first arrived in Qatar, I was prepared to find a place that would challenge my cultural boundaries," she says. But she has seen a mixture of cultures, languages and opinions in the lab. "Surprisingly, my experience has not been that removed from my life as a PhD student in the United States." ■

**Quirin Schiermeier** is Nature's Germany correspondent.



**"I feel better-connected here than I did in the United States."**

Diego Cuadros

## COLUMN

## Too much hype

Scientists have to promote their work. But they should fight the pull to oversell it, says **Monika Maleszewska**.

If you had asked me a few years ago what makes a scientist, I would have said curiosity. Now, after almost three years pursuing my PhD, I would probably say political skills. Genuine curiosity does indeed make a good scientist, but the ability to promote one's work makes a successful one.

No matter how driven they are, researchers need more than expertise and bright ideas: they need money. Young scientists seeking funding must be ready to enter a world for which their degrees have not prepared them — a world of administrative and funding-agency politics, in which they must promote their ideas to gain attention and receive grants. But they also must take care to avoid crossing the line between promotion and hype.

In the competitive and expensive world of modern science, researchers cannot afford to toil away on their own. Lone-wolf scientists might have their own vision of innovative, cutting-edge research that will reap rewards. But they will probably struggle to procure enough funding to do that work. A hybrid approach might be to secure money through grant applications for 'fashionable' work (with a pinch of hype where necessary), and to hope that the resulting funding will, somewhere along the way, let the visionary scientist pursue his or her dream project — the one that really has an impact.

As a young scientist learning to navigate these issues, I often hear the following advice: communicate more effectively. If your project is in basic science or is difficult to understand, people say, make it simpler. Nicer. Easier to digest. Yet scientists thrive on precision. So sometimes, when pressed to make our projects sound simpler and more attractive, we choose hype as an easy way out.

Fashionable keywords, which change almost seasonally, help our projects to sound more relevant to the current trends. Society expects science to have applications, so we readily slip in some socially relevant perspective. A bit of exaggeration about expected results or future uses does not bother our consciences, as long as we perceive it as unbridled enthusiasm.

A skilful presentation and a positive attitude can make a huge difference in how a scientist's work is perceived. Give two PhD students the same set of data to present, and



one may put the audience to sleep with dry delivery, whereas the other might spark a vigorous discussion, perhaps winning a collaborator.

Yet despite being under constant pressure as we climb the ranks of academia, scientists must learn to navigate the blurred line between hype and savvy promotion. Young researchers who frequently exaggerate the implications of their findings or make hasty conclusions risk harming their reputations and losing the trust of their colleagues.

I often wish that scientists had the luxury of being able to do basic research just because it is interesting. But reviewers sometimes gravitate towards the projects that provide direct solutions to burning problems, rather than to basic projects with no clear applications. We must give basic projects a chance, especially because breakthroughs are hard to anticipate. That basic science might be closer to a meaningful application than any-one expects.

In the competitive world of scientific funding, researchers often have no choice but to hone their political skills and manage public relations for their research. Ideally, they will be able to do this without taking too much time away from the science. What's clear is that budding researchers must learn how to promote their work, and perhaps even become trendsetters — without resorting to hype. ■

**Monika Maleszewska** is a graduate student in regenerative medicine at the University of Groningen in the Netherlands.

## PUBLISHING

## Fashion rules in physics

Physicists are fad-followers who often pursue the fields with the highest number of recently published papers, says a study (T. Wei *et al. Sci. Rep.* 3, 2207; 2013). The metareview, of around 320,000 articles published by the American Physical Society's Physical Review journals from 1976 to 2009, also found that papers with many authors, which are common in some areas of physics, tend to be on 'hot' research topics. Working in a hot field can be a good strategy, says lead author Jinshan Wu, a physicist at Beijing Normal University, because it can increase citations, attention from peers and research funding. But, he notes, the scientific community can suffer if leaders are not exploring new directions.

## EUROPEAN UNION

## Grant popularity soars

A 50% spike in demand for European Research Council (ERC) Starting Grants has pulled this year's success rate down to 9%, and is likely to lead to changes in some eligibility requirements. ERC president Helga Nowotny says that the increase — to 3,329 applications this year, of which 287 were successful — is attributable in part to research-budget cuts in some European nations. The ERC, based in Brussels, will consider lengthening the period between resubmissions to reduce the flow of applications, she adds. Starting Grants, now in their sixth year, fund researchers who finished their doctorate in the past 2–7 years. This year, the ERC spent nearly €400 million (US\$527 million) on the awards, which are worth up to €2 million each and last for up to five years.

## FUND-RAISING

## Art sales fund science

Sales of stylized scientific images, including micrographs of human-heart and mouse-brain cells, are helping to pay for early-career researchers to travel. Proceeds from an art fair and website ([go.nature.com/aakuwa](http://go.nature.com/aakuwa)) have raised some US\$30,000 so far, enough to send 60 graduate students and postdocs from the University of Michigan in Ann Arbor to conferences. And there is another benefit: "We started this as a fund-raiser, but it turns out to be an awesome public-outreach tool," says Deborah Gumucio, founder of the Michigan Center for Organogenesis, which runs the Bio-Artography project. "People come into our fair booth and we can talk to them about pluripotent stem cells."