



In the Line of Fire

The question on everyone's mind at a recent meeting of scientists and sponsors was literally: How do we survive?

AMMAN—Wissam Al-Hashimi, a senior geologist with Iraq's Ministry of Oil and vice president of the Arab Geologists Association, was looking forward to coming to Jordan for a conference on Iraqi science. Then the grim reality of Baghdad intervened: Late last month, the British-educated scientist was kidnapped from his home and held for ransom. His daughter scraped up tens of thousands of dollars—and paid—but her father was not freed. The family finally tracked him down 2 weeks ago. "They found him in a morgue with two gunshot wounds in his head," says Moutaz Al-Dabbas, an environmental scientist at the University of Baghdad.

In Iraq these days, science often takes a back seat to survival. But the spiral of violence didn't stop several dozen Iraqi scientists from gathering here last week for a meeting* to showcase applied projects that can contribute to the country's reconstruction. One new initiative was unveiled: a virtual digital library of journals and other scientific materials sponsored by the U.S. State and Defense departments. And a fund of several hundred thousand dollars for peer-reviewed projects by skilled Iraqis is in the works. "Our purpose is to keep them doing science, not just sitting idle," says Abdalla Alnajjar, conference co-chair and president of the Arab Science and Technology Foundation (ASTF), a nonprofit

* The International Conference to Engage Iraq's Science and Technology Community in Developing Its Country, 18–20 September.

organization based in Sharjah, United Arab Emirates. But to the frustration of attendees, no one stepped forward with more substantial funds for Iraqi R&D.



Survivor. Nahi Yousif Yaseen, director of the Iraqi Center for Cancer and Medical Genetics Research in Baghdad, heads a 72-person staff.

The corridors were filled with urgent questions, though—about how to help Iraqi researchers do science, and how to help them stay alive. At least 58 professors, 150 medical doctors, and dozens of scientists at institutes and ministries have been murdered since the Iraq war ended in April 2003, says Ahmed Moosa, an engineering professor at the Uni-

Starting over. Scientific labs, stripped by looters in 2003, are struggling to recover.

versity of Technology in Baghdad. Other Iraqi scientists corroborate his figures. "We feel there's a campaign to kill every scientist in Iraq," says Nahi Yousif Yaseen, director general of the Iraqi Center for Cancer and Medical Genetics Research in Baghdad. Hundreds more have been held for ransom.

Security is so poor that it prompted soul-searching at the meeting about whether grants that keep scientists in Iraq are even morally defensible. "I sometimes question the ethics of what we're doing," admits conference co-chair Arian Pregenzer, a senior scientist at Sandia National Laboratories in Albuquerque, New Mexico. Any grants for work in Iraq "are keeping scientists in a war zone," she says. "It's a terrible dilemma."

Death trap

The first shock hit Iraqi scientists after Saddam Hussein's fall, when an orgy of looting engulfed the country. Universities and research institutions were devastated. "They took everything," says Yaseen, who founded the country's only cancer research institute in 1995. The looters made off with refrigerators, furniture, and electrical fittings. "All we had left was a damaged building," he says.

Iraq's interim government in late 2003 gave Yaseen enough money to buy second-hand equipment and pay his 72 staff members. Since then, among other accomplishments, they've established three cancer cell lines, including one from brain cancer. "The only scientific research center that's working well now in Baghdad is ours," he boasts.

But it's not clear how long the cancer center will last. One staff member was murdered last year, and in recent weeks Yaseen has received a blunt warning: several envelopes with bullets inside. "Somehow they think we're helping the American army," he says. Four bodyguards protect him and escort his three children to school and university. Yaseen, who came to Jordan for the conference, says he calls home 10 or 12 times a day to check on his family. The stress is getting to be too much. He confesses that he is now looking for a job outside Iraq: "We have to leave—or we will face death."

All Iraqi scientists must watch their backs, but some appear to be more exposed than others. Mustansiriya University, with a campus in the heart of Baghdad, has been particularly hard hit. "Many professors have been killed there," says Al-Dabbas. Earlier this month "five of my professors applied for 1-year sabbaticals," says Ali Hassan Mahawish, dean of the College of Engineering at Mustansiriya. Last May, he says, a bomb on campus killed