Hub of alternative energy

The Energy Biosciences Institute isn’t built yet, but it is already transforming the field of renewable energy and creating new research positions for scientists. The US$500-million agreement was announced on 8 February by energy giant BP with the University of California, Berkeley, the Lawrence Berkeley National Laboratory (LBNL) and the University of Illinois at Urbana-Champaign.

At least 25 research groups — comprising some 200 scientists, technicians, postdocs and graduate students — will need a broad range of expertise. Interest is already high, and recruitment will begin later this year. Topics include synthetic biology, plant genetic engineering, functional genomics, microbiology, biochemistry and even carbon sequestration in a comprehensive, carbon-neutral approach to biofuel development.

“This is like the Manhattan Project for bioenergy,” says one of the project’s coordinators Jay Keasling. Lee Lynd, a biofuels expert at Dartmouth College in Hanover, New Hampshire, estimates that the project roughly doubles the cumulative investment in energy biotechnology worldwide.

One focus will be on developing energy-producing crops. Berkeley wants to hire seven new faculty members, particularly in plant-based research, says Keasling. The main thrust for Illinois will be feedstock development of potential energy crops, including switch grass, and assessing their environmental impact. It plans to fund at least three faculty positions as well as the 30–45 postdocs and postgraduate support staff supported by BP. Participants at Illinois will use the new Institute for Genomic Biology, designed for cross-disciplinary research.

“One of the reasons BP wanted to do this is the lack of trained scientists in biofuels development,” says Fleming Graham, deputy director of the LBNL. But some have met BP’s involvement with scepticism (see Nature 445, 68B; 2007). “When a university and a national lab get involved with a big company, sometimes hackles can be raised,” acknowledges Graham, although he adds that the response so far has largely been positive.

The Energy Biosciences Institute is likely to have a strong influence on future biofuels development. Meanwhile, Graham and others are already seeking federal funding for a separate, six-partner Joint Bioenergy Institute, in the hope of making California’s Bay Area the world leader in fundamental energy research.

Virginia Gewin

POSTDOC JOURNAL

On resilience

If doing cutting-edge research is like running a marathon, then in the field of molecular biology, DNA cloning — inserting known sequences of DNA into an organism to amplify them — is the equivalent of tying your shoelaces. A basic skill that you learn as an undergraduate, DNA cloning is usually the starting point for getting more complex experiments up and running. This procedure is a familiar routine. So when I recently encountered a problem it was like falling over my own two feet. I was surprised and embarrassed.

Getting my momentum back was a process. First there was denial: “This can’t be happening.” Then came anger: “#*$@!& protocol!” Bargaining and abject begging followed: “Please, just let this experiment work…” Next came depression: “I’m never going to finish this project — my career is over.” And, finally, acceptance settled in: “It’s time to re-evaluate my strategy and to move on.”

I had to get back on track after being thrown off course by this unexpected obstacle. Despite a slightly bruised ego, I picked myself up, dusted myself down and kept going, and my resilience paid off. Relief and redemption came in the form of small bacterial colonies. Back on my feet, I’m up and running once again.

Maria Thelma Ocampo-Hafalla is a research fellow at Cancer Research UK’s London Research Institute.

Virginia Gewin