

## Growing Green Jobs

### Biofuels certificate program trains workers for new jobs in biofuels industry

With unemployment in the U.S. now exceeding 9 percent and gas prices over \$4 a gallon once again, job creation and our dependence on foreign oil are at the top of our nation's concerns. But a new program at UC San Diego hopes to address both of these issues for San Diego and eventually the State of California.



*Cyanobacteria*

Earlier this month, the first 50 graduates of an innovative program to retrain workers for the new green economy received their certification today to work as general science technicians in the rapidly expanding biofuels industry in the San Diego and Imperial County region. Thirteen of the graduates and other participants have already landed jobs or are headed to graduate school for further training.

“This program is not only training workers for new jobs in the local economy, it will eventually help our nation become less dependent on foreign oil,” said Stephen Mayfield, a professor of biology at UC San Diego and director of the San Diego Center for Algae Biotechnology, or SD-CAB. “The bioenergy sector will eventually be creating millions of jobs nationwide. Our biggest challenge will be to keep those jobs in California.”

“With this training, these students are prepared to support the region's growing biofuels companies and help San Diego continue to be a leader in the biofuels sector,” said Jason Anderson, vice president of CleanTECH San Diego, a non-profit organization that is helping to accelerate San Diego as a world leader in the clean technology economy.

The students, who began their technical training earlier this spring with classes at UC San Diego Extension and Mira Costa College, are the first graduates of a program funded by a two-year, \$4-million grant from the state's Department of Labor under the EDGE Initiative—Educating and Developing workers for the Green Economy. The grant involves the work of a number of local



Mayfield -- a professor of biology at UC San Diego and the San Diego Center for Algae Biotechnology (SD-CAB).  
Jepsen

partners, which include UC San Diego, San Diego State University, Mira Costa College, SD-CAB, CleanTECH San Diego, BIOCUM Institute, BIOCUM, San Diego Workforce Partnership and the San Diego Regional Economic Development Corporation.

Graduates of the program are eligible for paid, full-time internships lasting from four to eight weeks at biofuels and industrial biotechnology companies within San Diego and Imperial counties. The costs of those internships are also paid by the grant.

One of the graduates, Ayman Aziz, previously worked for oil companies in the Middle East. He said he applied to the EDGE program—and plans to make his next career in the biofuels industry locally with the help of the training he received—when it became apparent that San Diego had become one of the world’s leaders in biofuels research and development. A recent analysis, conducted by SANDAG,

found that for the algal biofuels sector alone, the industry provides the region with 410 direct jobs and \$56 million in direct economic activity and \$108 million in total economic activity annually.

“It’s critical that we build the research and development infrastructure for the biofuels industry here,” said Mayfield. “Right now, we have a head start on the rest of the world and we can’t afford to lose that.”

Thanks to the \$4-million EDGE grant, San Diego has also become a national leader in training biofuels technicians. Mayfield said feedback from the program’s graduates, faculty and local biofuels companies will lead to a redesign of the curriculum for the next class of science biofuels technicians, which will run from March through August of 2012. Once the program is perfected, an on-line, web-based curriculum will be made available to any California university or college, and through enrollment in UC San Diego Extension, to anyone around the world who wants to gain basic science training to enter the biofuels industry.



Ayman Aziz -- a student in the biofuels certificate program

“Nationwide there is a need for skilled workers to participate in the development and commercialization of new technologies, as we can see in the field of alternative energies,” said Hugo Villar, director of science and technology at UC San Diego Extension. “The university has been a



*director of science and technology at UC San Diego*

leader in helping adult learners acquire new knowledge and skills that allow them to transition out of stagnant areas of the job market and participate into more vibrant areas as we are doing now with biofuels.”

The EDGE grant is also supporting the development next year of a master’s degree in bioenergy at UC San Diego, a partnership between the university’s Division of Biological Sciences and the Rady School of Management.

Prospective students interested in applying for next year’s EDGE program and biofuels and industrial biotechnology companies interested in hiring interns from the program should contact Karen Overklift at the BIOCUM Institute (858) 455-0300, extension 104 or [koverklift@biocom.org](mailto:koverklift@biocom.org).

Keep up with campus news by subscribing to  
*This Week @ UC San Diego*