



Green Tech Entrepreneurship Learn Lab-to-Lab

Mark Twain once called Lake Tahoe the “fairest picture the whole earth affords.” Today the protection and preservation of the planet and its natural resources has floated to the top of society’s collective consciousness and concerns. Moving with that current, industry and investors have jumped aboard, casting out lines for the most promising earth-friendly technologies and ideas.

Meanwhile university researchers in a wide spectrum of fields continue to make breakthrough discoveries that could make the world a better place, but only if the advances are pushed off the lab bench and into the marketplace.

With North America’s largest alpine lake as a fitting backdrop, the UC Davis Center for Entrepreneurship in March held a first-of-its-kind, one-week workshop focused on training researchers and business students on what it takes to literally bring scientific discoveries to life.

The Green Technology Entrepreneurship Academy brought together more than 40 science doctoral students, business students and professors from across the United States, to the Tahoe Center for Environmental Sciences, a UC Davis-affiliated, state-of-the-art research facility built using best practices in green construction.

TURNING GREEN TECH INTO GREENBACKS

For five intensive days, faculty, tech transfer experts and mentors from the business and venture capital communities held seminars and one-on-one sessions with the entrepreneurial-minded attendees to teach them the principles of innovation and new business development.

Researchers came from more than 20 top institutions, including MIT, Carnegie Mellon University, the University of Michigan, the University of Virginia and the University of North Carolina at Chapel Hill. They represented many different disciplines, from polymer chemistry, pharmacology and electrical engineering, to geography, architecture and economics, but all are involved in sustainability.

Andrew Hargadon, director of the entrepreneurship center and the UC Davis Energy Efficiency Center, said the need for practical solutions to energy and resource conservation has become a major issue with the growing global environmental crisis.

“The challenge lies in translating environmentally sustainable technologies and research into viable business ventures,” said Hargadon, an associate professor at the Graduate School of Management and its director of technology management studies.

Entrepreneurs Market Path

Academy Draws Researchers and MBA Students from Across U.S.



“For most researchers interested in bringing a product to market, the problem isn’t a lack of intelligence or ideas,” Hargadon explained. “It’s mostly a need to understand basic marketing and find the right contacts. So a little coaching can pay off big.”

The Kauffman Foundation, which works to further understanding of the powerful economic impact of entrepreneurship, provided major funding as the founding sponsor of the academy. Other sponsors included the National Science Foundation, PG&E, Sierra Angels and the UC Davis John Muir Institute of the Environment.

continued on next page

1. Lesla Mitchell, a vice president with the Kauffman Foundation, the founding sponsor of the academy, speaks about Kauffman’s frontier work to influence the advancement of innovation from universities into the commercial market. Because of the academy’s success, the foundation will continue to support it over the next two years.

2. At the academy, UC Davis MBA student Josaphine Tuchel collaborates with Yi Zhu, a UC Davis Ph.D. candidate in biological and agricultural engineering, on their business plan for an energy-efficient infrared dehydration system for fruits and vegetables.

3. On the final day of the academy, a panel of venture capitalists, financiers and angel investors offer tips and feedback to participant teams that pitched their new business ideas. The panel included (from left to right) Matt Jones of Nth Power, Min Berbon of Unilever Technologies, John Kunhart of American River Ventures, Marianne Wu of Mohr Davidow Ventures, and Jeff Nash and Stan Thomas, both of the Sierra Angels.

“Science and research is only as good as our ability to bring it to the forefront of an innovative marketplace.”

– Jim Gibbons, Nevada Governor



4

Nevada Governor Jim Gibbons, who addressed the academy, told participants: “Science and research is only as good as our ability to bring it to the forefront of an innovative marketplace.”

MANAGING THE DYNAMICS OF ENTREPRENEURSHIP

During the week, the researchers and MBA candidates formed teams to slash through business ideas based on cutting-edge research. They refined the winners, sought guidance from mentors and investors, and built new business plans. On the last day, teams pitched those plans to angel investors and venture capitalists, who critiqued their presentations.

UC Davis MBA student Josaphine Tichel teamed with campus colleague Yi Zhu, a Ph.D. candidate in biological and agricultural engineering, on a business plan for an energy-efficient infrared dehydration system for fruits and vegetables. Tichel said the Green Technology

Entrepreneurship Academy took the project to a whole new level.

“There’s a great deal of value that’s added by bringing the two groups—researchers and business people—together,” Tichel said. “When thinking about where to go next, the two types of people have different questions. You get a broader view of the situation. There are more angles.”

Beyond fine-tuning her project, Tichel said she enjoyed the opportunity to listen and learn about others’ business ideas. “It wasn’t passive,” she said. “I got to ask the questions that would help them develop their idea better and gained new insight for myself.”

Chris Grandlic, a graduate student in the Department of Soil, Water and Environmental Science at the University of Arizona, said he’ll look back at the academy as a revelation.

“Before this experience, I had a hard time imagining how to begin transferring technology into the field or market,” he

Tony Perkins Bringing GoingGreen Conference to UC Davis September Summit to Highlight Emerging Green and Clean Tech Trends

by Tim Akin

With the Sacramento region poised to become a leading center for green and clean technology, UC Davis will co-host a conference on campus this fall to showcase the most promising environmentally friendly and energy-efficient innovations and new entrepreneurial opportunities.

Tony Perkin’s AlwaysOn network will bring the first annual GoingGreen Executive Summit to the Mondavi Center on September 10–12. The two-and-a-half-day event, which is co-presented by the Graduate School of Management’s Center for Entrepreneurship, will focus on creating “greener pastures for global business,” according to AlwaysOn organizers.

Green technology innovators are transforming trillion-dollar industries, shaking the very foundations of the global energy, water, agriculture, transportation, construction, manufacturing and waste recycling establishments. UC Davis researchers are



on the cutting edge of all these areas, and the UC Davis Center

for Entrepreneurship serves as a springboard to turn their lab breakthroughs into real-world solutions.

Against this backdrop, GoingGreen will feature sessions on such hot topics as solar and wind power, biofuels, fuel cells and next-generation cars, batteries and power storage systems, distributed energy infrastructure, photovoltaics, water technology and treatment, smart green buildings and developing smart green cities.

“We are proud to introduce a conference that is focused on debating and discussing the market drivers and entrepreneurial forces that are creating new opportunities in emerging green technologies,” said Perkins. “I am looking forward to returning



said. "But now I have a list of 45 contacts that are like mentors and who I can contact for advice. Thanks to the entrepreneurship academy, I have a network and a place to start."

Financiers also came away impressed. Investor Bob Goff, who rallied his Sierra Angels to help plan and organize the academy, said he witnessed a sea change in the researchers' mindsets.

"The advancement in their understanding between the beginning of the workshop and the presentations at the end of the week was truly remarkable," said Goff.

A handful of the teams piqued investors' interest in providing potential seed funding. Hargadon said the success of this year's academy has sparked the sponsors to support two future five-day programs on green technology. Entrepreneurial researchers want the experience and training—and there's a growing market demand for the technology.

to UC Davis to partner with a campus that has deep and distinctive research and expertise to tap into."

Perkins has established himself as a prominent opinion leader in the technology business and investment editorial world. He attended UC Davis as an undergraduate before heading to Silicon Valley Bank and later founding *Red Herring* magazine. He co-wrote *The Internet Bubble: Inside the Overvalued World of High-Tech Stocks*, which predicted the dot-com bust and warned investors to get out quick.

Four years ago Perkins launched AlwaysOn as a highly interactive online network concentrated on the sweet spots in the technology markets where innovation is creating new business opportunities. AlwaysOn also holds executive-level conferences in Hollywood and New York and at Stanford University. GoingGreen is Perkins' newest summit.

AlwaysOn expects several hundred attendees, including green-tech CEOs, business development officers, eminent university researchers, venture capital and private-equity

4. Teams received one-on-one mentoring from leading venture capitalists and business development experts in their fields. Self-described "ecological investment bankers" Mark White (left), an associate professor at the McIntire School of Commerce at the University of Virginia, and his economics student, Alan Webb (right), get advice from Matt Jones (middle), a partner with Nth Power, an energy industry investment firm. White and Webb want to provide valuation and advisory services on emerging markets for ecosystem services.

5. The Green Technology Entrepreneurship Academy in March drew more than 40 researchers from top institutions across the country to the Tahoe Center for Environmental Sciences, a new \$24 million facility built with state-of-the-art "green" innovations. The goal of the five-day workshop: teach the researchers how to how to take their environmental solutions from the lab to the marketplace.

But bringing a good idea to fruition is no cake walk. Will Rosenzweig, co-founder of the Republic of Tea and co-founder of Physic Ventures, an early-stage venture capital fund focused on health, wellness and sustainable living investments, warned of the challenges faced by innovators—even in an inviting market for green technology.

"There are always moments on the hero's journey where you want to turn back," Rosenzweig told participants in a keynote address halfway through the academy. "Use the principles you're leaving with this week—how to quantify, due diligence, testing your ideas—and remember even solid ideas get turned down over and over and over again."

Overcoming the obstacles and exploiting niches are the keys to success, he told the academy: "Most exciting business ventures happen at the intersection of converging fields—put yourself into those places." 📺

investors, and leading media and bloggers. Another 20,000 Webcast viewers from more than 100 countries are also expected to tune in and interact with the program.

At the conference, AlwaysOn's editors will honor the GoingGreen 100 Top Private Companies. Fifty of the top executives from those companies will pitch their market strategies to a panel of industry experts in a "CEO Showcase."

"I am very bullish on the Sacramento region as a budding (green-tech) innovation center," Perkins said in a recent interview with the *Sacramento Bee*, "and firmly believe this opportunity bodes very well for long-term economic growth and job creation." 📺

For more information, to register or to nominate a GoingGreen 100 company, visit

 <http://alwayson.goingon.com/ecom/productview/7539>

Students Craft Sustainability Seminar

“Business is the only mechanism on the planet today powerful enough to reverse changes necessary to reverse global environmental and social degradation.”

— Paul Hawken, environmentalist, entrepreneur, journalist, best-selling co-author of *Natural Capital*, and co-founder of the Smith & Hawken garden supply company.

In his latest book, Paul Hawken describes a convergence of the environmental and social justice movements as the largest social movement in history, and the fastest growing movement, with more than a million organizations in every country in the world.

As pressure builds for corporations of every size to step up efforts to protect the planet and consider the impact of commerce on society and the environment, like-minded UC Davis MBA students initiated an innovative new course this spring on sustainable and responsible business.

The seminar offered a forum to explore, discuss and research how sustainability and corporate social responsibility influence strategic decision making. Professor Richard Dorf led the seminar, which was limited to 25 students to encourage an interactive learning experience.

California’s historic effort to cut greenhouse gas emissions. Alumni Kyle Salyer ’06, senior vice president of portfolio management at MicroCredit Enterprises, returned to the School to tell how small business loans to poor entrepreneurs in developing countries are creating jobs and economic growth.


The students also tapped the research expertise of Graduate School of Management faculty. Dean Nicole Woolsey Biggart addressed the practical hurdles in standardizing green construction in commercial buildings, an industry she has studied extensively. In the final week of the class, Professor Brad Barber, director of the UC Davis Center for Investor Welfare and Corporate Responsibility and an internationally recognized finance expert, spoke about socially responsible investing and shareholder activism.

“The diverse line-up of weekly speakers ranged from climate change experts to company directors of corporate social responsibility, and the student projects ran the gamut from green washing and social metrics to solar power. Whether you are training your brain for stakeholder engagement or recognizing the risks and opportunities inherent in a global economy, this course offers the knowledge and experience you will find indispensable as a future business leader.”

— First-year MBA student Daniel MacDonald

The UC Davis Net Impact chapter spearheaded the effort to develop the curriculum and gain approval of the course, which received strong faculty and student support. Net Impact is a global association of more than 10,000 graduate students and professionals committed to using business to improve the world.

Students invited a roster of notable guest speakers to share their knowledge and experiences, and answer questions. The course kicked-off with a presentation by Raj Sapru, manager of San Francisco-based Business for Social Responsibility, which provides advisory services to Fortune 500 companies. Daniel Sperling, director of the UC Davis Institute of Transportation Studies, talked about his efforts to trim the carbon “fat” out of vehicle fuels and

The same day Barber spoke in the class, May 17, the School hosted an event, “Building a Sustainable Future Together: Changing the World Through Business,” to strengthen and forge new campus and business partnerships to work toward that goal. At the event, Dean Biggart recognized the extraordinary accomplishments of the members of Davis Net Impact, which was presented with the “Best Small School Chapter of 2006” award at Net Impact’s annual conference in Chicago in October. 

(First-year MBA students Jessica Carter and Daniel MacDonald, co-presidents of the UC Davis Net Impact chapter, contributed to this article.)

Find more information about the School’s Net Impact chapter @

www.davisnetimpact.org

