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## ***Photovoltaic Applications in Horticulture and Agriculture***

Buehler Alumni Center, Alpha Gamma Rho Room

University of California, Davis

**May 16, 2011      8:00 am – 6:00 pm**

*UCNFA in partnership with*



This program explores opportunities related to plant production in the shadow of solar photovoltaic (PV) panels in agriculture and horticulture. Farms, nurseries and ranches represent open space where traditionally all solar energy harvesting has been done with plants. However, in terms of economic biomass produced per solar energy unit, the use of plants alone is relatively inefficient. Significant technological advances in photovoltaics have recently generated strong interest in the use of PV electricity in conjunction with agricultural operations.

Professor Heiner Lieth of the Plant Sciences Department at UC Davis will present the results of his research on plant growth in a shade house constructed with Solyndra solar panels.

Continuing Education Units applied for: Certified Crop Advisor (CCA)

### Agenda:

<b>Time</b>	<b>Title</b>	<b>Description</b>
8:00am	Registration	
8:30am	Introductions	
8:45am	Introduction to Photovoltaic Electricity Production	How PV works Components of a typical PV system Various PV Technologies Benefits of PV
9:30am	PV Applications in Agriculture	Overview of PV applications on shade houses and greenhouses and their benefits Development of PV greenhouses in Italy and Europe Challenges and opportunities in California and the US
10:15am	Break	
10:30am	Growing Plants Under PV Panels in Horticulture	Overview of greenhouse and nursery production and horticultural crops Introduction to UC Davis/Solyndra shade house research project
11:30am	Lunch and Tour to Shade House	Tour led by Professor Lieth
1:30pm	Horticultural Plant Production Under Solyndra Shade Panels - Research Results	Presentation of research results from UC Davis/Solyndra shade house project Discussion of specific nursery products
2:30pm	Energy Policy and Incentives	California Energy Policy 101 Currently available rebate and incentive programs
3:30pm	Break	
3:45pm	Changing the Face of Horticulture and Field-Based Agriculture: New Opportunities for Sustainable Plant Production	The work by Prof. Lieth's group suggests how the combination of PV and soilless plant production can result in increases in production while reducing agricultural pollution.
4:30pm	Q&A	
5:00pm	Networking Reception	
6:00pm	Adjourn	



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Please register me for the following educational program:

Photovoltaic Applications in Horticulture and Agriculture (Regular) \$75.00 X \_\_\_\_ (# of people) = \$ \_\_\_\_

Photovoltaic Applications in Horticulture and Agriculture (Student) \$45.00 X \_\_\_\_ (# of people) = \$ \_\_\_\_

Name		Company
Daytime Phone	Fax	Address
Email address		City State Zip

**Payment by Check:** Mail this form and your registration fees, made payable to **UC Regents**, to  
 UCNFA, C/O Linda Dodge  
 Plant Sciences Dept. Mailstop 6  
 University of California  
 One Shields Ave.  
 Davis CA 95616



University of California  
 Agriculture and Natural Resources



(If sending a check within 10 days of the program, please notify Linda Dodge at 530-752-8419)

**Credit card payment:** Register online at <http://ucanr.org/sites/UCNFA/>

**Credit card payment:** Mail this completed form to the UCNFA address above or fax in your registration to 530-752-8419

**Payment by Credit Card:** \_\_\_ VISA \_\_\_ Master Card \_\_\_ Am Ex \_\_\_ Discover

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**Registration Fees:** Prices listed are per person. A confirmation will be emailed or faxed to registrants whose registration is received up to 5 days prior to the seminar. **Late Registration:** Late and at-door registration will be accepted only if space is available and meals cannot be guaranteed. **Refund Policy:** Refund requests must be received in writing (fax & email is acceptable).

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**Please contact the UCNFA office at 530-752-8419 (phone/fax) (email: [lldodge@ucdavis.edu](mailto:lldodge@ucdavis.edu)) if you have special needs or require assistance**