



LED SYMPOSIUM

Developing LED Lighting Technologies and Practices for Sustainable Specialty-Crop Production

February 19 and 20, 2015
The University of Arizona – Controlled Environment Agriculture Center
1951 E. Roger Road, Tucson, AZ 85719

PROGRAM (schedule subject to change)
Preregistration required

Thursday February 19th

- 3:00 pm-5:00 pm CEAC Facilities Tour (optional)
Univ. of Arizona Controlled Environment Agriculture Center (CEAC)
- 5:30 pm-7:30 pm Welcome reception at a local restaurant 'Union Public House'
Light appetizers & Cash bar
Address: 4340 N. Campbell Ave. (walking distance from CEAC)

Friday February 20th

- 8:00 am-8:15 am Welcome and Introduction – Cary Mitchell and Chieri Kubota

Keynote Presentation

Moderator: Cary Mitchell (Purdue University)

- 8:15 am-9:00 am “Toward an optimal spectral quality for plant growth and development:
Interactions among species and photon flux”
Bruce Bugbee - Utah State University

Session 1: Plant responses under supplemental LED lighting in greenhouses

Moderator: A.J. Both (Rutgers University)

- 9:00 am-9:25 am “Using LEDs to regulate flowering of photoperiodic crops”
Erik Runkle - Michigan State University
- 9:25 am-9:50 am “Can we increase the production efficiency of an indeterminate high-wire
tomato crop with LED intrac canopy supplemental lighting?”



Celina Gómez and Cary Mitchell- Purdue University

9:50 am-10:05 am **BREAK**

10:05 am-10:30 am “Greenhouse supplemental light quality for vegetable nurseries”
Chieri Kubota and Ricardo Hernández – the University of Arizona

10:30 am-10:45 am “Increasing the Value of Horticultural Crops using LEDs”
Michael Dzakovich and Cary Mitchell - Purdue University

10:45 am-11:30 am Discussion (all speakers)

11:30-12:30 pm **LUNCH**

Session 2: Plant responses under sole-source LED lighting

Moderator: Erik Runkle (Michigan State University)

12:30 pm-12:55 pm “Blue:Red photon flux ratios for the production of vegetable transplants”
Ricardo Hernández - The University of Arizona

12:55 pm-1:20 pm “Comparison of light qualities and daily light integrals for sole source
lighting of bedding plant plugs and microgreens”
Roberto Lopez and Joshua Craver - Purdue University

1:20 pm-1:35 pm “Tomato transplant production under sole-source LEDs”
Diana Vercillo – Grafted Growers

1:35 pm-1:50 pm “Plant production under LEDs – an overview of worldwide applications”
Ron DeKok – Philips Lighting

1:50 pm-2:35 pm Discussion (all speakers)

2:35 pm-2:50 pm **BREAK**

Session 3: LED technology development, evaluation, and economics

Moderator: Ricardo Hernández (The University of Arizona)

2:50 pm-3:15 pm “LED economics, consumer issues and life impact assessment”
John Burr - Purdue University

3:15 pm-3:40 pm “Measuring LED lamps for horticulture”
A.J. Both - Rutgers University

3:40 pm-3:55 pm “LED technology development”



Robert Morrow - ORBITEC

- 3:55 pm-4:10 pm “Advanced LED technology and photobiology – much more than energy savings”
Titta Kotilainen - Valoya
- 4:10 pm-4:50 pm Discussion (all speakers)
- 4:50 pm-5:00 pm Concluding remarks



United States Department of Agriculture
National Institute of Food and Agriculture

This LED Symposium is organized as part of the multi-state project “Developing LED Lighting Technologies and Practices for Sustainable Specialty-Crop Production” funded by the USDA NIFA Specialty Crop Research Initiative (No: 2010-51181-21369)

Project PD/PIs

Cary A. Mitchell (Purdue University, SCRI LED Project Director)
A.J. Both (Rutgers University)
John F. Burr (Purdue University)
Chieri Kubota (The University of Arizona)
Roberto Lopez (Purdue University)
Robert C. Morrow (Orbital Technologies Corporation)
Erik S. Runkle (Michigan State University)

Local organizers

Chieri Kubota & Ricardo Hernández (University of Arizona, CEAC)



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