2016 Greenhouse Crop Production & Engineering Design Short Course
March 20 - 25, 2016

Located at the Westward Look Wyndham Grand Resort and Spa
245 East Ina Road, Tucson, Arizona 85704

http://ceac.arizona.edu/greenhouse-crop-production-engineering-design-short-course

Sponsored By:

Meister Media Worldwide

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Sunday, March 20, 2016, Afternoon

Arrival, Set-Up, Registration, Welcome Reception and ‘Get Acquainted’ Day

2:00 – 5:30 pm  Exhibitor Set-Up
3:30 – 6:00 pm  Registration Table Open
3:30 pm      Exhibitor Gallery Open until 7:30 pm
5:30 pm      Cash Bar Opens
5:30 – 7:30 pm Welcome Reception
7:30 pm      Invited Speakers Meeting
Monday, March 21, 2016, Morning  Moderator: Merle Jensen
“Plant Production I within Hydroponics & Controlled Environments”

7:00 – 8:00 am  Breakfast
8:00 – 8:15 am  Welcome and Introductions: Gene Giacomelli
8:15 – 9:00 am  11 Critical Factors to Consider When Producing Under Cover
  Dr. Merle Jensen, Greenhouse Vegetable Consultants
9:00 – 9:45 am  Tomato Varieties for Greenhouse
  Dr. Pat Rorabaugh, University of Arizona
9:45 – 10:30 am  Leafy Crop Varieties for Greenhouse
  Dr. Mike Evans, University of Arkansas
10:30 – 10:45 am  Break - Visit your Exhibitors
10:45 – 11:15 am  Discussion of Previous Lectures - Question & Answers
11:15 – 11:45 am  6, 5–minute Exhibitor presentations
11:45 – 12:00 am  Announcements
12:00 – 1:00 pm  Lunch

Monday, March 21, 2016, Afternoon  Moderator: Pat Rorabaugh
“Plant Production II within Hydroponics & Controlled Environments”

1:00 – 1:45 pm  Greenhouse Pest Problems: Common insects, mites & diseases
  Dr. Stacy Tollefson
1:45 – 2:30 pm  Integrated Pest Management
  Karin Tifft, Greenhouse Vegetable Consultants, LLC
2:30 – 2:45 pm  Disinfectants
  Karin Tifft, Greenhouse Vegetable Consultants, LLC
2:45 – 3:15 pm  Discussion of Previous Lectures - Question & Answers
3:15 – 3:30 pm  Break, Visit your Exhibitors
3:30 – 3:45 pm  3, 5-minute Exhibitor presentations
3:45 – 4:30 pm  Plant Nutrition Basics
  Dr. Pat Rorabaugh
4:30 – 5:15 pm  Working with Substrates – chemical and physical properties
  Dr. Mike Evans, The University of Arkansas
5:15 – 5:45 pm  Discussion of Previous Lectures - Question & Answers

Dinner – on your own
**Tuesday, March 22, 2016, Morning**  
Moderator: Murat Kacira  
“Lighting for Growing Crops in Controlled Environments”

7:00 – 8:00 am  Breakfast  
7:55 – 8:00 am  Welcome & Announcements  
8:00 – 8:45 am  Greenhouse Structures & Glazing  
    - Dr. Murat Kacira, University of Arizona  
8:45 – 9:30 am  Plant Lighting Basics and Applications  
    - Dr. Ricardo Hernandez, North Carolina State University  
9:30 – 9:45 am  Discussion of Previous Lectures - Question & Answers  
9:45 – 10:00 am  3, 5-minute Exhibitor presentations  
10:00 – 10:15 am  Break, Visit your Exhibitors  
10:15 – 11:00 am  LED Lighting for Controlled Environment Agriculture  
    - Dr. Rebecca Knight, Illumitex, Inc.  
11:00 – 11:45 am  Business Lighting Talk  
    - Chris Higgins, Hort Americas  
11:45 – 12:00 pm  Discussion - Question & Answers  
12:00 – 1:00 pm  Lunch

**Tuesday, March 22, 2016, Afternoon**  
Moderator: Kevin Fitzsimmons  
“Alternative Systems and Crops for Controlled Environments”

1:00 – 1:45 pm  Intro to Aquaponics  
    - Dr. Kevin Fitzsimmons, University of Arizona  
1:45 – 2:30 pm  An Engineers View of Recirculating Aquaculture and Aquaponic Systems  
    - Dr. James Ebeling  
2:30 – 3:00 pm  Discussion of Previous Lectures - Question & Answers  
3:00 – 3:15 pm  Coffee Break  
3:15 – 4:00 pm  Greenhouse Strawberry Production  
    - Mark Kroggel, University of Arizona  
4:00 – 4:45 pm  Growing Crops in High Tunnels  
    - Ursula Schuch, University of Arizona  
4:45 – 5:15 pm  Discussion of Previous Lectures - Question & Answers  

Dinner – On Your Own
Wednesday, March 23, 2016, Morning  Moderator: Gene Giacomelli
“Indoor Growing Session”

7:00 – 8:00 am  Breakfast
7:55 – 8:00 am  Welcome & Announcements
8:00 – 8:45 am  Introduction to Growing Plants Indoors  
Dr. Ricardo Hernandez, North Carolina State University
8:45 – 9:30 am  Getting Started on Urban Farming  
Paul Hardej, Illumitex, Inc.
9:30 – 10:00 am  Discussion of Previous Lectures - Question & Answers
10:00 – 10:15 am  Break  Visit your Exhibitors
10:15 – 11:00 am  Ecological Controlled Environment Farming  
Jamie Byron, Grove Labs
11:00 – 11:45 am  Building an Ag Startup Company  
Gabe Blanchet, Grove Labs
11:45 – 12:00 pm  Discussion of Previous Lectures - Question & Answers
12:00 – 1:00 pm  Lunch

Wednesday, March 23, 2016, Afternoon  Moderator: Merle Jensen
“Experiences in Production, Marketing and Business Establishment”

1:00 – 1:45 pm  Greenhouse Food Safety  
Kurt Nolte, University of Arizona
1:45 – 2:30 pm  Organic Seedling Production  
Jose Chen Lopez, Premier Tech Horticulture
2:30 – 3:00 pm  Discussion of Previous Lectures - Question & Answers
3:00 – 3:15 pm  Break, Visit your Exhibitors
3:15 – 4:00 pm  Succeeding as a Small Greenhouse Grower  
Todd & Tricia McPhail, Lynden, WA, McPhails Greenhouses
4:00 – 4:45 pm  Hi Tech- Hi Touch: From Farm Markets to Supermarkets  
Merle Jensen, Greenhouse Vegetable Consultants, LLC
4:45 – 5:15 pm  Discussion of Previous Lectures - Question & Answers

Dinner – On Your Own
Thursday, March 24, 2016
Hands-on Workshops at CEAC

7:00 – 8:00 am  Breakfast
8:00 am  Bus Leaves to CEAC for Workshops (Same Workshops Repeated 3 Times)
8:30 – 10:15 am  **ROUND ONE WORKSHOPS** [select one to attend in each of 3 rounds]
   - Basics of Fertigation: Steve Poe, Neal Barto
   - Tomato Crop Maintenance Using High Wire Systems: Pat Rorabaugh
   - Growing Lettuce and Herbs in Floating System: Will Kacheris
   - Sensors and Controls Basics: Murat Kacira
   - Strawberry Greenhouse: Mark Kroggel
10:15 – 12:00 pm  **ROUND TWO WORKSHOPS** [select one workshop from list above]
12:00 – 1:00 pm  Lunch at CEAC
1:00 – 2:45 pm  **ROUND THREE WORKSHOPS** [select one workshop from list above]
2:45 – 3:45 pm  **Extra Round** – [select any/all]
   - Mobile Mushroom Unit: Barry Pryor
   - Informal Meetings/Discussions for previous Workshops [attend any/all]
      - Tomato Crop Production: Pat Rorabaugh
      - Lettuce/Herb Production: Will Kacheris
3:45 pm  Visit to Aquaponics Greenhouse
         Dr. Kevin Fitzsimmons
5:30 pm  Return to Westward Look
Dinner – On Own

Friday, March 27, 2015
7:15 – 8:15 am  Breakfast

**OPTIONAL COMMERCIAL GREENHOUSE TOUR (Fee Required)**

Wholesum Family Farms
2811 N. Palenque Avenue Suite 3
Nogales, AZ 85621
http://www.wholesumharvest.com/

8:30 am  Leave Hotel for Commercial Greenhouse Tour
Lunch  Box lunch provided on return route
2:00 pm  Estimated return to Hotel

**End of Official Short Course Schedule**