



Covering Environments—A CEAC SPECIAL SEMINAR

RECENT INNOVATIONS IN VERTICAL FARMING INFRASTRUCTURE

December 4, 2015 @ 4:00p

Controlled Environment Agriculture Center, 1951 Roger Rd

**Fritz Schroeder, PhD Professor of Agriculture & Landscape Management
University of Applied Sciences, Dresden Germany**

Agriculture--It all began about 10,000 years ago in China, Mexico, and the Middle East; then, it rapidly spread all over the globe. Until about seventy years ago, agriculture remained essentially unchanged: *dig a hole, plant a seed, fertilize it, irrigate it, pick out the weeds, harvest the crop, ship/store/sell it*. Then, in the 1930s William Gericke (UCD) invented hydroponics, while DR Hoagland and DI Arnon formulated a totally inorganic salt fertilizing medium now known as Hoagland's modified nutrient medium. Together, this research started a farming revolution including the concepts of Controlled Environment Agriculture (CEA). As recently developed technologies have facilitated moving farming indoors, and especially into enclosed urban settings, new challenges have arisen as plants are now cultivated in 'non-natural' environments. These challenges emanate from the necessary infrastructure (lighting, ventilation, energy sources and costs) to plant responses in these new environments (optimizing lighting, detection of stress signals which forecast plant deterioration and death, effects of ethylene accumulation and its early detection, etc.).



We Grow



We Ship Locally



We Innovate

Dr. Fritz Schroeder will discuss his group's recent findings in these areas and how to overcome these challenges to optimize food crop production in urban vertical farming.

An informal networking and get acquainted session will start about 4pm. refreshments will be served.

Our seminars are also available via webcast. To register, click the link below:

<https://attendee.gotowebinar.com/register/52135911515542529> After registering, you will receive a confirmation email containing information about joining the webinar.

Fritz Schroeder is Professor of Vegetable Crops and Greenhouse Management at the University of Applied Science Dresden. He earned his Diploma thesis in Horticulture Science at the Humboldt University, Berlin 1987. In 1994, he accepted a position at the University of Applied Sciences in Dresden. Schroeder spent a sabbatical (2000-2001, 2010) at the University of CA, Davis. Dr. Schroeder's research focuses on plant stress monitoring, supplemental lighting and urban vertical farming.

References: https://www.youtube.com/watch?v=Uh_zJ09jUc0

Dickson Despommier: Farming up the city: the rise of urban vertical farms.

<http://dx.doi.org/10.1016/j.tibtech.2013.03.008> Trends in Biotechnology, July 2013, Vol. 31, No. 7.

The water-culture method for growing plants without soil. DR Hoagland, DI Arnon - Circular. California Agricultural ..., 1950 - cabdirect.org Cited in 11239 Related articles