



Covering Environments—The CEAC Monthly Seminars

USING PLANT GENOMICS TO SOLVE THE 10BPQ: Feeding the Burgeoning World Population Using Agro Technology

April 29, 2016 @ 4:00pm

Controlled Environment Agriculture Center, 1951 E Roger Rd

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What do Maize, Rice, Wheat and Soy have in common? Yes! they are all plants. Yes! they constitute the majority of proteins and carbohydrates consumed by humans, and Yes! Rod Wing has been predominantly responsible for elaborating the genomes of each of these crops. Our speaker is also renowned for his profound knowledge of an arcane language which you won't find as the national language of any country. Instead, it is spoken universally but only by a small group of (plant) scientists. As one of these scientists, Rod Wing frequently uses expressions such as *chromosome walking*, *remote blasts*, *AGCT*, *transposable element databases*, and *speeding the breeding*. Rod is also fluent with very large numbers: from multiples of Kbs (kilobases) of genetic codes to the 10BPQ (the 10 Billion People Question) and, to top it all off--back in his lab Rod Wing is plotting a revolution--the next Green Revolution which is gaining speed, momentum and results under the banner of the 10BPQ.

As a scientist, Wing and his laboratory are intensely involved in puzzling out the genetic identity of crop plants. And, as a humanitarian Rod Wing is directly focused on one essential, global problem: Developing superior varieties of food crops for farmers everywhere. Such crops are urgently needed to feed the projected increase of earth's population to 10 billion around 2050. As Rod Wing explains: "The 10BPQ predicts that while currently rice feeds half the world, the rice dependent population will double by 2050. New rice, and other crop varieties are needed to feed this population boom. In this lecture, Dr. Wing will discuss the exploitation of natural variation that exists in gene bank repositories around the world to help identify genes and traits that will drive the next green revolution to produce higher yields, while requiring less water, fertilizers, pesticides, and permitting growth on marginal lands.

<https://www.axa.com/en/newsroom/news/future-of-food-3> <https://education.azpm.org/p/azconnection/2013/2/25/22748-the-9-billion-people-question/> <http://www.genome.arizona.edu/modules/xnews/article.php?storyid=223>
<https://www.geneticliteracyproject.org/2015/11/13/10-studies-proving-gmos-are-harmful-not-if-science-matters/>