

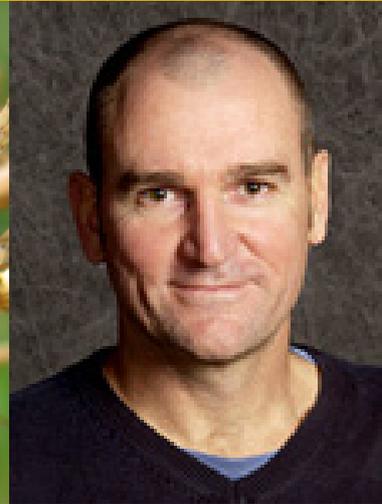
Public Lecture by Dr Michael Udvardi

Thursday, 1 December 2016 @ 5.00pm
Tattersall Lecture Theatre, UWA



THE UNIVERSITY OF
**WESTERN
AUSTRALIA**

The UWA Institute of Agriculture



Nitrogen crises in agriculture and potential solutions

Low concentrations of mineral- and organic-nitrogen compounds in many soils limit plant growth and productivity. Industrial production and use of N-fertilizers relieved this constraint in many agricultural systems and fueled the Green Revolution of the 20th century. Without N-fertilizers there would be approximately two billion fewer people alive today, yet massive use of such fertilizers (now over 100 million tonnes per year) in many areas is compromising human health and natural ecosystems, and challenging the sustainability of modern agriculture.

In contrast, millions of resource-poor farmers lack sufficient N-fertilizer to ensure good harvests, especially in Africa where yields are often only 10-20% of yield potential for staples like maize.

Solving these contrasting N-crises in agriculture will require concerted efforts on a number of fronts, including political, social, economic, industrial, agricultural and scientific action.

In this talk, Dr Udvardi will discuss basic and applied research and development approaches that aim to reduce the use and environmental impact of industrial N-fertilizers, while maintaining or even increasing plant productivity.

Symbiotic nitrogen fixation in legumes is helping to improve agricultural yields in resource poor countries now, while associative and synthetic nitrogen

fixation in non-legumes may, in the future, substitute for industrial N-fertilizer in both resource-poor and -rich agricultural systems, with benefits for society and the environment.

About Dr Udvardi

Dr Michael Udvardi is Director of the Plant Biology Division at the Samuel Roberts Noble Foundation in Ardmore, Oklahoma, USA.

He is one of the most highly cited researchers in Plant and Animal Sciences.

Dr Udvardi earned his PhD in plant biochemistry from the Australian National University in 1989 and is primarily interested in how plants obtain nitrogen for growth, either as mineral nitrogen from the soil or from atmospheric di-nitrogen via symbiotic nitrogen fixation in bacteria.

He has contributed to our understanding of symbiotic nitrogen fixation in legumes, especially of transport and metabolism in root nodules, using biochemical, molecular, genetic, and genomic methods. He was amongst the first to characterise ammonium and nitrate transporters in plants.

Event Details:

Date: Thursday, 1 December 2016
Time: 5.00pm - 6.00pm
followed by refreshments
Venue: Tattersall Lecture Theatre
The University of WA
Crawley 6009
Register: ioa.uwa.edu.au/events/register
Parking: Short term pay parking
available at Fairway, Myers St,
Parkway and Hackett Drive
Contact: 6488 4717 | ioa@uwa.edu.au