



WATER AND FOOD SECURITY SEMINAR SERIES

ADVANCING THE WATER AND AGRICULTURE INNOVATION AGENDA February to April, 2017

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The Civil and Environmental Engineering Department in conjunction with the Abdul Latif Jameel World Water and Food Security Lab (J-WAFS) at MIT is pleased to announce the Spring 2017 Water and Food Security Seminar Series, from February to April, 2017. The seminars will be particularly informative to senior undergraduates and graduate students who wish to have a deeper understanding of the challenges of water and food security, and the areas requiring further research attention. Seminar topics are as follows:

Thursday February 23 12noon-2pm | Room 1-242

AN IRRIGATION GRAND CHALLENGE: SALT MANAGEMENT AND DRAINAGE WATER DISPOSAL IN IRRIGATED AREAS.

It is estimated that close to 100 million hectares of irrigated land suffer from moderate to severe salinization and waterlogging. This is considered to be one of the major impediments to sustainable irrigation management and to food security more broadly. Irrigation water mobilizes salt in the root zone, and this impairs both downstream and ground water quality. There are few irrigation schemes that have effective salt management and saline water disposal strategies. The seminar will discuss some basin wide approaches in various parts of the world, and incentives to promote better water and salt management.

Thursday March 09 12noon-2pm | Room 1-242

BIG DATA AND DIGITAL AGRICULTURE PLATFORMS

There are now many types of environmental sensors used in agriculture, and copious amounts of agricultural field data being collected. However, few platforms have been developed which make use of this data for improved crop productivity. The seminar will discuss the application of sensors and software tools as part of climate smart and precision agriculture systems, to improve soil health, and nutrient and water management.

Thursday April 06 12noon-2pm | Room 1-242

FRONTIERS IN GROUNDWATER IRRIGATION

With erratic rainfall patterns, more frequent drought occurrences, and the poor management and distribution of water in large publicly owned irrigation systems, farmers are drilling their own deep tubewells or shallow boreholes, and relying more on groundwater for irrigation. There is little information on aquifer characteristics and recharge rates, as well as inadequate ground water monitoring programs. Unsustainable groundwater pumping and aquifer depletion have already jeopardized irrigated agriculture in many irrigated regions such as the Indo-Gangetic Plain, the High Aquifer Plains of the US, and the North China Plains. The seminar will discuss some of the remedial technical and institutional measures being put in place to make better use of limited ground water resources for food security.

A light lunch will be served.