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C o n n e c t i n g Information Technology to Phytopathology

A new branch of Phytopathology called Infophytopathology is proposed. It relates to information exchanges between pathogen, host and the environment. This new discipline can enhance teaching by providing:

1. digitized macroscopic plant disease symptoms to overcome problems in collection of specimens.
2. visualization of microscopic pathogens.
3. systematic connection of disease manifestation.
4. graphic presentation of abstract concepts.

The major challenges ahead are that the current softwares for molecular plant pathology are grossly inadequate. We need more softwares to link pathogens and hosts beyond sequence comparison and phylogenetic analysis. The complex interactions and information exchanges between pathogens and hosts will need more sophisticated nano-electronic devices with appropriate software to record such signals.

Future development of a virtual plant diagnostic/plant pathology lab. allows the realization of long-distance plant disease clinic. Spatial and temporal changes of parameters *in vivo* can be monitored effectively using nano-devices. A stethoscope-equivalent device is desirable to detect pathological changes in diseased plants. Changes in global gene expression specific to disease onset or development can be detected using the biochip/biosensor technology to aim disease diagnosis.

Date: 3 March 2003

Venue: Blk S2, 02-14 SR-4,

Time: 1600 hrs

Host: A/P Wong Sek Man

All are welcome