



Australian
National
University

Pathogen evolution in agroecosystems

Wednesday 4 September 2013 1 – 2pm

Bruce McDonald, Professor, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland

Slatyer seminar room R.N. Robertson Building (Bldg. 46), Linnaeus Way, ANU



Human-created agroecosystems originated only ~10,000 years ago and now cover ~35% of the land surface. As a result of their unique properties, pathogens are likely to evolve differently in agroecosystems compared to natural ecosystems, with selection favoring higher virulence and host specialization in agroecosystems. Four examples of evolutionary processes occurring over different temporal scales in four fungal pathogens will be presented. The examples will include genes encoding plant cell wall degrading enzymes, effectors and fungicide targets and will illustrate processes including selective sweeps, horizontal gene transfer, directional

selection and hybridization. Possible solutions to the problem of rapid pathogen evolution in agroecosystems will be presented, including low-technology and high-technology approaches that can be used by both farmers and plant breeders.

Presented by

ANU College of
Medicine, Biology
& Environment

Contact details

E peter.solomon@anu.edu.au T 02 612 53952
This lecture is free and open to the public
Plant Science Seminar Series information:
biology.anu.edu.au/News/events-ps.php

CRICOS# 00120C

PUBLIC LECTURE