

Want to further your studies with CCDM? Check out our list of potential projects

AVAILABLE POSTGRADUATE STUDENT PROJECTS

Effector discovery in a broad host range fungal pathogen

The project aims to deduce the role of "disease-causing" genes during host infection using a molecular genetic approach to generate gene deletion mutants.

Project Area

Honours/MSc
Cereals

Contact

Dr Kar-Chun ('KC') Tan
Kar-Chun.Tan@curtin.edu.au

Regulation of necrotrophic effector expression in *P. nodorum*

P. nodorum secrete proteinaceous necrotrophic effectors (NEs) into the host tissue during infection. This project aims to determine changes in the level of NEs when the fungus is exposed to abiotic factors such as nutrition and stress.

Honours/MSc
Cereals

Dr Kar-Chun ('KC') Tan
Kar-Chun.Tan@curtin.edu.au

Genomics of fungal co-infection on wheat

This experiment aims to determine biomass accumulation of both *P. nodorum* and *Pyrenophora tritici-repentis* during co-infection on a selection of wheat varieties.

Honours/MSc
Cereals

Dr Kar-Chun ('KC') Tan
Kar-Chun.Tan@curtin.edu.au

Understanding agrochemical behaviour inside plants

Using tandem mass spectrometry and plants experimentation, work out how long important agrochemicals last in plants to help the industry use them more effectively.

PhD
Agrochemical

Professor Josh Mylne
josh.mylne@curtin.edu.au



CONTACT US

Centre for Crop and
Disease Management



ccdm@curtin.edu.au

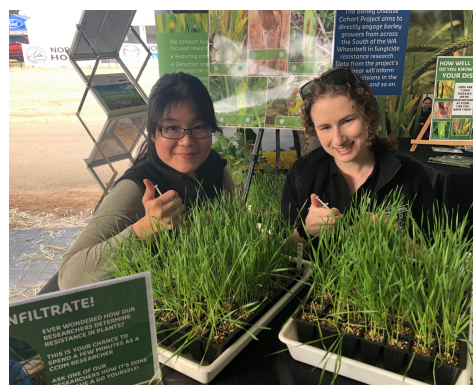


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	Project Area	Contact
Effector discovery in a broad host range fungal pathogen Sclerotinia sclerotiorum is a necrotrophic fungal pathogen that secretes small proteins termed effectors to promote disease. At the CCDM, we have identified a large set of putative effector genes, many of which remain uncharacterised. This project will focus on identifying effectors that trigger necrosis in host leaves then investigate their mechanism of action and their role in virulence of the pathogen. This project will contribute towards developing genetic resistance to S. sclerotiorum in economically important crop species.	PhD Canola	Dr Toby Newman toby.newman@curtin.edu.au
Do effector proteins of a broad host range fungal pathogen trigger necrosis in multiple host species? As S. sclerotiorum is capable of infecting hundreds of plant species, we hypothesise that effectors may trigger necrosis and contribute to pathogenicity on several host species. The aim of this project is to heterologously express effector proteins in model host species N. benthamiana, extract the proteins from N. benthamiana leaves then infiltrate into other host species such as canola to assay for necrosis. Knowledge obtained from this project will advance our understanding of S. sclerotiorum pathogenicity and open up avenues for enhancing genetic resistance to S. sclerotiorum in crop species.	Honours/MSc Canola	Dr Toby Newman toby.newman@curtin.edu.au



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 ccdm@curtin.edu.au

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