

# Identifying novel pheno-endotypes in children with chronic cough

CHILD AND MATERNAL HEALTH

PhD

An exciting opportunity exists to join our Brisbane-based research group investigating paediatric respiratory disease.

Chronic wet cough is among the commonest symptoms of chronic lung disease. In Australia, the most common cause of child chronic wet cough is protracted bacterial bronchitis (PBB), a clinical entity we first described. It has now shown to be a precursor to bronchiectasis which causes substantial morbidity and mortality, especially from acute respiratory exacerbations.

Novel gene expression signatures are proven biomarkers for respiratory exacerbations and can provide novel molecular mechanistic insights. Biomarkers add to clinical decision-making by informing diagnosis during stable and acute phases of disease, making them useful for diagnostic and disease progression monitoring, as well as patient's response to therapy.

Extracellular vesicles (EV's) are stable, measurable in bodily fluids and their ability to concentrate bioactive cargo reflective of disease state makes them attractive as biomarkers. EV's have been studied widely as non-invasive biomarkers in some diseases, however, they have not been studied in paediatric lung diseases.

We are looking for an exceptional PhD student to drive a body of research to determine whether biomarker signatures using EVs can be identified and used diagnostically for diseases associated with chronic wet cough in children. The successful applicant will gain skills in gene expression (using RNA seq and Nanostring technologies), bioinformatics, a range of laboratory skills utilising human samples and EV isolation, together with clinical skills including participating in randomised clinical trials, patient recruitment and data collection.

The project will be based at the Centre for Children's Health Research, Brisbane and the applicant will join a multi-disciplinary team undertaking several paediatric respiratory clinical trials (funded by NHMRC/ MRFF). The successful applicant will be a key member of the laboratory team and will also be involved in the clinical trials.

## Eligibility Criteria and Scholarship Provisions

**Eligibility:** The successful applicant will be eligible to enroll in a Doctor of Philosophy through Charles Darwin University

**Scholarship Provisions:** The successful applicant will receive a primary scholarship of \$40,000 per year for three years.

### Application Process:

Applicants should submit the following:

- Brief summary of why they want to complete the project
- Current CV
- Copies of certified academic transcripts
- Proof of Residency (not required for Australian citizens)

All applications should be submitted to Stephanie Yerkovich

([stephanie.yerkovich@menzies.edu.au](mailto:stephanie.yerkovich@menzies.edu.au))