PRECISION MEDICINE
REVOLUTIONISING HEALTHCARE

THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

PROFESSOR MURRAY CAIRNS

Turning every treatment into targeted therapy.

Most chronic health conditions are complex disorders involving multiple risk factors that differ from one individual to another. This variability means current treatments are not specific or efficacious for a significant proportion of the population. Our research program is developing an AI framework for precision medicine that implements personalised systems biology. In this approach, interaction data for complex traits is used as a scaffold for the pharmacological annotation of an individual's disease variant risk profile captured by omic data.

COMPETITIVE ADVANTAGE

- Meeting unmet need in heterogeneous conditions
- Enhances specificity, activity, and reduces side effects
- Providing pre-selection biomarkers for drug development
- Facilitates person centred healthcare.

SUCCESSFUL RESEARCH APPLICATION

- Psychiatric and neurological conditions
- Cardiometabolic disorder
- Inflammatory and respiratory disorders
- Musculoskeletal and ophthalmological disorders.

PARTNERS

- Hunter Medical Research Institute
- Hunter New England Health District
- PolygenRx Pty Ltd.

MORE INFORMATION

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