Polycystic ovary syndrome (PCOS) is a major health issue affecting 12-21% of reproductive-aged Australian women, costing the economy nearly $1 billion/year. PCOS is a complex disorder characterized by reproductive, endocrine and metabolic defects. These include hyperandrogenism (androgen excess), irregular cycles, infertility and an increased prevalence of metabolic disturbances including obesity, insulin resistance, cardiovascular disease and type 2 diabetes. Despite substantial research, the origins of PCOS remain unknown, so that mechanism-based interventions are not feasible and current management relies on ad hoc empirical treatment of symptoms. Both androgens and diet are implicated as key factors in the pathogenesis of PCOS (1;2), but the relationship between them remains obscure. Hyperandrogenism is the most consistent PCOS trait, and diet is inherently associated with PCOS as obesity is observed in 40-80% of women with PCOS. Androgen excess is associated with obesity (2) and high fat food cravings in women (3), therefore in this project we will combine our novel female androgen resistant mouse model (4) and our optimized PCOS mouse model (5) to determine if hyperandrogenism influences dietary intake and if this is an androgen receptor-mediated effect.

Students will be trained in the use of mouse models, highly specialised metabolic cages, and practical laboratory skills which are invaluable for undertaking future postgraduate studies. Previous Summer Scholarship students in our laboratory have been included as co-authors on peer reviewed publications and abstracts presented at national and international conferences.