Sydney Cancer Partners
Collaboration, Translation, Impact

Pilot Study and Seed Grant Recipients Announced

15 November 2023

Sydney Cancer Partners is thrilled to announce the successful recipients of our recent Pilot Study and Seed Grant schemes.

PILOT STUDY RECIPIENTS

Professor Barbara Fazekas de St Groth

Head, Translational Immunology Laboratory, Charles Perkins Centre, Faculty of Medicine & Health, The University of Sydney

Co-investigators: Dr Helen McGuire, Prof Philip Hansbro, Prof Michael Kassiou

"A pre-clinical platform to test therapies designed to improve response rates to checkpoint immunotherapy."

Prof Barbara Fazekas de St Groth is the head of the Translational Immunology Laboratory at the Charles Perkins Centre. Her research in preclinical and clinical settings is aimed at understanding how immune cell interactions can be used predict individual patient disease profiles and responses to therapy. By comparing circulating immune cell subsets in cancer patients who subsequently prove to be sensitive or resistant to checkpoint immunotherapy, she and her team discovered an immune signature that robustly predicts response. The signature is now being developed as a clinical lab test. They are now focusing on the mechanisms that generate the immune signature, with the aim of developing new therapies to overcome immunotherapy resistance.

Dr Sumit Sahni

Senior Research Fellow, Northern Clinical School and Kolling Institute of Medical Research, Faculty of Medicine & Health, The University of Sydney

Co-investigators: Prof Anubhav Mittal, Prof Anthony Gill, Prof Jaswinder Samra, A/Prof Angela Chou, Prof Nick Pavlakis

"Spatial Gene Expression Profiling of Pancreatic Tumors to Identify Novel Biomarkers and Pathways to Overcome Chemo-Resistance."

Pancreatic cancer (PC) is a devastating disease with only 12 out of every 100 patients surviving 5 years post-diagnosis. One of the major clinical problems with pancreatic tumours is inherent resistance to chemotherapy, which makes patients non-responsive to current clinically available drugs. Pancreatic tumours are highly heterogenous in nature and assessment of gene expression profiles in different tumour compartments will be crucial to understanding the underlying tumour biology behind observed differences in treatment-response. In this project, we aim to assess the gene expression profile of different regions in the tumour microenvironment from patients who have either responded or not responded to chemotherapy. The overarching aim is to identify novel biomarkers for chemo-response and critical drug targets to overcome PC chemoresistance.

Associate Professor Joanne Shaw

Executive Director and Senior Research Fellow, Psycho-oncology Co-operative Research Group, The University of Sydney

Co-investigators: A/Prof Haryana Dhillon, Dr Rebekah Laidsaar-Powell, Prof Louise Sharpe, Dr Nicci Bartley, Dr Laura Kirsten, Dr Megan Jeon

"Breaking the cycle of Fear: Helping carers manage fear of cancer recurrence."

Cancer carers play an important role in supporting people living with and beyond cancer. However carers, like the people they care for, experience fear, worry or concern that cancer may come back or progress (fear of cancer recurrence - FCR). Nearly half of all carers experience levels of FCR considered clinically significant in people living with and beyond cancer. However, carers experience of FCR differs from people with a diagnosis of cancer due to the unique aspects of the caregiving role. This research will develop a carer-specific FCR intervention (carer-CF) and assess carer-CF feasibility and acceptability in a pre-post pilot study.

Professor Janette Vardy
Professor of Cancer Medicine, Concord Repatriation Hospital and The University of Sydney
Co-investigators: Dr Samuel Stevens, A/Prof Joanne Shaw, A/Prof Richard De Abreu Lourenco, Prof Christopher Booth
"Evaluating the time toxicity of chemotherapy for metastatic colorectal cancer using patient survey data: a prospective feasibility study."

Time toxicity is the time patients spend receiving, travelling to, or coordinating health care; time used to engage with healthcare that could be spent doing other things. The time toxicity of therapy is likely to be of special importance to patients with incurable disease. Our pilot study will recruit 30 patients commencing chemotherapy for advanced bowel cancer. Participants will complete a weekly survey for eight weeks, and a brief interview afterwards, regarding their healthcare contact and time related to cancer or cancer treatment, including travel time, and rating the quality of this time. This will provide important information about how to assess time toxicity and allow patients to be informed about the time burdens of receiving cancer treatments, so they can make informed choices about the use of limited survival time.

Dr Justin Wong
Head, Epigenetics and RNA Biology Laboratory and Senior Lecturer, School of Medical Sciences, Faculty of Medicine & Health, The University of Sydney
Co-investigators: Prof John Rasko, Dr Alex Wong, Dr Renhua Song
"Exploiting the link between RNA modification and alternative splicing to improve the therapeutic strategy for acute myeloid leukaemia."

This project will invest in a novel strategy to optimise treatment and improve the survival of cancer patients. Our emphasis is on acute myeloid leukaemia (AML), the most aggressive type of adult leukaemia. While some AML patients respond to chemotherapeutic agents, the effect is often temporary, leading to relapse and resistance to treatment. Thus, a more effective therapeutic strategy is urgently needed to treat AML. Aberrant chemical modification to the RNA is a recently identified driver of chemoresistance in AML. Here, we will determine whether a novel inhibitor targeting chemical modification to RNA is effective in treating chemoresistant AML.

SEED GRANT RECIPIENTS

Dr Rachael Dodd
Senior Research Fellow, The Daffodil Centre, Cancer Council NSW and The University of Sydney
"Shifting clinical practice in the management of screen-detected abnormal cervical cells for women aged 25-40: could we start offering active surveillance?"

Dr Rachael Dodd is a behavioural and implementation scientist. Regular testing (i.e., active surveillance) appears to be a new safe alternative to surgical treatment for grade 2 abnormal cervical cells, avoiding risks associated with surgery. This project will investigate the acceptability of offering the choice of active surveillance instead of immediate surgery for women aged 25-40, among potential patients and clinicians managing their care. It will seek to identify key barriers and facilitators, the potential psychological impact, and the decision-making processes for implementation of an active surveillance protocol for women diagnosed with grade 2 abnormal cells.

Dr Koon Lee
Staff Specialist Haematologist and Senior Research Scientist, Westmead Hospital and The Westmead Institute for Medical Research, Faculty of Medicine & Health, The University of Sydney
"Exploring the immunological basis of graft-versus-leukaemia effect in myeloid malignancies and rational development of T-cell therapies against acute myeloid leukaemia (AML) associated antigens to prevent relapses following allogeneic stem cell transplantation."

Dr Koon Lee is a is a clinical and laboratory haematologist and employed as a cellular therapies physician at Westmead Hospital. He is a senior research scientist at the Westmead Institute for Medical Research and clinical lecturer at University of Sydney, with research interest in cellular therapies and translational research in myeloid malignancies. In this research project, he is aiming to determine the immune basis of prolonged remission in patients with acute myeloid leukaemia (AML) following chemotherapy and bone marrow transplant. The findings will inform development of adoptive T-cell therapies to improve outcomes in myeloid malignancies.

Dr Nicola Meagher
Research Fellow, The Daffodil Centre, Cancer Council NSW & The University of Sydney
"Utilisation of publicly funded PARP inhibitors in ovarian cancer in New South Wales: a population-based study."

Dr Nicola Meagher is an early career ovarian cancer epidemiologist at the Daffodil Centre, a joint venture between the University of Sydney and Cancer Council NSW and is a member of the Australia New Zealand Gynaecological Oncology Group Ovarian Tumour Type Working Group.
This seed grant will enable a population-based analysis of the utilisation of an important targeted therapy now available to many patients with ovarian cancer - olaparib. Through a collaboration with the Centre of Research Excellence in Medicines Intelligence led from UNSW Sydney, Nicola will analyse the patterns of use of olaparib using Pharmaceutical Benefits Scheme (PBS) linked data. Following PBS, listing there is a need to understand the uptake and outcomes of cancer medicines in routine care, to help inform policy and clinical decision making.

Dr Romario Nguyen
Postdoctoral Researcher, The Westmead Institute for Medical Research, Faculty of Medicine & Health, The University of Sydney
"Investigating the role of Jagged2 in MALFD-HCC tumorigenesis and progression using a multi-lineage liver organoid model."

Romario Nguyen is a post-doctoral researcher based at the Westmead Institute for Medical Research working with Associate Professor Liang Qiao. His research project aims to investigate the role of the Notch ligand Jagged2 in driving the progression of metabolic dysfunction-associated liver disease (MAFLD) towards hepatocellular carcinoma (HCC) as Jagged2 is frequently and consistently upregulated within HCC cells. Due to the underlying complexity of modelling the cellular, molecular, and genomic features of MAFLD-HCC pathogenesis, we will utilize a novel ex vivo multi-lineage liver organoid (MLLO) platform to model MAFLD-HCC progression.

Dr Peyman Obeidy
Senior Postdoctoral Researcher, Faculty of Medicine & Health, The University of Sydney
"Content-based medical image retrieval system for lung cancer using deep learning."

Despite significant advancements in the accuracy of AI tools, a key obstacle to their widespread adoption in clinical practice is the need for interpretability. This project aims to develop a content-based medical image retrieval platform for lung cancer using deep learning coupled with an in-house-developed eye-tracking platform. We aim to assist decision-making and enhance the detection of lung cancer lesions on low-dose CT images. We leverage the National Lung Cancer Screening (NLCS) dataset to elevate the accuracy and dependability of lung cancer detection, leading to an overall enhancement of patient outcomes with a focus on the interpretability of detected features.

Dr Mark Schreuder
Research Officer, Centenary Institute
"Distinguishing tumour cell death from tumour-associated inflammation using a novel imaging modality."

Mark Schreuder is a medical researcher working on innovative methods to enhance cancer diagnosis and treatment. In his latest project, Mark aims to test a new imaging technique that can distinguish cancer cell death caused by treatment from inflammatory side effects. If successful, the technique could offer clinicians a more precise way to evaluate the effectiveness of cancer treatments, leading to more accurate follow-up decisions.