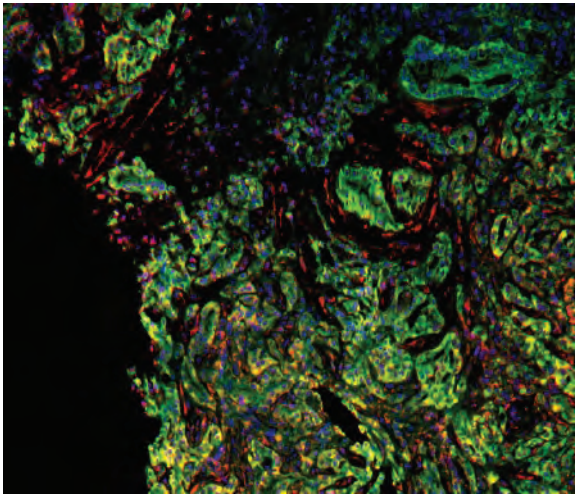
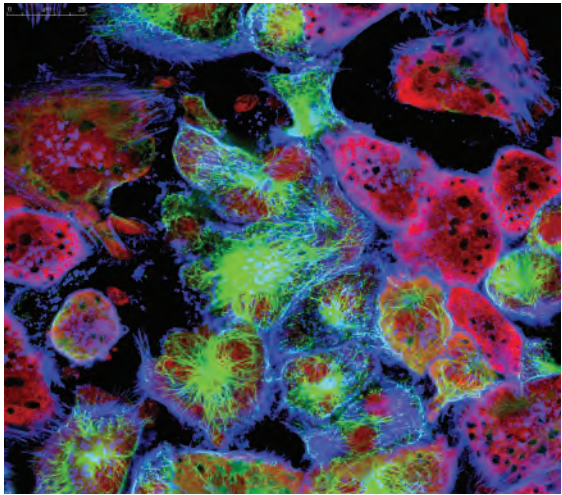
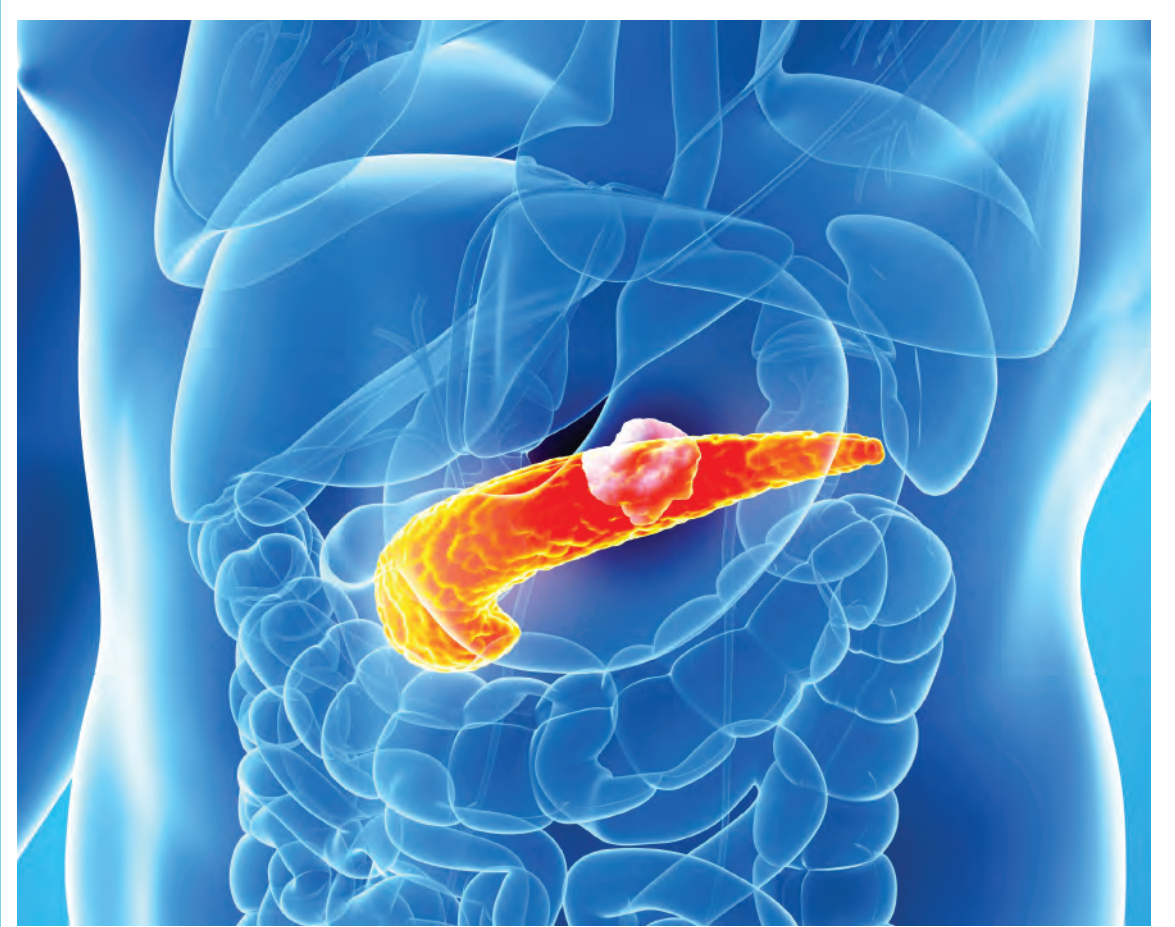


Pancreatic Cancer Research Group

University of Melbourne, Department of Surgery
Austin Health



Delivering World Class Innovative Research



THE TEAM

Pancreatic Cancer Biology Research Team



We are proud to have set up the Pancreatic Cancer Biology Research Group to focus on world class research into pancreatic cancer. Our major interest is the identification of novel methods to improve treatment response and survival. We are located at the University of Melbourne, Department of Surgery, Austin Health. We have an array of projects that utilize various animal models of pancreatic cancer that replicate the human situation. We are strengthened by our team's involvement with national pancreatic cancer trials, international collaborations with leading cancer institutes and links with drug development companies. These attributes and our initiatives for early pancreatic cancer detection allow rapid translation of our laboratory findings into the clinical setting where applicable.

Our team consists of surgeons, clinicians and researchers working closely together, and having collaborative links with various groups.

Nikfarjam

Associate Professor Mehrdad Nikfarjam
Group leader

To support the pancreatic biology group please donate at:



<http://alumni.online.unimelb.edu.au/noveltreatmentspancreaticcancer>

**100% of donations will go towards research conducted by
the pancreatic biology group**



**Associate Professor
Mehrdad Nikfarjam**

A/Prof Mehrdad Nikfarjam, FRACS, PhD, is a specialist pancreatic cancer surgeon at the Austin Hospital and director of the Australasian Pancreatic Club. He is considered a leader in pancreatic cancer surgery and pancreatic cancer research.



Dr Hong He

Dr. Hong He, MD, PhD, is a Senior Research Fellow of the Department of Surgery, University of Melbourne. She has a broad background in biomedical sciences, with specific expertise in cancer biology, molecular mechanisms and signalling targeted therapy.



Professor Graham Baldwin

Professor Graham Baldwin, PhD, DSc, is an Honorary Professorial Fellow at the University of Melbourne, Department of Surgery. He has now published a total of 153 refereed research papers, 21 reviews and 11 book chapters.



Ms Nhi Huynh

Ms Nhi Huynh is a Senior Research Assistant. She is accomplished in various laboratory skills including techniques used in cell culture, cell-based biological assays and animal model-based research.



Ms Chelsea Dumesny

Ms Chelsea Dumesny is a Senior Technical Officer with skills in cell culture, molecular biology and small animal experimentation. She is responsible for the day to day running of the laboratory.



Ms Jenny Wang

Ms Jenny Wang is a Research Assistant who completed a Bachelor of Biomedicine Degree in 2013. She has expertise in general laboratory techniques and with various animal models of pancreatic cancer.



Dr Dannel Yeo

Dr Dannel Yeo is a junior Post Doctoral Fellow with experience in cancer cell and molecular biology and animal models of pancreatic cancer.



Ms Allison Collins

Ms Allison Collins is a Senior Clinical Research Nurse at Austin Health involved in our familial pancreatic cancer screening research program.



Ms Rebecca Dimovitis

Ms Rebecca Dimovitis is a Registered Nurse with an interest in pancreatic cancer screening, clinical research and patient support.



Dr Kai Wang

Dr Kai Wang is a current PhD student. He is a surgeon from the Department of Surgery, First Affiliated Hospital of Zhejiang University in China.



Mr Nien-Hung Lee

Mr. Nien-Hung Lee is a current PhD student. He is a science graduate from the University of Auckland in New Zealand, and obtained his master's degree in Medical Science from China Medical University in Taiwan.



Dr Golnaz Sharafi

Dr Golnaz Sharafi is a current PhD student who graduated from Tehran University in Veterinary Medicine. She also worked as a quality control officer for Bayer Paul Pharmaceutical Company in Iran.

RESEARCH PROGRAMS

Donations will fund researcher salaries and support experimental costs, attracting the most talented research students globally. Financial support is essential in the fight against pancreatic cancer to allow world class research that can eventually improve patient outcomes.

Basic Research

• The role of P21-activated kinase in pancreatic cancer

Studies are in progress examining the role of P-21 Activated Kinases (PAKs) in pancreatic cancer. Pancreatic cancer develops as a result of a series of genetic mutations, and progresses from non-invasive tumours to invasive and metastatic cancers. The most frequent mutation, observed in more than 95% of cases, involves the K-Ras gene. The product of the K-Ras gene is a protein of 21kDa(p21), which binds to and activates PAKs.

The PAK family of serine/threonine kinases are not only important in cancer formation, but also appear to be important regulators of the cancer environment, growth and spread. The group is currently assessing the role of unique PAK inhibiting drugs either alone or in combination with various chemotherapies for the treatment of pancreatic cancer in animal models.

• Novel treatments for pancreatic cancer

A range of novel therapies are being tested for treatment of pancreatic cancer. This includes: 1. The use of inhibitors of c-Jun protein kinase (JNKs) for treatment of cancer. 2. The effects of exercise on improving chemotherapy treatment, and 3. The role of cannabis in the treatment and prevention of pancreatic cancer. The Pancreatic Biology Research Group at the University of Melbourne is of the few groups in Australia working with licensed medical grade cannabis companies in determining the potential benefits of cannabis for cancer treatment.

• Mouse model of pancreatic cancer

A pancreatic cancer model using mouse cancer cells has been characterised in our laboratory. The model allows us to assess the impact of various drug therapies on pancreatic cancer in a realistic setting. We have also available a mouse model (the KPC mouse) which spontaneously develops pancreatic cancer.

• Patient-derived pancreatic cancer cell lines

Collection of tissue samples from patients undergoing surgery for treatment of pancreatic cancer is ongoing and we now have over 100 samples in storage. We also collect tumour samples from patients whose pancreatic cancer has spread to other organs. From these tumours, pancreatic cell lines are derived and characterised, including pancreatic stellate cells. Clinical information is also collected from these patients, so we can correlate patient outcomes to specific tumour features.

Clinic Research

• Screening for pancreatic cancer

Currently Austin Health is one of only two hospitals in Australia with an active research program for screening pancreatic cancer. Our program is in collaboration with colleagues at St Vincent's Hospital (NSW) and the Garvan Institute (NSW). There are currently over 70 eligible families being screened for pancreatic cancer using endoscopic ultrasound evaluation. Serum and urine specimens are being collected from these patients, and will be used to identify markers that may detect pancreatic cancer at an early stage.

• Pancreatic cancer genome initiative

The research team is part of the Australian Pancreatic Cancer Genome Initiative (APCGI) and works with the Walter and Eliza Hall Institute (WEHI) of Medical Research, as part of the Australian pancreatic cancer organoid project. Tissue samples and clinical information on patients are provided for these projects. The genomic findings of this initiative have already provided crucial data for scientists worldwide to answer specific questions regarding the behaviors of pancreatic cancer in relation to genetic changes and their response to certain chemotherapies.

• Predictors of cancer recurrence

Clinical studies are in progress assessing circulating tumour DNA as a prognostic marker in patients with pancreatic cancer. Previous studies have found that the majority (more than 95%) of pancreatic cancers contain a mutation in the K-Ras gene in the cancer cells and this mutated DNA can be detected in the blood. We are searching for the presence of cancer DNA as well as normal DNA in the blood of patients undergoing surgery or chemotherapy. This information may provide information on the likelihood of cancer recurrence and prognosis in these patients.

• Improving outcomes after surgery

Ongoing studies aim to improve the safety of pancreatic surgery and reduce complications. We have a particular focus on methods to minimize intra-operative fluid administration and to enhance post-operative recovery with the use of specific management protocols.

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For more information please contact Associate Professor Mehrdad Nikfarjam via email:
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