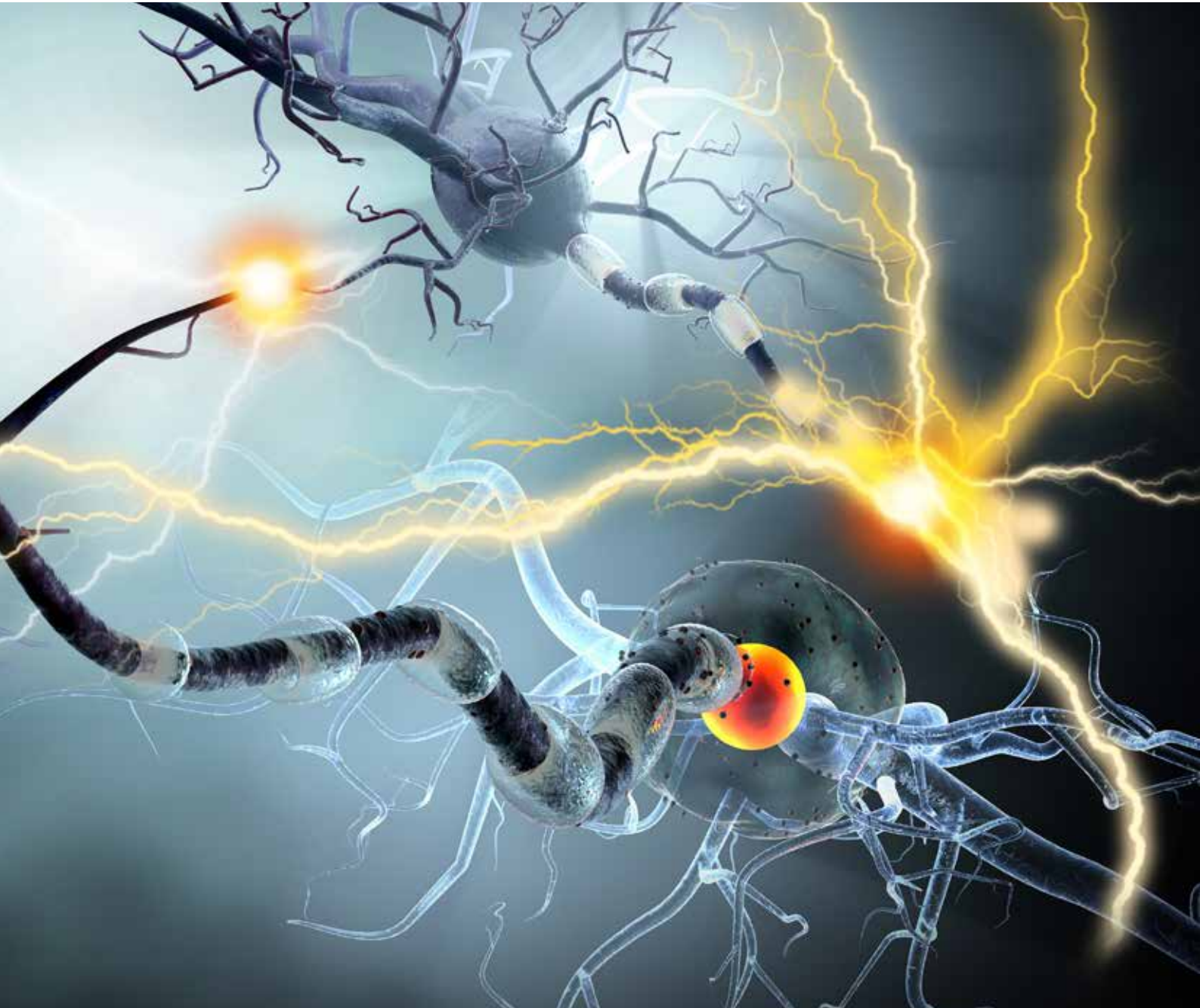




NRF

NeuroSurgical Research Foundation



ANNUAL REPORT

2021/22



NEUROSURGICAL RESEARCH FOUNDATION

With foresight and planning, the founders of the NeuroSurgical Research Foundation ensured that the Foundation supports all administrative costs, ensuring 100% of your donations go to the valuable research into disease and conditions of the brain and spine.

The NeuroSurgical Research Foundation was formed in 1963 and was the first of its kind in Australia. The objective of the Foundation is directed to funding research into the cause, diagnosis, prevention and treatment of disease, injuries or malfunction of the brain, spine and nerves.

Our researchers share a common goal, to improve the lives of people facing a neurosurgical or neurological disease diagnosis, now and in the future.

We fund research into the following diseases and conditions:

- Brain Tumours & Brain Cancer
- Paediatric Neurosurgical Research
- Neurotrauma:
 - Spinal Cord Injury
 - Traumatic Brain Injury
 - Concussion
- Neurodegeneration:
 - Parkinson's Disease
- Vascular Disease
 - Stroke
 - Ruptured Aneurysms

There are many ways you can help to fund our research:

Give today.

Pledge over time - join us as a regular giver.

Fundraise for us.

Plan for the future - make a gift in your will.

Donations to the NeuroSurgical Research Foundation are tax deductible.



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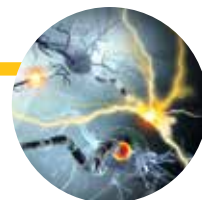
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BOARD MEMBERS 2021/22



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NRF Director of Neurosurgical Research

Prof Stuart Pitson

NRF Chair of Brain Tumour Research

Prof Peter Reilly AO

Scientific Committee

Assoc Prof Frances Corrigan

Scientific Committee

Prof Corinna van den Heuvel

Scientific Committee

PRESIDENT'S REPORT



In this annual report you will find:

- A summary of neurosurgical research at the University of Adelaide by Associate Professor Renée Turner, the NRF Director of Neurosurgical Research.
- A summary of neurosurgical research at the University of SA by Professor Stuart Pitson, the NRF Chair of Brain Tumour Research.
- A report from the Abbie Simpson Scholar, Dr Adam Wells
- Reports on neurosurgical research funded by NRF scholarships and scholarships in association with other organisations.
- Highlights from NRF events and fundraisers held throughout the year.

Thanks to your generous donations the NRF funded 24 research grants and scholarships in 2021/2022 totalling \$1,058,988.



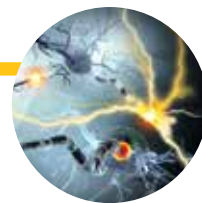
There are a number of new initiatives that will become apparent over the next few years – initiatives that will see an expansion of our research funding and capacity. One of our aims is to establish a major new research position, fully funded on a permanent basis.

In last year's Annual Report I mentioned the launch of the TAR Dinning Memorial Scholarship. This has been possible by a generous donation by Nadia Kingham and Anthea Dinning, the daughters of one of the Founders of the NRF, Dr TAR ("Jim") Dinning, and by funds raised at the launch at Ayers House on 18 April, 2021. In excess of \$200,000 is available to assist young neurosurgeons or neurosurgical trainees to travel to overseas clinics or research facilities to

learn new techniques. The details of the first scholarship will be announced soon and will be in next year's annual report.

There are many people to thank for the successful activities of 2021/2022– our staff, volunteers, donors, board members, researchers, fundraisers, event organisers, corporate sponsors, and most of all, our patients, and their families. We look forward to your ongoing support in 2022/2023 and beyond.

Dr Glenn McCulloch FRACS
NRF President



DIRECTOR OF NRF NEUROSURGICAL RESEARCH REPORT



Students in the Translational Neuropathology Lab (Team Neuro) have been busy working on their projects in stroke, traumatic brain injury and spinal cord injury over the past 12 months. Here's a snapshot of the exciting projects they've been working on.

Stroke Research Program *Led by Assoc Prof Renée Turner*

Dementia and cognitive decline are common following stroke, attributed to secondary neurodegeneration, which is the delayed loss of brain tissue long after the initial stroke event. Despite the impact such complications have on worsening outcomes following stroke, the underlying mechanisms driving these complications are not well understood. Isabella Bilecki (PhD student) and Amy Poyzer (Honours student) are exploring changes in the blood-brain barrier that occur with age. They are specifically interested in how the activity of degradative enzymes and structural components of the blood-brain barrier are altered, and if these changes may be involved in driving secondary neurodegeneration. Shannon Stuckey (PhD student) and Madeleine Homes-Vickers (Honours student) are characterising the inflammation that occurs both in the bloodstream and within the brain long-term (>1 year) following stroke, and how this aligns with the distribution and development of secondary neurodegeneration. They have a particular interest in the contribution of the brain's resident inflammatory cells, the microglia, and what role they may play in this post-stroke complication.

The stroke research group have also established new collaborations with stroke neuroscientist and clinical colleagues at The University of Southern Queensland, The University of Tasmania, The University of Melbourne, Florey Institute of Neuroscience and Mental Health, Monash University and Melbourne Health. We are looking forward to contributing to several MRFF projects led by our collaborators, all of which seek to improve outcomes following stroke through novel treatment and diagnostic approaches.

Team Neuro alumni, Dr Annabel Sorby-Adams and Dr Jessica Sharkey returned to the Translational Neuropathology Laboratory earlier this year to conduct a study in conjunction with their collaborators at the University of Cambridge and Cyban Pty Ltd respectively. This study was supported by an NRF grant (CIA Dr Sorby-Adams) and utilised the Anatomics Raumedic Datalogger device in conjunction with the combined pressure, temperature and oxygen probes, generously funded by the Wilkins Family Foundation. The key goals of the study were to: 1) evaluate the efficacy of a novel treatment for reperfusion injury following stroke which can lead to complications such as bleeding at the site of the stroke lesion (haemorrhagic transformation), brain swelling and neuroinflammation; 2) assess the ability of a non-invasive brain oxygen monitor to detect changes in brain oxygen levels following stroke. Data analysis is ongoing, but early results are encouraging, suggesting that: 1) the novel treatment is indeed having a beneficial effect in reducing reperfusion injury following stroke; 2) the non-invasive brain oxygen monitor was able to successfully detect changes in brain oxygen levels that occur during the arterial occlusion and reperfusion phases of stroke.

Associate Professor Renée Turner
NRF Director of NeuroSurgical Research



Traumatic Brain Injury Research Program

Led by Assoc Prof Frances Corrigan

Justin Krieg (PhD student), with Carl Hooper (Honours student), are currently working on a new model of traumatic brain injury that will provide key new insights into how the axons within the brain respond to injury. Axons are the key information highway that allow communication with different parts of the brain. Axonal disruption following injury drives the development of motor and cognitive deficits and by understanding how this process occurs we can develop new therapies to improve outcome. Eleanor Bowley-Schubert (Masters student) and Samantha Edwards (Masters student) are working to understand why some people are at increased risk for developing dementia or Parkinson's disease following a head injury. By identifying the underlying mechanisms, we can intervene early to prevent neurodegeneration from developing.



Spinal Cord Injury Research Program

Led by Dr Anna Leonard

Christine Gayen (PhD student) is in her final year of her doctoral studies and finishing off her study that is characterising a porcine model of spinal cord injury. Kavi Sivasankar (PhD student) is evaluating the role of inflammation in the development of chronic cognitive deficits following spinal cord injury. Our team was recently awarded a Lifetime Support Authority grant (\$140,000) to further investigate the prevalence, management, and treatment of cognitive dysfunction after spinal cord injury. A big congratulations to Kavi and the SCI team! In January 2022, Ryan Dorrian (PhD student) visited Western Sydney University for specialised training and is now continuing his work evaluating the efficacy of peripheral stimulation via a novel graft antenna following spinal cord injury. Keziah Skein (PhD student) is in the second year of her doctoral

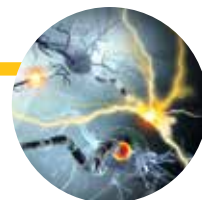
studies and is continuing her study into understanding the role of concomitant traumatic brain injury in the development of neuropathic pain following spinal cord injury.

Current research into neuropathic pain following spinal cord injury is being supported by a suite of new behavioural equipment funded by the NRF, enabling neuropathic pain to be evaluated in a more sensitive and rigorous way. This equipment will support both current and future research projects investigating neuropathic pain outcomes and novel treatments.

After disruptions to conferences over the past couple of years the team is excited to get back out there in the scientific community talking about their research projects, with a number of presentations at upcoming meetings including Australasian Neuroscience Society, Stroke CORE and Australian Neurotrauma Symposium. I was fortunate to deliver an invited presentation on our research targeting brain swelling following stroke at the recent International Symposium for Cerebral Blood Flow and Metabolism meeting in Glasgow.

Our Team Neuro came together for a family-friendly day to run, walk and ride laps at Victoria racecourse for the City to Bay event. Together the team raised over \$3,500. Photos on page 26.

Team Neuro is grateful for the ongoing support of the NRF donors, it is such generous support that enables us to keep doing what we love, ultimately striving towards improving outcomes for patients with stroke, traumatic brain injury and spinal cord injury. On behalf of the research leads and all of our students, thank you!



NEUROSURGICAL RESEARCH UNIVERSITY OF ADELAIDE



AREA: PAEDIATRIC TRAUMATIC BRAIN INJURY

RESEARCHER: ASSOC PROF FRANCES CORRIGAN

FUNDING: JAMES & DIANA RAMSAY FOUNDATION
\$71,500 x 3 years total \$214,500

TITLE: **Targeting inflammation to prevent brain swelling following paediatric head injury**

PROJECT: This project will investigate a potential therapeutic, an NK1 antagonist, which blocks the actions of the pro-inflammatory mediator substance P, which is present in higher levels in children. Substance P release causes ongoing neuronal injury and blocking its effects represents a novel mechanism for improving outcome.



AREA: PARKINSON'S DISEASE

RESEARCHER: ASSOC PROF LYNDSLEY COLLINS-PRAINO

FUNDING: JAMES & DIANA RAMSAY FOUNDATION
\$73,229 x 3 years total \$219,687

TITLE: **The evolution of decision-making impairment in Parkinson's disease (PD): Prediction and prevention**

PROJECT: This project will develop a comprehensive behavioural testing battery to characterise differences in the integrity of specific basal ganglia circuits involved in decision making in different subtypes of PD. Additionally, we will identify genes relevant to basal ganglia circuit function that may predict risk and progression of cognitive decline in PD.

FUNDING: \$13,021 NRF Grant funding

TITLE: **Is the pathological spread of alpha synuclein in Parkinson's disease accelerated by traumatic brain injury?**

PROJECT: This project will investigate whether TBI increases PD risk by accelerating the pathological spread of misfolded alpha-synuclein, the pathological hallmark of PD, throughout the brain.



AREA: PAEDIATRIC BRAIN TUMOUR RESEARCH

RESEARCHER: MS KRISTYNA SEDIVAKOVA

FUNDING: \$50,000 NRF Paediatric Fund

TITLE: **Developing cell therapy for treating paediatric brain tumours**

PROJECT: Diffuse intrinsic pontine glioma (DIPG) is the most aggressive childhood cancer and the leading cause of brain tumour-related death in children. Here, we will extend our successful methods based on the genetic engineering of T cells to develop genetically engineered NKT cells. Unlike T cells, NKT cells are a white blood cell that can be modified to target both tumour cells and scavenger cells in the tumour microenvironment, thus potentially overcoming two factors responsible for aggressive tumour behaviour and therapy resistance.

STROKE RESEARCH



UNIVERSITY OF ADELAIDE

RESEARCHER: DR ANNABEL SORBY-ADAMS

FUNDING: \$43,000

TITLE: **A novel therapy for ischaemia reperfusion injury post-stroke**

PROJECT: Recently the mitochondrial metabolite succinate has been identified as a key driver in ischaemia reperfusion injury (I/R) post stroke, mediating its effects through binding succinate dehydrogenase (SDH). Malonate, a competitive inhibitor of SDH has the potential to prevent I/R injury post stroke and markedly improve patient outcomes. This project aims to evaluate malonate in a pre-clinical stroke model to enhance translation from pipette to patient.



ROYAL ADELAIDE HOSPITAL

RESEARCHER: DR CHRISTOPHER OVENDEN

FUNDING: \$25,000

TITLE: **To determine if the presence of the dynamic spot sign on CT perfusion imaging is associated with brain haemorrhage expansion and in turn benefit from early surgery**

PROJECT: Intracerebral haemorrhage (ICH) accounts for up to 15% of all strokes. Haematoma expansion occurs in a subset of patients with ICH, and is associated with clinical deterioration, increased mortality and poorer functional outcomes. This project will assess the ability of CTP dynamic spot sign to predict haematoma expansion and clinical outcome in a variety of subtypes of ICH. This will in turn determine which patients would benefit from early surgery. We will also compare the sensitivity and specificity of the CTA spot sign and the CTP dynamic spot sign.



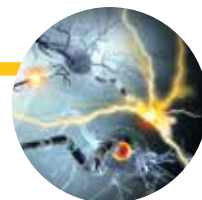
UNIVERSITY OF SOUTH AUSTRALIA

RESEARCHER: PROF LEANNE DIBBENS

FUNDING: \$43,000

TITLE: **A biobank for diseases of the blood vessels of the brain and spinal cord to study how they develop and find more effective treatments**

PROJECT: Disorders of blood vessels of the brain can cause devastating strokes. We propose to establish a biobank to study the molecular basis of surgical neurovascular disease. Tissue samples will be collected from consenting patients during the course of their surgery for neurovascular conditions. By pairing the biobank with established clinical neurovascular databases at the Royal Adelaide and Women's & Children's Hospitals, it is anticipated this biobank will facilitate studies into the pathological mechanisms of neurovascular disease. Results of subsequent studies will inform development of novel diagnostic and therapeutic strategies for patients and their families.



NRF CHAIR OF BRAIN TUMOUR RESEARCH PROF STUART PITSON



The last year has been another busy and productive period for our brain tumour research in the Molecular Therapeutics Laboratory at the Centre for Cancer Biology.

Brain Tumour Research Program *Led by Prof Stuart Pitson*

Our 'living biobank' of glioblastoma cells extracted from tumour tissue generously donated by patients undergoing surgery has continued to build a world-class resource to advance research towards better patient therapies. With these glioblastoma cells we have established advanced pre-clinical models that are critical for facilitating the translation of fundamental research findings (by us and other collaborating groups) to clinical trials in patients with glioblastoma. Excitingly, we have already employed these models to help one new potential glioblastoma drug therapy progress to a clinical trial, which gained regulatory approval in February 2022 and is currently recruiting participants at three sites across Australia. We have also seen even more promising results in a second, different approach for glioblastoma treatment that we expect our collaborators will progress to clinical trials in patients soon. While at present the likelihood of success of these new therapies remain unknown, these exciting developments emphasize the value of the models we have established, and provide considerable incentive to continue their development and use.

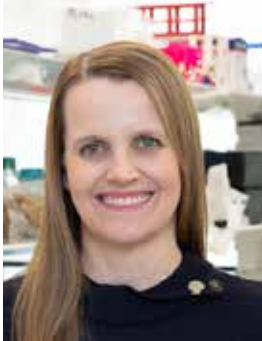
Our research, led by Drs Melinda Tea and Briony Gliddon, into targeting the blood-brain barrier to better deliver anti-cancer drugs to brain tumours also continues to show very promising results. We hope to share more about this exciting project in our next update.

We were very pleased to host Erica McGiffert in the laboratory as the inaugural Richard Buttery NRF Glioblastoma Research Vacation Scholar. Erica, currently studying Health and Medical Science at Adelaide University, spent 8 weeks in our laboratory over the Christmas university vacation learning about and conducting brain tumour research. Pleasingly, this experience resulted in Erica pursuing a further research placement in our laboratory in 2022 as part of her degree, which may (we hope) be her first steps toward post-graduate studies and a career in brain tumour research. This vacation scholarship is a great new initiative from the NRF, and Kerry Buttery, that fosters the development of the next generation of brain tumour researchers in South Australia.

Also as part of the City to Bay our Lab took on the virtual challenge to walk around Australia raising over \$2,000 for brain tumour research. Photos on page 26.

Prof Stuart Pitson
NRF Chair of Brain Tumour Research
Centre for Cancer Biology - University of South Australia

BRAIN TUMOUR RESEARCH UNIVERSITY OF SOUTH AUSTRALIA



MOLECULAR THERAPEUTICS LABORATORY, CENTRE FOR CANCER BIOLOGY

RESEARCHER: DR BRIONY GLIDDON

FUNDING: \$43,000

TITLE: **Improving CAR-T cell trafficking to brain tumours**

PROJECT: Glioblastomas are aggressive brain tumours with extremely poor patient outcomes. Currently treatment consists of surgical removal, and post-operative radio/chemotherapy. Despite aggressive therapy, the disease invariably progresses or recurs as resistance to chemotherapy drugs develops. Thus, more effective therapies for this cancer are desperately needed. Immunotherapy, using the patient's own white blood cells engineered to kill cancer, has shown striking outcomes in a number of cancers, but continues to be challenging for glioblastoma therapy. In this project we aim to better engineer these white blood cells so that they can traffic more effectively to the brain where they can kill glioblastoma.

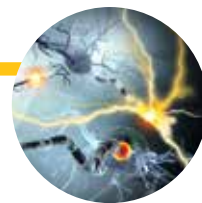


RESEARCHER: DR MELINDA TEA

FUNDING: \$25,000

TITLE: **Developing advanced models of recurrent brain tumours**

PROJECT: Brain tumours kill more people under 40 than any other cancer. The survival rate for glioblastoma, the most common malignant primary brain tumour in adults, has barely improved due to limited treatment options. Over time, the disease returns and patients quickly succumb. Current preclinical models of glioblastoma are mostly limited to studies of the original tumour. These models fail to take into account the tumours that recur following short-term success of initial treatment with surgical resection followed by chemoradiotherapy. We aim to develop advanced preclinical models of recurrent glioblastoma which in future can be used to assess new therapeutic options.



BRAIN TUMOUR RESEARCH UNIVERSITY OF SOUTH AUSTRALIA



CELLULAR STRESS AND IMMUNE RESPONSE LABORATORY, CENTRE FOR CANCER BIOLOGY

RESEARCHER: DR NIRMAL ROBINSON

FUNDING: \$42,809

TITLE: **Targeting “don’t eat me signal” (CD47) in Glioblastoma**

PROJECT: Glioblastoma (GBM) is an aggressive type of brain cancer with a very low median survival (11-15 months). GBM cells adapt to grow in a low oxygen (hypoxia) environment and overexpress ‘don’t eat me’ signals to evade from immune cells. These mechanisms render GBM cells resistant to therapies. Hypoxia perturbs protein synthesis and damages Endoplasmic Reticulum (ER-stress) which is destructive to cells. GBM cells overcome ER-stress by degrading damaged ER through a process termed as ER-phagy. We propose that inhibiting ER-phagy not only kills GBM cells, it also reduces the expression of ‘don’t eat me’ signals which further promotes GBM clearance.



BIOENGINEERING GROUP, FUTURE INDUSTRIES INSTITUTE

RESEARCHER: PROF BENJAMIN THIERRY

FUNDING: \$25,000

TITLE: **Towards Better Magnetic Resonance Imaging of Brain Tumours**

PROJECT: There is a critical need for better imaging of high-grade glioma towards enabling the delivery of more accurately targeted treatment including radiation therapy, a key requirement to prolonging survival without impacting on patients quality of life. Our research team is developing a magnetic resonance imaging agent that specifically targets cells of the tumour microenvironments, with the aim of providing improved delineation of brain tumours on MRI. This approach has the potential to enable mapping the most aggressive tumour areas which could then receive “boost” radiation doses, including with cutting edge proton therapy and MRI-Linac technologies.

BRAIN TUMOUR RESEARCH CENTRAL ADELAIDE LOCAL HEALTH NETWORK



TRANSLATIONAL ONCOLOGY LABORATORY

RESEARCHER: DR LISA EBERT

FUNDING: \$43,000

TITLE: **Analysis of patient tumours to support new immune-based therapies for glioblastoma**

PROJECT: Glioblastoma is the deadliest form of brain cancer, with no effective treatments. We are developing a new treatment for glioblastoma, based on a revolutionary type of 'living drug' known as CAR-T cells. In this approach, T cells are isolated from a patient's blood and genetically engineered to give them cancer-killing activity. These cells are returned to the patient's bloodstream; they then travel to the tumour to attack it from within. This project will analyse patient tumours to discover molecular pathways that control T cell entry from the bloodstream. This information can then be used to optimise our CAR-T cell therapy.

NEUROSURGICAL RESEARCH UNIVERSITY OF ADELAIDE



RESEARCHER: DR ANNIKA MASCARENHAS - Neurosurgical Trainee

FUNDING: \$41,430

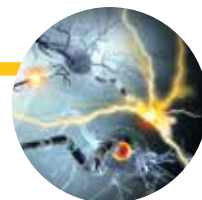
TITLE: **Efficacy and safety of novel beta-chitin patch in cortical and vascular injury haemostasis versus standards of care**

PROJECT: Safe and effective control of haemorrhagic brain and vascular injury in skull base surgery is of paramount importance. Chitin is a naturally occurring biopolymer present in the exoskeleton of arthropods and cell wall of fungi and numerous other sources. This project aims to determine the safety and efficacy of novel beta-chitin patch in managing cerebral cortical and vascular injuries for future use in cranial skull base surgery.

FUNDING: \$15,220

TITLE: **Development of a training model of endoscopic small vessel haemorrhage control, brain manipulation and dural closure**

PROJECT: This study will be conducted in two phases. The primary purpose is for the development of an animal model of endoscopic small vessel handling, brain manipulation and haemorrhage control in the brain and dural closure techniques using sheep. Once feasibility has been established with the pilot study in phase 1, then phase 2 will be the subsequent establishment of an endoscopic animal training model for ENT surgeons and Neurosurgeons for further development of operative skill.



BRAIN TUMOUR RESEARCH FLINDERS UNIVERSITY



RESEARCHER: ASSOC PROF CEDRIC BARDY

FUNDING: \$42,248

TITLE: **Predicting neurological side-effects of chemotherapies**

PROJECT: One in three cancer survivors describes long-term side effects undermining their overall quality of life. A significant debilitating side-effect reported is chemotherapy-induced cognitive impairment. Patients often experience diminished capacity in memory, processing speeds, attention, executive function, and reduced mental health. Therefore, our project aims to investigate the underlying neurotoxic side-effects of chemotherapies pre-clinically with innovative human brain tissue models.



RESEARCHER: DR BRETT STRINGER

FUNDING: \$43,000

TITLE: **Modelling brain cancer to improve treatment for brain cancer**

PROJECT: In glioblastoma the same few regions of our DNA are commonly mutated. Despite the low number of these commonly occurring mutations, we know very little about how this actually causes cancer. By replicating these common genetic mutations in normal brain cells, we have, for the first time, created unique models of brain cancer that represent each major subtype of known glioblastomas. We will characterise these at the finest possible resolution, down to single cells, to understand how brain cancers arise and how we might better intervene to treat them.



RESEARCHER: DR MINH-SON TO

FUNDING: \$38,500

TITLE: **A novel technique for defining brain tumours on MRI**

PROJECT: Exploring the diagnostic utility of a novel magnetic resonance imaging technique known as magnetic resonance fingerprinting. The project will develop methods such as graphical analysis and visualization tools, as well as artificial intelligence (AI) technology for analysing brain imaging performed in patients with brain cancers undergoing neurosurgery. The methods will be developed to assist with certain diagnostic dilemmas often encountered by radiologists and neurosurgeons. By resolving these dilemmas pre-operatively, neurosurgeons will be able to better select patients for surgery and improve surgical planning, thereby reducing the risks and promoting the overall safety of neurosurgery.

SOUTH AUSTRALIAN NEUROLOGICAL TUMOUR BANK THE BRAIN TUMOUR BANK FLINDERS MEDICAL CENTRE



SOUTH AUSTRALIAN NEUROLOGICAL TUMOUR BANK (SANTB) –
THE BRAIN TUMOUR BANK

FLINDERS MEDICAL CENTRE

RESEARCHER: DR SANTOSH POONNOOSE

FUNDING: \$32,743

TITLE: **Facilitating a safe work environment and the efficient production of high-quality tissue samples for the SA Neurological Tumour Bank**

PROJECT: The SANTB obtains brain tumour tissue from the Flinders Medical Centre operating theatres and blood samples which are processed prior to freezing or passing on to research groups. The SANTB laboratory currently lacks two important pieces of equipment required for processing specimens and relies on using shared and aging equipment in other laboratories. Potentially infectious, these specimens pose a risk to the laboratory staff required to process them and minimising processing time is critical to preserve the integrity of the tissue. Access to this equipment within our laboratory will remove the need to transport potentially infectious specimens between laboratories and streamline our workflow facilitating the rapid and sterile processing of specimens.

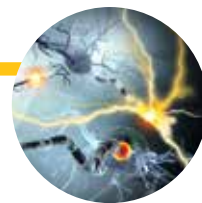


RESEARCHER: DR REBECCA ORMSBY

FUNDING: \$37,270

TITLE: **Expansion of the South Australian Neurological Tumour Bank**

PROJECT: The SANTB currently collects and banks brain and spinal cord tumour tissue samples and clinical information from consenting patients undergoing neurosurgery. These specimens are available to researchers in SA and interstate to facilitate research projects into neurological cancer. The aim of this project is to greatly expand the existing capabilities of the SANTB by developing the capacity to collect each participant's imaging data (MRI, CT scans etc) and incorporate the SANTB into **Ph**enotyping **O**utcomes for clinical **C**are, **Q**uality, and **S**ervice (**PHOCQUS**), a comprehensive clinical data linkage initiative led by Flinders University.



ABBIE SIMPSON CLINICAL FELLOW

DR ADAM WELLS Neurosurgeon



Since the addition last year of Ms Lola Kaukas, full time research assistant supported by the NRF, the Royal Adelaide Hospital Department of Neurosurgery has had considerable research success. Over the last 12 months we have recruited to three exciting clinical trials, and in addition we have commenced a brand new clinical trial fully supported with a grant from the NRF.

Our very first patient was recruited to the international **Brain Oxygen Neuromonitoring in Australia and New Zealand Assessment (BONANZA)** trial late last year. BONANZA is looking to see how the addition of monitoring brain tissue oxygen in severely head injured patients may improve outcome when compared to standard therapy alone. Oxygen is vital to normal brain metabolism and can be drastically reduced following a head injury, therefore if we can prevent brain hypoxia we may be able to improve clinical outcomes and reduce mortality after injury. The Royal Adelaide Hospital is one of 10 active sites recruiting around the world and the only hospital recruiting in South Australia.



Together with Professor Robert McLaughlin from the University of Adelaide Department of Biophotonics we have commenced the first clinical stage of our Smart Brain Biopsy Needle study. Professor McLaughlin's team has developed a microscopic probe that can detect aggressive brain cancer cells after the administration of a special substance called Gliolan. Surgeons can resect brain tumours based on visual fluorescence of the tumour cells after Gliolan administration, and the Smart probe can also do that but on a microscopic scale. We are currently in the stage of demonstrating that the

Smart probe can detect tumour cells in resected specimens that have been exposed to Gliolan and have already recruited several patients to this exciting project with extremely promising early results.

Despite service interruption predominantly from the COVID-19 wave affecting South Australia earlier this year the Royal Adelaide Hospital has continued to recruit patients to the SANTB. As well as storing a large amount of tissue for future research the Royal Adelaide Hospital has been providing vital fresh tissue to researchers who have been able to successfully culture and grow these specimens in the laboratory, and six people have kindly donated this extremely rare and valuable resource so far this year. Having access to fresh specimens has added significant strength to the SANTB and requires a high degree of coordination between clinicians and researchers to perform successfully.

Finally, this year we commenced recruiting patients to the brand new **Rotational Elastometry (ROTEM)** and **Ordinary Coagulation Key values in Emergency TBI (ROCKET)** clinical trial, which is the project of full-time University of Adelaide Honours Medical Student Mr Abhiram Hiwase. ROTEM is a new way of measuring blood coagulation which is faster and possibly more relevant than routine serum measurements of clotting. The ROTEM cartridges are very expensive, however through the NRF we have been able to secure a \$20,000 Harvey Foundation grant to perform up to 180 of these special tests, with which we hope to demonstrate that abnormal blood clotting is far more prevalent after traumatic brain injury than we currently think. If we can demonstrate a successful new way of determining abnormal bleeding after brain injury then hopefully we can develop better ways of minimising intracranial haemorrhage and improve patient outcomes.

Dr Adam Wells
Neurosurgeon, Royal Adelaide Hospital

FOUNDATIONS & TRUSTS

WILKINS FAMILY FOUNDATION



We are extremely grateful to the Wilkins Family Foundation – Michael, Sandy, Kelsey, Kristen and Mitchell - for their significant contributions which are making a real difference to the lives of patients and their families in South Australia.

The following equipment was purchased for the Royal Adelaide Hospital and Women's and Children's Hospital.



1. Royal Adelaide Hospital - XR2 Radiolucent Mayfield Skull Clamp and Headrest

Imaging of the brain during surgery has many advantages including ensuring complete removal of pathology such as brain tumour or evacuation of haemorrhage. The skull and clamp headrest is used to immobilise the head during surgery. The older style metal systems caused artefacts on intraoperative brain imaging, making the quality too poor for reliable clinical use. The XR2 radiolucent Mayfield skull clamp and headrest is made of carbon fibre

which significantly reduces artefacts resulting in a clearer image enabling intraoperative imaging. This results in safer and more efficient surgery and reduces the risk of the patient having to return to theatre for further surgery due to residual haemorrhage. One example of a pressing need for this equipment is the EVACUATE clinical trial: A world first clinical trial of ultra-early, minimally invasive endoscopic evacuation of brain haemorrhage led by A/Prof Amal Abou-Hamden and Prof Tim Kleinig as the lead neurosurgeon and stroke neurologist respectively at the Royal Adelaide Hospital.



2. Royal Adelaide Hospital - AEX Generator for PlasmaBlade and Aquamantys

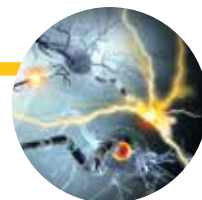
Electrosurgery is a technique used to control bleeding and rapidly dissect soft tissue during surgery. The Medtronic AEX Generator Plasmablade™ Aquamantys™ enables surgeons to cut with the precision of a scalpel and the bleeding control of traditional electrosurgery, while minimising thermal damage to surrounding tissue. This results in safer and more efficient surgery due to reduced surgical time, reduced total blood loss and lower transfusion rates.



3. Women's & Children's Hospital - Pneumatic Endoscopy Holder

The pneumatic endoscopy holder allows for greater visualisation of tumours and anatomical structures during surgery in areas that are more challenging to see as they may be deeper or even just around a bend. The neuroendoscope can be held in place with the holder and used as a visualisation tool instead of requiring an assistant to hold the endoscope steady and in position for the duration of the surgical case. The holder also

positions the endoscope in place so that the surgeon can use their hands freely to remove some tumours via the endoscope working channels allowing the surgical opening to be much smaller, resulting in less morbidity for the patient. Adelaide based neurosurgeon Dr Xenia Doorenbosch is hoping to expand the application of neuroendoscopy in Adelaide even further to enable minimally invasive surgery, especially in our paediatric population.



FOUNDATIONS & TRUSTS PERPETUAL FUNDING WIN

PERPETUAL FUNDING WIN FOR REPEATED CONCUSSION AND TRAUMATIC BRAIN INJURY RESEARCH MODEL



Congratulations to Dr Claire Jones and Dr Ryan Quarrington on being awarded \$97,263 in funding from Perpetual's 2021 IMPACT Philanthropy Application Program, in partnership with the NeuroSurgical Research Foundation. The funding is being used to research repeated concussion and traumatic brain injuries (TBIs).

Dr Claire Jones is Head of the Biomechanics Laboratory, Adelaide Spinal Research Group and Centre for Orthopaedics & Trauma Research, and Senior Research Fellow in the School of Mechanical Engineering, both at the University of Adelaide. She is supported by Dr Ryan Quarrington who is a postdoctoral research fellow at the Adelaide Spinal Research Group and Centre for Orthopaedic and Trauma Research.

The key output of the project will be a pre-clinical model of mild traumatic brain injury which can be used to investigate the mechanics and pathobiology of the injury, and to test potential diagnostic protocols and treatments.



Dr Jones explained, "Repeated concussions or mild brain injuries, which commonly occur in recreational and professional sports, increase the risk of an individual developing neurological disease and mental illness. The number of athletes suffering from the neurodegenerative consequences of repeated concussions is rising."

"There are currently no clinical methods to detect and monitor the progression of these neurological diseases, and management pathways are limited to reducing the number and frequency of concussion events through 'return-to-play' guidelines."

"There is little research on which to base these guidelines, and the pre-clinical models that are used to test the efficacy of pharmacologic interventions have limited similarity to the human brain. A pre-clinical model of repeated mild brain injury that better simulates the human condition is required to study associated brain mechanics and pathophysiology, and to evaluate potential diagnostics and treatments."

It is anticipated that the model will underpin future studies of TBI mechanisms, prevention and treatment, with a high likelihood of clinical translation to improve outcomes for patients.

EXECUTIVE OFFICER'S REPORT

GINTA ORCHARD FFIA



I am honoured to have been working at the NRF since 2002. These 20 years have been exciting, challenging and very educational. You may wonder what has inspired me to stay here all this time. It is the amazing people who contribute to the NRF the donors, volunteers, members and fundraisers. Your dedication, enthusiasm and commitment inspires all of us to work harder and smarter raising much needed funds for life-saving neurosurgical research. Then there are the researchers and neurosurgeons whose work and service is driven by these funds. Their drive, passion and focus to improve treatments and find cures inspires all of us. Finally our dedicated NRF staff Matiss Reinhardt and Kerry Buttery for their contribution, ideas and enthusiasm throughout the year. It is a pleasure to work with this innovative team. We also welcomed our newest team member Kimberley Cottell, who joined us this Grey May after we bid farewell to Gemma van den Akker.

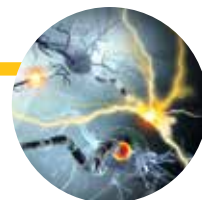
In this Annual Report you can read about the events our wonderful fundraisers and volunteers have organised, raising much-needed funds for neurosurgical research. You will also read about the world class research and life-saving equipment your fundraising and donations are funding. We are very proud to say that 100% of every donation goes directly to research and not administration.

I encourage each and every one of you to challenge yourselves and think of new and exciting ways to fundraise for neurosurgical research. Research gives the gift of hope. A hope for a better future and a hope for a cure. The other benefit from our success is increased research funding. We are now funding researchers across multiple universities and hospitals and the incredible discoveries our researchers are making are so inspiring.

I encourage everyone to connect with the NRF across our social media channels, and to check out our website regularly to learn about our latest fundraising and research events throughout the upcoming year. We have many events happening which do not make it into our newsletters so please follow us online and sign-up for our enews which always has the latest events.

Once again thank you to you all, together we are making a difference and supporting better treatments and life-saving procedures for neurosurgical and neurological conditions and life-saving procedures.

Ginta Orchard
NRF Executive Officer



RESEARCH GRANTS & SCHOLARSHIPS

CHRIS ADAMS & RICHARD BUTTERY

CHRIS ADAMS SCHOLARSHIP UNI SA **RESEARCH GRANT**



Chris Adams sadly lost his battle with a grade-three anaplastic astrocytoma brain tumour in November 2015. Chris' family is now dedicated to honouring his memory and spirit through the NRF and the 'Strong Enough to Live' campaign which supports vital research to find a cure for brain cancer. The annual Chris Adams UniSA Research Grant provides \$5,000 to an early career researcher in the area of brain tumour and brain cancer.

UniSA PhD candidate Erica Yeo has been awarded the Chris Adams UniSA Research Grant for 2021. This will



enable her to continue her vital research developing immune-based therapies for aggressive brain cancers at the Centre for Cancer Biology's Translational Oncology Laboratory. Erica and her team at the Translational Oncology Laboratory, headed by Professor Michael Brown, are working towards adapting CAR-T cells to treat glioblastoma. CAR-T cells are made by the genetic modification of a patient's immune cells to precisely target cancer cells. The funding will also enable Erica to travel to attend the prominent Annual Scientific Meeting of the Australian and New Zealand Society for Immunology hosted in Melbourne in November 2022, and Brisbane's QIMR Berghofer Medical Research Institute to meet collaborator Professor Bryan Day and present her PhD findings. Promoting collaboration and gaining feedback from the scientific community will allow Erica to stay at the cutting edge of current glioblastoma research in Australia.

RICHARD BUTTERY NRF GLIOBLASTOMA **RESEARCH VACATION SCHOLARSHIP**

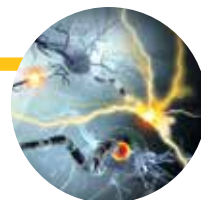


When Richard Buttery sadly passed away from brain cancer, his wife Kerry Buttery started fundraising as a way of remembering him, honouring his memory, and to make a difference for those people who will also receive a brain tumour diagnosis in the future. This year, the creation of the inaugural Richard Buttery NRF Glioblastoma Research Vacation Scholarship was made possible thanks to funds raised by the Buttery family and friends. This scholarship helps foster the next generation of researchers, by supporting an undergraduate medical or biomedical science student to undertake a summer vacation placement in brain tumour research.

University of Adelaide Health and Medical Science student Erica McGiffert is the inaugural recipient of Richard Buttery NRF Glioblastoma Research Vacation Scholarship for 2021. She undertook an 8-week placement at the Molecular Therapeutics Laboratory of the Centre for Cancer Biology. During this time she worked on a project using advanced techniques to grow patient glioblastoma cells in the laboratory, to assess the efficacy of various new anti-cancer drugs on enhancing the effectiveness of Temozolomide in killing glioblastoma cells.

Pictured: Kerry Buttery, Erica McGiffert & Stuart Pitson

SCHOLARSHIP DINNING MEMORIAL NEUROSURGICAL SCHOLARSHIP



DINNING MEMORIAL NEUROSURGICAL SCHOLARSHIP (DMNS) LAUNCH RAISES OVER **\$150,000**

Dr Trevor Alfred Ridley ("Jim") Dinning was a pioneering Adelaide neurosurgeon who co-founded the NRF with Prof Donald Simpson in 1963. He is considered Adelaide's first trained neurosurgeon and one of the chief architects of neurosurgical services in SA. He was a major force in creating neurosurgical training systems in Australia, encouraging neurosurgical trainees to undertake clinical research particularly overseas, to expand their skills and knowledge.

Dr Dinning's daughters Nadia and Anthea provided a generous donation to the NRF to establish the DMNS in his memory. It is very fitting that the purpose of the DMNS is to advance the clinical or research skills of an early career neurosurgeon by encouraging neurosurgeons to travel overseas.

In April, a high tea was held at Ayers House to celebrate the launch of this new scholarship, attracting 164 attendees from Adelaide and interstate and raising more than \$150,000. The NRF contributed additional "top up" funds to bring the total amount to an incredible \$200,000. We would like to express our sincere thanks to the Dinning family, our NRF donors, generous prize donors and guests for making the event an outstanding success.

The event featured an array of distinguished speakers, including NRF President Dr Glenn McCulloch, Dr Dinning's daughter and NRF Board Member, Dr Nadia Kingham, retired neurosurgeon Prof Peter Reilly AO and the NRF Abbie Simpson Clinical Fellow Dr Adam Wells. All spoke very fondly of Dr Dinning, remembered as an expert and compassionate neurosurgeon, exceptional teacher, and an innovative visionary whose achievements have had a profound impact on neurosurgery, neurosurgical research and training in Australia, particularly SA, with a lasting legacy to this day.

The first DMNS will be announced soon and the details included in next year's Annual Report.



Dr Marguerite Harding, Dr Adam Wells,
Dr Amal Abou-Hamden, Dr Ema Knight



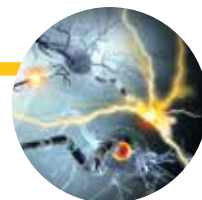
Dinning family and friends.



Back: Paul Carney &
Peter Reilly
Front: Glenn McCulloch
& Harold Schaeffer
(deceased)



Anthea Dinning &
Nadia Kingham



LIFE MEMBERS & HONOUR BOARD

NRF LIFE MEMBERS

Helli Campbell
Richard Fewster
Robert Neill
Mel Zerner

Richard Campbell
Derek Frewin AO
Brian North AO

Francis X Donlan
Carolyn Hewson AO
Robert Searcy

FRIENDS OF THE FOUNDATION - PLATINUM (\$500,000+)

James & Diana Ramsay Foundation SA Police - Ride Like Crazy

FRIENDS OF THE FOUNDATION - GOLD (\$100,000+)

June Bowman

Coopers Brewery Foundation

Dr Jones & Partners

Anthea Dinning & Nadia Kingham

Harvey Foundation

Jody Koerner

Judy Rischbieth

Strong Enough to Live

Wilkins Family Foundation

MAJOR BENEFACTORS - SILVER (\$50,000+)

Barbara Kelley & Family

MAJOR BENEFACTORS - BRONZE (\$25,000+)

Fred Caruso

Jo Cooper

CMV Foundation

Francis X Donlan

Letcombe Foundation

Brian & Sue North

Patrick of Coonawarra

Antony & Mary Louise Simpson

Richard Turner

Nick & Anna Vrodos

Rosemary Waterman

BENEFACTORS (\$10,000+)

Adelaide Brain Tumour Support (ABTS)

Adult Brain Cancer Support Association (ABCSA)

Australian Executor Trustees

Calvary Adelaide

Coopers Brewery

Simon Fahey

Harris Foundation

David Hemmy

Beth Lewis

Medtronic

NuVasive

Frank & Margaret O'Neill

Pete's Army

Picnic for Carmel

Santosh Poonnoose

Radiology SA

Running for Richard

SANTOS

Sarah Constructions

Shimmi for Immi

William Buck

Mel Zerner

BENEFACTORS (\$5,000+)

Margaret Dingle

Cassandra Hewett

Ginta Orchard

Marina Pascale

Pete ❤️ Pete

Richard & Susan Simpson

AMBASSADORS

Cherrie Adams

Jessica Anderson

Kerry BATTERY

Alex Byrne

Henrietta Byrne

Alicia Critchley

Peter Cutting

Pam Downward

Alice Fargher

Di Floreani

Chelsea Dawn Fuller

Tyler Fuller

Lucinda Gregory

Cassandra Hewett

Barbara Kelley

Marissa King

Bethwyn Levi

Sally Mud Crab

Toni McArthur

Melissa O'Brien

Cecilia Pasquale

Missy Pascoe

Allison, Ryan & Lili Pearson

Rosel Stokes

Simon Schwerdt

Natalia Thompson

Allys Todd

Kristen Wilkins & Family

Dean Williams

GOVERNMENT HOUSE



On Wednesday 8th December 2021 a reception was held at Government House to acknowledge the outstanding contributions of a number of personal, community and corporate benefactors who have contributed to the success of the NRF over the past 2 years.

Her Excellency the Honourable Frances Adamson AC and Mr Rod Bunten presented the awards and thanked the recipients for their service and support.

NRF President Glenn McCulloch congratulated the award recipients: "Thank you to every one of our donors and fundraisers – your donations, fundraising and support ensure that advances in neurosurgical research, knowledge and clinical techniques will continue to save lives and improve quality of life."



Nadia Kingham & Anthea Dinning (absent Anthea Dinning)



The Wilkins Family Foundation: Mrs Sandy, Mr Michael and Miss Kristen Wilkins



Donor: Francis X Donlan



Donors: Frank & Margaret O'Neill



Fundraiser: Adelaide Brain Tumour Support – Annette Taylor



Donor: Mel Zerner



Fundraiser: Running for Richard - Kerry Buttery



Fundraiser: Picnic for Carmel – Carmine, Alexander & Alyssia Maio



Fundraiser: Pete & Peter & Kylie Verhagen



Donor: Marina Pascale



Donor: Casandra Hewett



Donor: Margaret Dingle



COMMUNITY FUNDRAISING THANK YOU TO OUR FUNDRAISERS



Adelaide Brain Tumour Support
Christmas Lunch



Adelaide 36ers
NRF Round



Pete ♥ Pete
Movie Preview Cruella



Running for Richard
Movie Preview James Bond



Running for Richard
Movie Preview Dream Horse



Phil Matalone
Raffle



Wish You Were Here
Care Packages (\$2 from every
purchase)



Dr Jones & Partners
Grey May



Guillermo Gomez
Adelaide Marathon
Photo Katrina Dight



Thank you

Kristy Pearce for hosting a Neuroscience Fundraiser in memory of her Dad, Tony Pearce.
Terry White Chemist for their raffle and Kylie May for hosting a Melbourne Cup Event with the proceeds supporting the NRF.



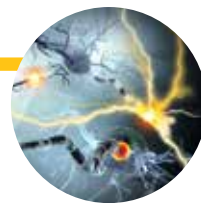
Katrina Dight Martin
Sun Run NSW



Strong Enough To Live
Critter's Choice Book Sales continue

FUNDRAISING

SUPPORTING THE NRF



The objective of the foundation is directed towards funding research into the cause, diagnosis, prevention and treatment of disease or malfunction of the brain, spine and nerves and it is through the generosity of our supporters that we are able to continue this life saving work.

DONATIONS AND REGULAR MONTHLY PAYMENTS



The NRF relies on your generosity to continue to support vital neurological and neurosurgical research and to be able to donate equipment for both research and treatment.

Regular monthly donations are a great way to spread your giving throughout the year, and an annual statement summarising your donations will be delivered to you.

One-off donations and regular monthly donations can be made either online, at www.nrf.com.au, by clicking the "Donate Now" button, scan the QR code on this page or by completing the enclosed form.

GIFTS IN WILLS



Looking for a way to make your final wishes really count? Consider leaving a gift in your Will to the NeuroSurgical Research Foundation. To leave a gift in your Will to the Foundation, contact your solicitor, who will advise you of the required documentation. The correct full name to be listed in your will should read NeuroSurgical Research Foundation.

Thank you to the following for leaving a gift in their Will to the NeuroSurgical Research Foundation:

Basil Reginald Burke

Phyllis Joan Crowley

Ronald Graham Dalip

IN MEMORIAM DONATIONS



In memoriam gifts are donations that may be made in lieu of sending flowers, or in memory of a loved friend, relative, or colleague. They are a positive and thoughtful way to honour the memory of a loved one. Family members are notified of all donors, and gifts are receipted and acknowledged promptly.

The NRF wishes to acknowledge the following In Memoriam donations received from families and friends in memory of their loved ones:

David Cenko

Fiona Dostal

Amanda Maiolo

Janet Marshall

Jed McDonald

Darren Williams

Mark Brenton Standley

Hannah Philbey

IN CELEBRATION DONATIONS



Next time you're celebrating a birthday, anniversary, engagement, or special event, why not ask friends and family to skip presents and donate to lifesaving research instead.

The NRF wishes to acknowledge the following In Celebration donations received this year –via our website and Facebook Fundraisers.

Benjamin Bailey

Kristin Blight

Cecilia Brito

Matt Carey

Greta Dunne

Debz Green

Julie Hancock

Wendy Hockey

Eliza Jayne

AJ Kelly

Jessica Lynch

Meredith McArthur

Brianna Jade McKie

Sarah Mitchell

Ragan Newton

Christie Nunn

Zhen Qiang LI

Margie Sharpe

Annette Taylor

Lynn White

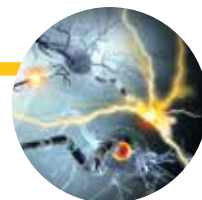
Kristen Wilkins

Jusuper M Starstudio



SCAN ME

SCAN WITH YOUR PHONE CAMERA AND MAKE YOUR DONATION TO THE NRF TODAY!



FUNDRAISING NRF TEAM NEURO RAISE OVER \$29,150 IN VIRTUAL CITY TO BAY 2022

This year the physical City to Bay Fun Run was cancelled due to COVID-19 restrictions. This did not stop our dedicated fundraisers though, who adapted quickly and came up with their own virtual events to raise funds.

One of our fundraisers was even featured on Channel 7 news this year! Tyler Fuller, a survivor of a traumatic brain injury, ran with neurosurgeons from Flinders Medical Centre where he was treated.

Stuart Pitson's research team from the Molecular Therapeutics Laboratory at the Centre for Cancer Biology embarked on a virtual trek around Australia, walking an impressive 14,500km in 16 weeks and raising over \$2,000 for brain tumour research.

Thank you and well done to everyone who walked, ran and fundraised – without you we could not fund innovative, new neurosurgical research.



Team Matalone



BIRU - Brain Injury Rehabilitation Unit



Pitson Lab takes on Australia



Running for Tony Walsh



Running for Richard



Team Fuller



Running for Grossy



Brains Trust - We think faster than we run - University of Adelaide



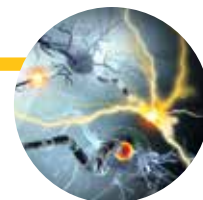
Cecilia Pascale

Thank you to our corporate sponsors Dr Jones & Partners Medical Imaging for supporting NRF Team Neuro.



FUNDRAISING SUPPORTING THE NRF

The NeuroSurgical Research Foundation Incorporated. For the Year Ended 31st March 2021.



The NeuroSurgical Research Foundation Inc Statement of Comprehensive Income

	2022	2021
	\$	\$
NOTE		
INCOME - RESEARCH FUND		
Donations and Fundraising	776,784	659,314
Investment Income	11,288	48,544
TOTAL INCOME	788,072	707,858
LESS EXPENSES		
Research Grant Expenditure	4 1,054,988	370,031
SURPLUS (DEFICIT) RESEARCH FUND	(266,916)	337,827
INCOME - SCHOLARSHIPS FUND		
Donations and fundraising	20,097	136,204
Investment Income	(5,645)	
TOTAL INCOME	14,452	136,204
SURPLUS (DEFICIT) SCHOLARSHIP FUND	14,452	136,204
INCOME - OPERATIONS FUND		
Investment Income	325,000	839,087
Membership	645	741
Government grants and wage subsidies		120,550
TOTAL INCOME	325,645	960,378
LESS EXPENSES		
Administrative Expenses	223,252	217,454
SURPLUS (DEFICIT) OPERATIONS FUND	102,393	742,924
TOTAL COMPREHENSIVE INCOME	(150,071)	1,216,995

NOTES

Note 4

NRF Chair of NeuroSurgical Research - Neurodegeneration	86,248	84,513
NRF Chair of NeuroSurgical Research - Stroke	43,000	---
NRF Chair of NeuroSurgical Research - SCI / TBI	242,741	75,632
Paediatric research	43,000	---
University SA - Brain Tumour Research	180,609	31,995
Flinders University - Brain Tumour Research	193,491	---
Royal Adelaide Hospital - Stroke	25,000	---
Royal Adelaide Hospital - Brain Tumour Research	43,000	---
Royal Adelaide Hospital - TBI	20,000	---
Royal Adelaide Hospital - Equipment	105,448	---
Unallocated research grants	72,451	177,891
	1,054,988	370,031

STATEMENT OF CHANGES IN ACCUMULATED FUNDS

Year ended 31 March 2022	Research Fund	Scholarship Fund	Operations Fund	Total
Accumulated funds at beginning of year	601,583	136,204	4,436,867	5,174,654
Total comprehensive income	(266,916)	14,452	102,393	(150,071)
Transfer for Research Fund	300,000	---	(300,000)	---
Transfer to Scholarship Fund	---	45,102	(45,102)	---
Accumulated funds at end of year	634,667	195,758	4,194,158	5,024,583
Year ended 31 March 2021	Research Fund	Scholarship Fund	Operations Fund	Total
Accumulated funds at beginning of year	263,756	---	3,693,943	3,957,699
Total comprehensive income	337,827	136,204	742,924	1,216,955
Accumulated funds at end of year	601,583	136,204	4,436,867	5,174,654

Note 5 UN-ALLOCATED RESEARCH GRANTS PAYABLE

Opening balance	227,782	193,231
University SA - Brain Tumour Research	(105,440)	(122,250)
University SA - Traumatic Brain Injury	---	(2,375)
NRF Chair of NeuroSurgical Research Neurodegeneration	---	(18,715)
Current year expense Unallocated research grants	177,891	177,891
Closing balance	300,233	227,782

Note Statement of Financial Position

	2022	2021
	\$	\$
CURRENT ASSETS		
Cash and cash equivalents	88,427	408,413
Inventories	500	500
Prepayments and accrued income	14,749	1,753
Accrued income	---	---
TOTAL CURRENT ASSETS	103,676	410,666
NON-CURRENT ASSETS		
Office Equipment and Computer Software	1,786	2,549
Managed Investment Portfolio	5,254,048	5,041,209
TOTAL NON-CURRENT ASSETS	5,255,834	5,043,759
TOTAL ASSETS	5,359,510	5,454,425
CURRENT LIABILITIES		
Payables	2,186	5,834
Un-allocated research grants payable	5 300,233	227,782
Income in advance	2,837	17,829
Accrued expenses	3,737	4,192
Provisions	7,239	11,605
TOTAL CURRENT LIABILITIES	316,232	267,242
NON-CURRENT LIABILITIES		
Provisions	18,695	12,529
TOTAL NON-CURRENT LIABILITIES	18,695	12,529
TOTAL LIABILITIES	334,927	279,771
NET ASSETS	5,024,583	5,174,654
TOTAL ACCUMULATED FUNDS	5,024,583	5,174,654

This financial report has been prepared in order to satisfy the financial reporting requirements of the Associations Incorporation Act 1985 (SA) and the Australian Charities and Not-for-profits Commission Act 2012. These pages are extracts from the Audited Financial Statement. If you require a full set of the Financial Statement, please contact Ginta Orchard - Hon Secretary by either phone (08) 8371 0771 or email ginta.orchard@nrf.com.au.

Thank you to William Buck for pro-bono audit services.





NeuroSurgical Research Foundation

Executive Officer: Ginta Orchard
PO Box 698, North Adelaide SA 5006
Phone: (08) 8371 0771
Mobile: 0419 844 511
Email: info@nrf.com.au

Website & Online Donations: www.nrf.com.au

The NeuroSurgical Research Foundation acknowledges the traditional Country of the Kaurna people of the Adelaide Plains and pays respect to Elders past and present.



SCAN WITH YOUR PHONE CAMERA AND MAKE YOUR DONATION TO THE NRF TODAY!