

FUNDING LIFESAVING NEUROSURGICAL RESEARCH



NRF

NeuroSurgical Research Foundation

NRF RESEARCH PRESENTATIONS – WEDNESDAY 25TH SEPTEMBER 11:00 AM

You are invited to join us to hear research updates from five key researchers whose important work has been funded through your generous donations. We encourage you to attend and meet the researchers who you are funding and who are making a lifesaving difference.

Venue: The University of Adelaide in the Ingkarni Wardli Conference Room L7, North Tce Campus.

RSVP to Ginta Orchard (08) 8371 0771 or ginta.orchard@nrf.com.au



EARLY CAREER RESEARCHER – SPINAL CORD INJURY:

The role of
**Neuroinflammation in
propagating cognitive
deficits following
traumatic spinal
cord injury**



BRAIN TUMOUR RESEARCH:

**Dr Rebecca Ormsby
- SA Neurological
Tumour Bank**

The establishment
of a comprehensive
database management
system for the South
Australian Neurological
Tumour Bank. NRF

funds are helping to establish and maintain a secure, customizable, web-based database management system to capture and link accurate, reliable and standardized patient clinical data (eg. pathology, treatment, survival) to each specimen. Obtaining comprehensive clinical data is extremely important to maximize the research value of each tumour collected in the drive to improve the outcome of patients with neurological cancer.



BRAIN TUMOUR RESEARCH:

**Prof Stuart Pitson,
NRF Chair of Brain
Tumour Research -
Centre for Cancer
Biology, University of
South Australia and SA
Pathology**

Establishing advanced
pre-clinical models for the assessment of
potential new therapies for the treatment of
one of the most lethal adult brain tumours,
glioblastoma.



STROKE RESEARCH:

**Assoc Prof Renee
Turner - University of
Adelaide**

Project funded by
Coopers Brewery
Foundation

Can we use the
brains' own protective
mechanisms to treat

stroke? sAPPA is a molecule that is found
naturally in the brain and levels are increased in
response to injury as a protective response. Can
administered sAPPA salvage brain tissue and
improve outcome following stroke?



PARKINSON'S DISEASE RESEARCH:

**Dr Irina Baetu -
University of Adelaide**

Project funded by the
James & Diana Ramsay
Foundation

Prevention of cognitive
decline in Parkinson's
disease: Researchers will

combine custom cognitive testing, cutting edge
genomic analyses and computer modelling to
predict who is most at risk of cognitive decline in
Parkinson's disease.

PLEASE JOIN US

MEET YOUR RESEARCHERS WED 25TH SEPT 11:00AM

The University of Adelaide.
Hear about the life-saving
research your donations are
funding.

- 1. Spinal Cord Injury
Research**
Honours Student
Kavi Sivasankar
- 2. Brain Tumour Research**
Dr Rebecca Ormsby
Brain Tumour Bank
- 3. Brain Tumour Research**
Prof Stuart Pitson
NRF Brain Tumour Chair
- 4. Stroke Research**
Assoc Prof Renee Turner
- 5. Parkinson's Disease
Research**
Dr Irina Baetu

MEMBERSHIP 2019/20 DUE NOW

**NRF AGM – ALL MEMBERS
INVITED WEDNESDAY
25TH SEPTEMBER
10:30AM – 11.00AM**

Venue: The University of Adelaide in the
Ingkarni Wardli Conference Room L7,
North Tce Campus.

RSVP to Ginta Orchard (08) 8371 0771
or ginta.orchard@nrf.com.au

CHRIS ADAMS RESEARCH GRANT SUPPORTS CUTTING-EDGE BRAIN CANCER RESEARCH



Glenn McCulloch – NRF Vice-President, Tessa Gargett, Cherrie Adams SETL, Marty Adams SETL, Ginta Orchard NRF.



The inaugural Chris Adams UniSA Research Grant has been awarded to support vital brain cancer research anticipated to create a new immunotherapy for adult and child brain cancers. The Grant honours the life of Chris Adams, a UniSA graduate, who was diagnosed with a brain tumour in 2015 and passed away that year, aged 26. Strong Enough To Live (SETL) raised \$120,000 to support the grant which will be awarded each year to an early-career researcher working in a field of high quality brain tumour research.

The inaugural grant has been awarded to Dr Tessa Gargett – an early-career researcher who is working to translate an effective melanoma immunotherapy to adult and child brain cancers. In Dr Gargett's lab studies, the treatment has effectively killed glioblastoma and diffuse intrinsic pontine glioma (DIPG) cell lines in vitro. "Our lab specialises in developing novel immune-based therapies that stimulate the immune system to attack and kill cancer," says Dr Gargett. "We have had some success trialling a targeted CAR-T cell therapy in melanoma patients." Once safety is confirmed, the next step will be to trial the therapy in patients.

SA TO LEAD GOLD STANDARD TESTING TO IMPROVE LETHAL BRAIN TUMOUR TREATMENTS

WE HAVE DEVELOPED IMPORTANT RELATIONSHIPS WITH NEUROSURGEONS AND GLIOBLASTOMA PATIENTS IN ORDER TO CAPTURE TUMOUR SAMPLES FOR OUR LIVING BIOBANK AND CATALOGUE THE DIFFERENT WAYS THE DISEASE IS EXPRESSED

Through the new NRF Chair in Brain Tumour Research at University of South Australia, Adelaide will become the launchpad for a new personalised approach for glioblastoma treatments – the most lethal form of brain cancer.

Funded by a \$1 million donation from the NeuroSurgical Research Foundation (NRF), the first three year tenure for the Chair will be held by Professor Stuart Pitson, a global leader in brain tumour research.

"Our aim for the Chair position is to create a large living glioblastoma biobank that we can use to develop and test new therapies to more effectively treat and ultimately kill the disease."

Highly invasive and difficult to treat, glioblastoma kills more adults than any other brain tumour and takes more young lives than any other disease. Gains for these patients from new treatment efforts remains stubbornly low in comparison to other cancers – with little change over the past 30 years.

Professor Pitson leads a team that has made some important discoveries in glioblastoma, including highly promising new drug targets that could suppress the tumour's growth and block its ability to resist treatment.

"We have developed important relationships with neurosurgeons and glioblastoma patients in order to capture tumour samples for our living biobank and catalogue the different ways the disease is expressed.



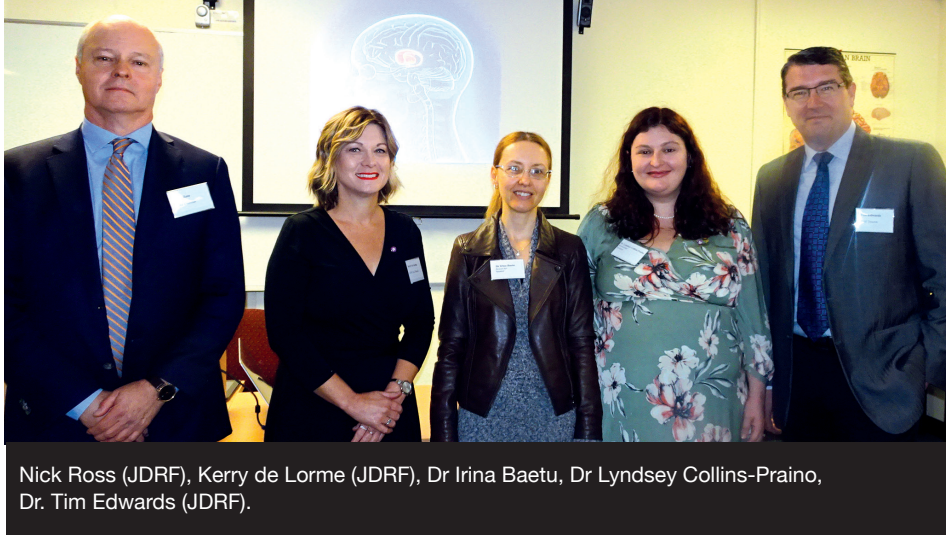
Professor Stuart Pitson – the inaugural NRF Brain Tumour Research Chair

"We then grow these different types of glioblastoma in the laboratory, and in advanced pre-clinical models we have developed, we can identify what treatments will likely give the best outcome for patients.

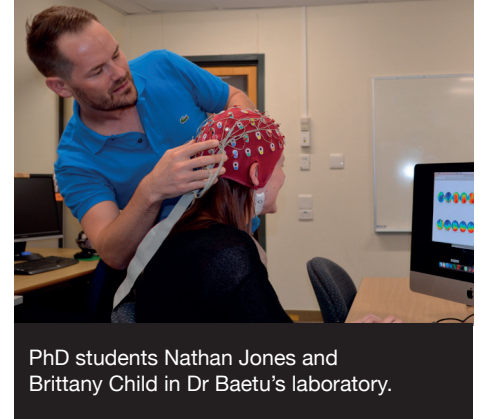
"The model we use is by far the best system for pre-clinical evaluation of glioblastoma drugs. And yet, around the world there are very few systems like this that exist to be used in glioblastoma.

As setting up these models is complex and requires considerable resources, Professor Pitson's lab will become an important hub in Australia for this testing for both research and patient treatment options. The project will help fast-track the translation of research into clinics and give glioblastoma patients a better chance at survival.

PREVENTION OF COGNITIVE DECLINE IN PARKINSON'S DISEASE



Nick Ross (JDRF), Kerry de Lorme (JDRF), Dr Irina Baetu, Dr Lyndsey Collins-Praino, Dr. Tim Edwards (JDRF).



PhD students Nathan Jones and Brittany Child in Dr Baetu's laboratory.



Research Team Chief Investigators Dr Lyndsey Collins-Praino and Dr Irina Baetu.

“THIS RESEARCH IS FOUNDATIONAL FOR DEVELOPING EARLY INTERVENTION PROTOCOLS WHICH MAY BE ABLE TO HELP US SLOW, OR EVEN PREVENT, THE ONSET OF THIS DEBILITATING SYMPTOM OF PARKINSON'S.”

Researchers will combine custom cognitive testing, cutting edge genomic analyses and computer modelling to predict who is most at risk of cognitive decline in Parkinson's disease. The grant from the James and Diana Ramsay Foundation (JDRF) will provide \$219,000 over three years.

This funding will result in a rich database on how decision-making is altered in Parkinson's disease (PD), how these alterations are influenced by specific genetic factors, as well as by motor subtype of the disease, and how decision-making may decline over time.

Being able to track changes in decision-making over the course of the disease is a critical first step for

developing a way to predict risk and progression of cognitive decline in PD and to potentially prevent it.

“This research is foundational for developing early intervention protocols which may be able to help us slow, or even prevent, the onset of this debilitating symptom of Parkinson's.” Dr Lyndsey Collins-Praino said.

Dr Irina Baetu, co-researcher said, “Early detection of cognitive decline could be particularly beneficial for implementing targeted interventions to slow down or even prevent cognitive and motor dysfunction not only in PD but also in healthy ageing. Additionally, we will identify genes relevant to the function of these brain circuits that may predict risk and

progression of cognitive decline in different subtypes of PD.”

Parkinson's disease affects 10 million people worldwide. In Australia, 1 in every 350 Australians suffers from the disease, with 32 new cases diagnosed each day. The prevalence of PD is expected to double by 2040. Parkinson's disease is not curable currently and is a life-long condition that is progressive.

“We saw this as a major area of unmet need. We are hoping that the learnings from this project may predict and slow cognitive decline in Parkinson's patients. We are thrilled that this important work is being done in Adelaide and look forward to some great outcomes from the study,” Kerry de Lorme, JDRF.

To register to be part of the study please contact Irina irina.baetu@adelaide.edu.au

NRF TEAM NEURO TARGET TO RAISE \$244,275 TO FUND VICON VANTAGE MOTION CAPTURE SYSTEM (VMCS)



JOIN NRF TEAM NEURO IN THE CITY-BAY SUNDAY 15TH SEPTEMBER 2019

Registrations are now open!

Participating in the City-Bay event is a great way to get fit and raise vital funds for neurosurgical research. NRF Team Neuro comprises ordinary people who want to help, along with researchers, neurosurgeons, patients, families, and friends – all with the shared goal of supporting the NRF and neurosurgical research in South Australia. There are three main ways to support;

- **Become a City-Bay Hero:** Set up a page, raise \$500 and you will receive free entry, a free NRF Team Neuro T-shirt to wear on the day and free brunch. Limited numbers

available and you must fundraise using Everyday Hero.

- **Sign up for NRF Team Neuro Hero:** All participants who raise \$100 or more and sign up for NRF Team Neuro will receive a free T-shirt to wear on the day and free brunch, however the entry fee is not included.
- **Team Neuro Members:** Those wearing a NRF Team Neuro T-shirts will receive a hard-earned complimentary Breakfast/Lunch at NRF Team Neuro site at the Bay following the event.

More Info: www.nrf.com.au/events



VICON VMCS

- This state-of-the-art equipment will enable discrete changes in motor function to be detected.
- It will allow us to examine recovery and the effect of treatment interventions.
- This system would mean we are the only group in Australia, and one of a handful of groups worldwide, to be conducting studies of this calibre.
- To be used in studies relating to the following conditions: stroke, traumatic brain injury and spinal cord injury.

COOPERS BREWERY FOUNDATION 11TH GOLF DAY AT THE KOORYONGA GOLF COURSE ON FRIDAY 3RD MAY

THIS WELL ATTENDED EVENT RAISED OVER \$140,000 FOR THE NRF

The day attracted 120 players, 30 teams and 17 corporate hole sponsors, who created a festive atmosphere for the golfers by providing a variety of activities, catering on course, followed by a dinner, entertainment, auctions and raffles.

Funding NRF Stroke Research:

Assoc Prof Renée Turner will be asking the question:



Can we use the brains' own protective mechanisms to treat stroke?

- Stroke is a leading cause of death, disability and dementia worldwide
- Approximately 56,000 people suffer a stroke each year in Australia – that equates to one stroke every nine minutes.
- sAPPA is a molecule that is found naturally in the brain and levels are increased in response to injury as a protective response. Can administered sAPPA salvage brain tissue and improve outcome following stroke?

- This project seeks to determine whether administering this protein after stroke can reduce the amount of brain tissue injured, facilitate recovery and improve patient outcomes.

Thank you to the NRF prize donors who supported the day:

FOUNDATI N
Brewing support for the community.

University of South Australia

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