

HUMANS OF MEDICAL RESEARCH

We want to introduce you to our scientists as humans. These are the people who directly benefit from your ongoing support. They are so excited to share their stories with you!

PROFESSOR MARK GORRELL



It was a simple desire to know how things work, which initially attracted Professor Mark Gorrell to science. As a young child, Mark closely followed the work of his maternal grandfather who was a plumber in rural New South Wales.

"Anything mechanical, my grandfather would take apart and show me," says Mark.

But a career in plumbing wasn't to be. Mark was ultimately attracted to the field of protein biochemistry – saying it perfectly combined his interest in knowing how things work with his love of biology. Mark studied at Johns Hopkins University in the US state of Maryland in the early 1990s, where he learnt more about cell biology and virology – particularly in relation to HIV. He later returned to Australia and began working at the Centenary Institute in 1995, where he currently heads the Liver Enzymes in Metabolism and Inflammation Program.

His work is focused on the link between a particular family of enzymes and various chronic conditions, particularly chronic liver diseases and diabetes, which can lead to severe liver scarring, and liver failure or cancer. It's an ongoing project which has so far been 25 years in the making.

"I woke up at 4AM one morning in 1993, and decided to discover new enzymes. I was thinking about what had been published on the topic and decided there was a major fundamental knowledge gap. I'd been studying DPP4, and believed there had to be more in the family. It turns out there were three more, so I set about discovering them. I've been looking at that enzyme family ever since."

Outside his own research, Mark enjoys mentoring younger scientists. He leads Centenary's Postgraduate Research Program, and is also volunteering as a research tutor and as a learning facilitator for second-year medicine students at the University of Sydney. Mark is adamant that research is more than simply reading a book – rather, it's about creating new knowledge.

"The reason for discovering new things is to improve human health. You can improve human health by being a doctor, and treating one patient at a time. You can also improve human health by being a researcher, and helping 100 million people at once."

With a special interest in ancient history, Mark ensures he sets aside time when attending overseas conferences to visit museums. Among his favourites – The Louvre, The British Museum, The Pergamon, The Vatican Museums, and the Met. Back home, he enjoys attending performances by the Sydney Symphony Orchestra at the Opera House, as well as spending time in the garden.

JADE BOLAND



When you talk to Jade Boland, you realise "balance" is important to her, whether it's holding a tree pose on her yoga mat or working to ensure women are better represented in science. The 27-year-old has been at Centenary since the start of 2016, and she currently works as a Research Assistant in Professor Geoff McCaughan's Liver Injury and Cancer Program.

Jade knew she either wanted to pursue art or science once she finished school, and ultimately chose to study the latter at university. She worked in a pathology lab for several years, which gave her the practical skills she needed to become a Research Assistant at Centenary.

At the moment, there's only one treatment available for patients diagnosed with late-stage liver cancer which can extend their life by three months. Jade is part of a team working to improve such therapeutics, as well as identify diagnostic markers with the aim of picking up liver cancer in the earlier stages – something Jade describes as very rewarding.

"I always feel good about the work we do at Centenary – particularly being on the frontline of new medical discoveries," she says.

When asked what she believes is the best thing about working for Centenary, Jade immediately says the people. But she also enjoys being involved in programs outside the lab, such as the Social Committee and the Gender Equity Program.

"I really like how Centenary is actively trying to improve equity, and ensure women are given equal opportunities to pursue a career in science as men."

Jade is also a dedicated yogi, and next month she'll be heading to Byron Bay on the New South Wales Far North Coast for a 10-day retreat, where her practice will count towards achieving her yoga teaching accreditation.

"I'm not a very sporty person, so yoga is definitely more my style. Sitting at a bench all day, you start to feel tension in your shoulders, so going to yoga is almost like physiotherapy at a discount price!" she quips.

Jokes aside, Jade says she'd love to be able to teach yoga on the side of pursuing her career in science. Like most people, Jade also enjoys travelling and counts a trip to Europe with a bunch of friends last year as one of her most memorable experiences – especially "eating all of the Portuguese tarts!"

STUART COOK



Growing up, Stuart never really thought he'd one day be donning a lab coat and goggles in his day-to-day work. During high school, he tended to lean towards the humanities subjects. But after studying biology in Year 11, the tables started to turn.

"I grew up in a medical household. My dad is a doctor and my mum is a physiotherapist, so there were always chats around the table about 'this world' but I never really knew anything about it," says Stuart.

"I ended up choosing a science degree at university, and really enjoyed the practical side of it. I mainly focused on biology subjects, but I also had a few earth and environmental science ones as well."

Fast-forward a few years, the 22-year-old has already been the lead author of a study which has uncovered a new pathway in the body to fight cancer, including melanoma.

Stuart started at Centenary at the beginning of 2017 as an Honours Student, and is now a Research Assistant in Dr Ben Roediger's Skin Imaging and Inflammation Laboratory. At the moment, he's focusing on a project which is based around the hallmark of inflammation – the inflammasome.

"You go into the lab not knowing what's going to work. Nine times out of 10 it doesn't work, but then the one time it does, it really hits you and it's what keeps you hooked. But even when it's wrong, that helps steer you in the right direction," he says.

Stuart particularly enjoys working at Centenary because of the friendly faces and the freedom to try new methods. He also describes the facilities he uses as "top-notch".

"I've always found science terribly fascinating. It satisfies me intellectually, and it's nice coming to work every day knowing everything you do makes a difference, even the small stuff."

Work aside, Stuart describes himself as a bit of a "space nut".

"I've never studied astrophysics or anything like that, but I've always been fascinated by space. I'm travelling to the US later in the year, and I'd definitely like to stop by the Space Center in Florida."

As his photo would suggest, Stuart also enjoys spending time on the snow slopes. When he finished high school, he spent some time working in Canada as a ski instructor. For those looking for a ski holiday recommendation, Stuart says you can't go past Japan's northernmost island Hokkaido.

KATRINA FRANKCOMBE



Centenary's scientists do incredible work – making medical breakthroughs in the lab. But how do those breakthroughs come to be real-life health solutions? That's where Katrina Frankcombe comes in.

Katrina is in charge of Translation and Commercialisation. A large part of her role requires her to look at what research is being undertaken at Centenary, identify opportunities where it could be translated into diagnostics, therapeutics or other health outcomes and then help see that through. She also deals with agreements between Centenary and third-parties involving intellectual property, whether that's collaborations, confidentiality agreements or material transfer agreements.

Katrina has only been at Centenary for a year, but having previously worked overseas in a variety of roles, she brings a wealth of experience to the Institute.

"I like that Centenary is quite a small organisation and everyone is very friendly, and works well together. There's a lot of enthusiasm around the area of translation which is producing great outcomes" she says.

As her job title would suggest, Katrina needs to be able to translate and communicate complicated medical research in a way collaborators outside the organisation will understand.

"While I studied medicinal chemistry at university, it's a completely different level here. The scientists are talking about signalling processes and physiological effects, which I don't have a background in. It can be quite challenging and Centenary's scientists need to 'dumb' it down a bit for me. But that's also good because most of the people I talk to will be more business people, so they don't necessarily have that background either."

But for Katrina, it hasn't always been about science. She's had a diverse career – even moonlighting as a nightclub manager!

"I went to the UK to do a post-doctorate at Cambridge University, but I became a bit disillusioned with academia. So, I left and managed a nightclub for three years. I went back into science, working for a biotech company, before moving into business development."

Eventually tired of the cold weather, Katrina moved back to Australia in 2006 after spending eight years in the UK where she met her now husband. They have two children (currently 6 and 8 years old), which keeps Katrina busy outside work. But when she does have a spare moment, Katrina enjoys snowboarding and bushwalking with her family, especially back in her home state of Tasmania.

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ASSOCIATE PROFESSOR PATRICK BERTOLINO



Associate Professor Patrick Bertolino and his group have recently discovered a new, never-before identified cell subset located in the outer membrane of the liver which could inform more targeted treatments for the fastest growing cancer killer in Australia, liver cancer as well as liver disease. The finding was published in the prestigious journal, *Immunity*.

At Centenary, Patrick leads the Liver Immunology group. "For the past 25 years, the goal of my research aims to better understand the unique interactions between the liver and the immune system and why liver transplants have more chance of being accepted in the absence of anti-rejection drugs than any transplanted organ."

Patrick and his team have made many important, internationally recognised discoveries. They're currently focused on understanding the role of the newly identified cell in the outer membrane of the liver and understanding why some liver-tropic infections do not protect the individual against subsequent infections by the same microbe.

Patrick has been fascinated for much of his career by a single organ - the liver. "My passion for research is fuelled by an eager curiosity as well as a burning desire to dissect and understand the mechanisms that would explain a complex biological phenomenon or process. Research satisfies my personal intellectual need while at the same time increasing our basic knowledge, improving current treatments and potentially saving human lives."

When you meet Patrick, first you'll notice his friendly smile and perhaps his French accent, which might confuse some, when they hear his Italian surname, "Bertolino". Patrick has Italian parents, he was raised in Tunisia, North Africa, attending a French school and going on to study at the University of Lyon in France. It's fair to say he's travelled a unique path to Centenary Institute, where he has been for the past two decades.

Through his work at Centenary, Patrick has established a reputation as a world-leading expert in liver immunology. We're fortunate to have someone working on one of the biggest health burdens affecting Australians today. Patrick isn't afraid of asking the difficult questions and taking on the biggest health problems we face.

Patrick's work requires extreme focus, on a single organ, cell, disease or mechanism, so outside of the lab, Patrick says it's important to relax. He loves to travel and socialise with his mates, of which he has many, thanks to that friendly smile!

DR BEN ROEDIGER



Dr Ben Roediger is investigating the mechanisms by which inflammation contributes to chronic inflammatory diseases, including allergic disease and cancer. Ben knows first-hand how devastating these conditions can be. Both his father and brother suffered from eczema and asthma. His father was the only one in his school with asthma when he was a child, but cases of allergic disease have been steadily rising in Western society AND Scientists are still working to understand what is causing the rise and how to better treat these diseases.

Ben recalls his brother suffering terrible asthma, and his parents taking him to hospital many times to treat potentially deadly attacks. Ben's brother still lives with asthma but thanks to medical advancements, it is now better managed with modern medication. The eczema however, still effects every area of his life. "It's really tough, my brother feels unable to fulfil his potential," says Ben. The disease, with no known cure, can cause depression, social anxiety, affect self-esteem and relationships "Just because eczema isn't lethal, does not mean it's not crippling," says Ben.

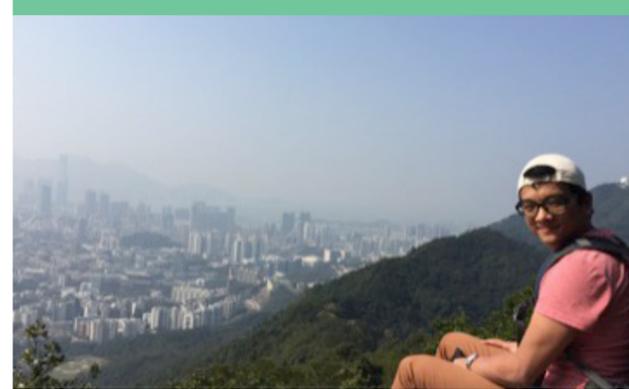
Ben's own son was also hospitalised with viral bronchitis, often a harbinger of asthma in later childhood. "He was a tiny baby, just struggling to breathe, his chest wheezing. It was hard to see" says Ben.

In the light of his family history, it is surprising that Ben himself doesn't suffer an allergic or inflammatory disease, but after witnessing so much suffering by loved ones, it is no wonder why Ben has been drawn towards this specific area of medical research. He is now a much respected, important part of the effort to understand these diseases and find cures or better, more effective treatments, improving the quality of life for those suffering like his brother, son and father.

Ben's family are very proud of the career path he has chosen, despite opting not to follow in his parent's footsteps. Both Ben's father and mother are pilots, connecting over their common love. Ben's mother was somewhat of an aviation pioneer, first learning to fly in the 1960's when it was much more 'acceptable' for women to be air hostesses. His father flew domestic planes for Ansett. Both are now in their 70's and his mother still flies planes.

Being an internationally recognised researcher, Ben travels for work but it's not something he enjoys, being 6.1ft tall! We are glad medical research became Ben's passion and that he is working to uncover the mysteries of inflammatory diseases, alongside other scientists all over the globe!

DR KEN LIU



Dr Ken Liu is investigating new ways to treat liver cancer. This area of medical research is particularly important today as liver cancer is the fastest rising cancer in Australia and is among the deadliest.

Ken, a PhD student with Centenary's Liver Injury and Cancer Lab, is using a novel drug to improve the structure and function of tumour blood vessels (which are usually leaky and disorganised). By improving the quality of these vessels, the team aims to enhance the body's immune response to the cancer and also increase the delivery of any other anti-cancer therapy which is co-administered.

Ultimately, Ken wants his work to have an impact on people like the patients he meets during his clinical work as a doctor. He says: "Throughout my training as a Hepatologist (liver doctor), I came across so many patients diagnosed with liver cancer and most died from the disease. Patients often present too late for curative treatment and current therapies available for advanced disease are extremely limited without any significant discoveries made over the past decade. At the end of the day, it is the patient in front of me that drives me to do research in liver cancer."

In addition to the connection to his patients, the study of liver cancer is personal for Ken, with his own family members and his wife's family affected by this terrible disease. "Both my wife and I have had several family members pass away from liver cancer related to hepatitis B (the most common cause of liver cancer worldwide). Thankfully, the virus can now be effectively prevented with immunisation. However, for those like my family members who contracted the virus before the vaccine became available, they are at risk of getting liver cancer."

Being a scientist requires a great deal of patience, dedication and focus, so down-time is important. For Ken, sometimes this means getting outdoors in the fresh air and exercising. "Hiking and bike riding are among my favourite activities." But Ken is also handy in the kitchen. He likens cooking to carrying out a science experiment. "I enjoy baking cakes and desserts and sharing them with my friends and colleagues. In fact, the process of baking is not too dissimilar to performing a scientific experiment, except the end product is edible." We hear Ken's kitchen creations taste pretty good too!

DR STEFAN OEHLERS



Dr Stefan Oehlers and the Tuberculosis (TB) research group at Centenary Institute, investigate this highly infectious disease, which affects more than a quarter of the world's population. Less than half of the people diagnosed with antibiotic resistant TB are successfully cured so there's a desperate need for new ways to cure this ancient infection.

Australia is now largely protected from TB, but globally, this disease remains a serious problem. TB has killed about one billion people in the last 200 years. "TB is the biggest, oldest and most widespread infectious disease challenge that faces humanity. I'm motivated by big challenges and my group's important work is making a difference," says Stefan.

When Stefan isn't at work tackling this huge global health burden, he finds productive ways to relax, as if he couldn't be more impressive, "I just swapped video games for running, just before I started my own research group at Centenary. This has worked really well for thinking through some of the big picture things around research questions and strategies while I plod around."

Stefan has recently become a father to the adorable 7 month-old Joshua, who has changed his approach to work. One of the many advantages of modern science is that researchers can often be on the job remotely via computers, but Stefan has discovered this solution has its own challenges when doing two very important jobs at once! "Babies are really interested in electronic screens so I've had to compartmentalise working from home time to his naps."

Stefan hopes being a dad will make him an even better scientist.

"That remains to be seen. A colleague told me having kids determining your timetable makes you more efficient at work, I'm still waiting for my efficiency upgrade!" he jokes.

We think little Joshua is sure to inspire great things from you Stefan; we certainly warmly welcome him in to 'Team Centenary'.

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PROFESSOR PETER HERSEY



Professor Peter Hersey is a true pioneer of immunotherapy for melanoma in Australia and in focusing on the properties of melanoma cells which make them resistant to successful treatment.

As a researcher, Professor Hersey has been a joint holder of a prestigious National Health and Medical Research Council (NHMRC) program grant since 2005, which has been renewed for a third five-year period. He has participated in most of the key clinical trials on immunotherapy with immune checkpoint inhibitors (a drug which blocks certain proteins made by some immune system and cancer cells) and he is a member of the Melanoma Research Institute of Australia.

Professor Hersey says, throughout his long career, the most important lesson he has learnt and now passes on to others is, "As a researcher, to be committed and have thinking time and as a clinician, to listen to patients and have responsibility for them."

Professor Hersey has been treating melanoma patients and researching 'Australia's cancer' for decades, "business leaders have said, success is finding a need and then filling it. I have tried to do the same thing in melanoma. The need was great and not being filled by current therapies". He says, as a scientist today, you must be able to "rise to challenges, to think laterally and maintain focus."

Professor Hersey's vast knowledge and experience makes him one of the great mentors at Centenary, helping to advance the careers of scientists in his team. Professor Hersey is generous with his time, despite being a prominent and in-demand national health identity.

His work has been a true passion for Professor Hersey's, but of course his family and his hobbies are also important; sailing, swimming and dining among his favorite pastimes as well as spending time with his family. Professor Hersey has found the perfect balance thanks to "A supportive team, learning from others, respect and luck in finding great colleagues."

DR JODIE INGLES



Dr Jodie Ingles has had quite the year, winning a bounty of awards for her game-changing research in the area of cardiac genetic counselling. Jodie recently won the Centenary Institute Bank of Queensland Gender Equity Early Career Award and the NSW Cardiovascular Research Network Award, adding to an already impressive collection of prizes for her research. Being a young researcher, Jodie is often referred to as a "rising star", but it's fair to say that Jodie has now truly cemented her position as a leading Australian scientist.

Jodie has been working as a cardiac genetic counsellor for the past 14 years and every week she sees families with inherited heart conditions and experiencing the loss of a loved one from sudden cardiac death, "Being able to provide answers to these families guides every aspect of our research. It's often challenging, but we get to be there for families at some of their most difficult times and be a positive force," says Jodie.

Jodie holds a number of roles at Centenary Institute, seeing families in clinics as a cardiac genetic counsellor and overseeing the return of clinical genetic testing results from Centenary's research program. Jodie also leads a group in Centenary's Molecular Cardiology Program, focused on clinical, genetic and psychosocial aspects of inherited heart diseases.

Jodie enjoys the mystery of science and works hard to uncover the life-saving answers. "I love analysing data because it means I'm the first person in the world to know the answer to my research question. I also love looking at a patients' genetic test results, it's like being a detective, building a case to explain the disease in their family."

Jodie clearly works hard in the clinic and she's kept busy on the weekend too, as the mum of an active eight-year-old boy, Jodie usually spends her weekends at various sports activities. Being a mum is another role she loves and of course, excels in.

JULIE HUNTER



Julie Hunter wasn't always destined for the laboratory, she went to university to study a psychology degree and realised that what she loved most was carrying out experiments and learning about viral genetics, so she changed fields and has been at home in the lab ever since, "I get excited when an experiment produces a clear cut result. I also enjoy showing work experience students what it is like to work in a lab."

Julie is part of the Vascular Biology Program, led by Professor Jenny Gamble, where she specialises in a range of techniques including tissue culture, gene cloning and expression. The Vascular Biology team is particularly focused on the endothelial cell, a cell that lines our blood vessels. Understanding this cell is leading towards the development of new treatments for a number of types of cancers, including pancreatic and liver cancers.

One of the most interesting parts of Julie's role is her weekly visit to collect a 'delivery' of umbilical cords donated by mothers at the Royal Prince Alfred Hospital, located next to Centenary Institute, for medical research. Cells from the cords are used for a variety of experiments. "I extract endothelial cells which line the vein. We study these cells in order to predict how they will be affected by disease, and we use them to test potentially new cancer drugs."

Julie is also a busy mum of three kids and as her children gain more independence, she is enjoying returning to her passions, including dog training with her young Groodle! "Dog training is an activity to do with your dog rather than just having them follow you around the house. My dog loves agility training. He gets very excited watching the other dogs do the obstacle course." Julie is fascinated by how much dogs are directed by body language, "If I happen to point my toes in the wrong direction, he will notice and take the wrong jump." Julie says training her dog to do agility courses is a continuous learning experience for her, much like life in the research laboratory.

DR RICHARD BAGNALL



Dr Richard Bagnall works with the Molecular Cardiology Laboratory which investigates the causes of cardiovascular disease in order to uncover better, more targeted treatments and cures for a disease which is one of Australia's biggest killers.

In a current project, Richard is looking for genetic variants which cause inherited heart disease. He uses high performance computers to analyze large volumes of genetic information. Richard and his team then validate the findings in the laboratory with various practical hands-on techniques.

Richard is truly passionate about his work, "Human genetics research is exhilarating. We are in a unique time where it is now possible to read the entire genetic sequence of a person in just six weeks. Every day I learn something new that helps our research into the causes of inherited heart diseases and sudden cardiac death in the young" he says. The team is finding new ways that genetic variants impact on our health and new genes which cause inherited heart diseases. This research could lead to better treatments and even cures for genetic heart disease.

Richard is not one to shy away from a challenge of any kind- in the lab and outside of it. His methods of relaxing are certainly novel! "This weekend I am participating in a 16-kilometer obstacle course - in mud. I will be forming human pyramids to scale high walls, throwing myself into iced water, wading through chest-deep mud, and trying to avoid electrified wires." Richard believes it's important to stay active when you spend a lot of time at a desk or bench at work.

Something many of his colleagues and friends may not know about Richard is, he used to be a DJ! "To make ends meet as a PhD student, I was a resident DJ at a nightclub in London." Richard is a groovy dad who shares his passions with his kids, "I have two young daughters and both have inherited my love of the natural world. They both enjoy trying to catch bugs or lizards in our garden and exploring the rock pools at Toowoona bay on the Central Coast."

DR ANGELINA LAY



Dr Angelina Lay's research focusses on a type of chronic liver disease known as liver fibrosis, characterised by excessive scar tissue as a result of the liver repairing itself after injuries caused by viruses or chemicals.

Angelina's life has followed an unusual path to end up researching liver disease. She was born in Timor-Leste (East Timor) and grew up while Timor-Leste was under the occupation of Indonesian troops. During that time not many schools were open and her parents feared sending her out when many East Timorese "disappeared". It wasn't until she was 12 that Angelina went to school for the first time! She recalls being so excited to finally attend school and wear a school uniform.

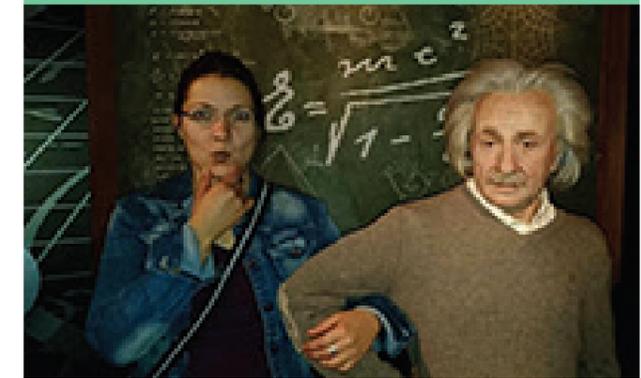
After a few years, things deteriorated in Timor-Leste again, but Angelina was fortunately able to migrate to Australia in her late teens. Starting year 11 with no English was a real struggle; "I had a few friends, but as you can imagine that was tough. I wasn't going to waste this amazing opportunity; I worked hard and got into UNSW studying an advanced science degree."

"My Honours was a great experience, I developed a love for science and decided to pursue a career in medical research. I did my PhD with Professor Philip Hogg. We achieved some great things; our research into a new cancer treatment was published in Nature. Phil was even more excited when he discovered that apparently I am the first female East Timorese with a PhD."

Angelina travelled to the US and took up her first Postdoctoral position at the University of Notre Dame. Eight years, a couple of papers, a husband and a son later, they came back to Sydney, where she was sponsored by the University of Sydney Postdoctoral Fellowship and chose to work with Professor Jenny Gamble in the Centenary Institute.

Angelina is a mum of two adorable kids (12 and 9 years) and her husband is also a fulltime senior scientist. "I love what I do every day, it is challenging but rewarding knowing that my medical research today will help us better understand chronic liver disease and find ways to reduce the impact of liver disease - now the fastest-growing cancer killer in Australia."

DR KRISTINA JAHN



The invention of modern scientific technology such as microscopes, has opened up a whole new dimension in science, from accelerating medical research, improving the quality of our lives to making many daily tasks faster and more efficient.

This is why it is vital that these important pieces of equipment are in optimal working-order. At Centenary, that is the responsibility of Dr Kristina Jahn, who ensures that our many high-tech state-of-the-art microscopes are operating well and that all staff, including students, know how to use them correctly for their research. Complex equipment often has many components which must all be working in unison.

Kristina is lucky enough to meet every new staff member at Centenary and this is one of the reasons she enjoys her role, "My job is a very social one, because I know what most people in the Institute do, so I can introduce people to one another and help with collaboration across Centenary."

Kristina also teaches new students how to use the microscopes, skills which they will carry throughout scientific careers. They also acquire some creative skills, "It is wonderful for me to teach new honours students how to take images and then have them win an imaging prize or fill their theses with meaningful data."

Outside of work, Kristina enjoys spending time in nature, especially going for long walks. One thing many people at Centenary might not know about Kristina is that she enjoys Rock 'n Roll and Rockabilly dancing! "I love the speed and the rhythm of the music as well as the amazing full circle shirts that fly high when spinning!"

Kristina is always happy to help others, she is one of our brilliant young staff and she has rhythm! You can see why Kristina is a valued and fascinating member of our team at the Centenary Institute.

ASSOCIATE PROFESSOR ANTHONY DON



Alzheimer's disease is one of the leading causes of death in Australia. The devastating condition is characterised by a group of symptoms, including loss of language, memory, perception, personality and cognitive skills. Alzheimer's disease comes under the umbrella of dementia and accounts for up to 80% of cases.

This is a disease which can strike any one of us and it's becoming more common, which is why the research of Centenary Institute scientist, Associate Professor Anthony Don, is so vitally important. Current treatments can alleviate symptoms for a period of time but they eventually lose effectiveness and new investigational treatments, designed to reverse or 'cure' the disease, are failing. Anthony said, there is much left for scientists to uncover, "Through a greater understanding of the biochemical basis for Alzheimer's, we will be able to design and develop new therapeutics to target the disease."

Anthony and his team are using human brains of deceased patients who generously chose to be organ donors. He is investigating those with and without Alzheimer's disease, to uncover the differences, in order to understand why one person is affected by this disease while another is not.

Inflammation is a major cause of Alzheimer's disease, contributing significantly to the degeneration of neurons which causes loss of brain function. Anthony's research is creating a more thorough understanding of the underlying causes of brain inflammation in Alzheimer's disease.

While Anthony is not working hard towards lifting one of the biggest health burdens our nation faces, he's enjoying days at the beach with his daughters aged six and nine. "They are still at the age when hanging out with your dad is okay!" said Anthony. One of his girls even brought her dad to school for 'show and tell' for Anthony to explain how the brain works to her class.

Anthony loves the water, and has passed on this passion to his kids who now compete in nippers, which usually fills the family weekends. When he's lucky enough to have the time, like many Aussie blokes, Anthony enjoys watching test cricket. When your day job is as important as Anthony's, we think he deserves to relax now and then!

DR PHILIP TONG



Dr Philip Tong is one of Australia's aspiring and unique young talents: he acts as the interface between research and patient outcomes, working as a fundamental researcher at the Centenary Institute, as well as a dermatologist in training at the Royal Prince Alfred (RPA) Hospital.

When he wears his "scientist hat", he works alongside some of the best in the field of skin diseases, to better understand the disease mechanisms of skin conditions such as eczema and psoriasis, which affect a significant percentage of Australia's population - approximately 20 per cent. Along with his fellow researchers, Philip's main goal is to "rethink the causes of common skin conditions in order to develop new drug options for patients and also allowing clinicians to work alongside scientists to tackle challenging diagnostic dilemmas."

When wearing his "clinical hat", Philip holds the valuable position of working at Sydney's Premier Teaching Royal Prince Alfred Hospital. It is the first-hand experience and interaction with patients that drives Philip's passion for vital research, working towards better understanding diseases in order to find more effective therapeutics and cures. "It is a privilege to be a part of the journey of my patients who are living with chronic conditions - developing and maintaining a good therapeutic relationship with the people whose lives I can improve is a part of the role which brings such great satisfaction." He is not just treating the disease, he is treating the person and improving their quality of life; it is always Philip's mission to try to uncover what more he can do for them.

When he is not working hard, researching in the laboratory or seeing patients in hospital, Philip finds ways to relax. Science is often an invisible career, which he says can seem far from glamorous, but he takes pride in all that he does and that includes his personal presentation, so much that Philip confesses he has developed an expensive hobby of late night online shopping! As a result of this, his patients can expect to be greeted by a very sharp-looking doctor in a well-tailored suit, every visit, because Philip takes his job very seriously and he likes to dress the part!

DR CHANDRIKA DESHPANDE



Dr Chandrika Deshpande spends a great deal of time investigating some of the most complex medical problems facing our society, but she also likes to "have fun and enjoy every moment" - experimenting in the lab, in the kitchen and on the dance floor!

Chandrika has been with Centenary for six years, previously working on a protein which causes resistance to breast cancer drugs, and more recently, uncovering the secrets of Anemia of Chronic Diseases (ACD), a condition affecting many people with cancer, chronic infections and inflammatory disorders such as arthritis. Chandrika is particularly focused on understanding the structure and mechanism of action of 'ferroportin', a protein which is a critical regulator of iron levels in the body. Chandrika is motivated every day to improve human health, she says it is "a job with a purpose."

When Chandrika hangs up the lab coat after tackling such inherently complex problems, she enjoys the simple pleasures, such as applying her creative experimentation in the kitchen. "Cooking is a passion that I have mostly inherited from my mother and mother-in-law. While I learnt most of the family recipes, mainly Indian, from them, I also like to try new international cuisines. I love to cook for my family and friends, it gives me great joy." Chandrika insists anyone can be a good cook if they are passionate about it! "The first lesson from my mum was to cook with love, it can do miracles for the taste."

Chandrika has recently found a novel way to wind down after work - on the dance floor! She says dancing is the ultimate stress buster. "A feeling of freedom. I can't resist moving to a good beat, no matter where I am or what I am doing. Chandrika says there is a misconception that scientists are serious all the time. "Scientists are often looked upon as 'hard-working geeks', however, most of us have another side to our personalities. I love to have fun and enjoy every moment in life, be it at work with my colleagues or with my friends." She also enjoys travelling with her husband when she has time off.